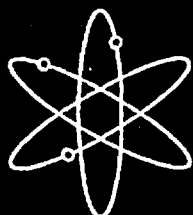


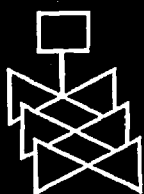
# **Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio**



**Appendices A through K**



**U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety and Safeguards  
Washington, DC 20555-0001**



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# **Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio**

## **Appendices A through K**

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**Division of Waste Management and Environmental Protection  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001**





## ABSTRACT

USEC Inc. (USEC) has submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a license to construct, operate, and decommission the American Centrifuge Plant (ACP), a gas centrifuge uranium enrichment facility located on the U.S. Department of Energy (DOE) reservation in Piketon, Ohio. The American Centrifuge Plant, if licensed, would enrich uranium for use in commercial nuclear fuel for power reactors. Feed material would be comprised of non-enriched uranium hexafluoride (UF<sub>6</sub>). USEC proposes to enrich uranium up to 10 percent by weight of uranium-235. The initial license application is for a 3.5 million separative work unit<sup>1</sup> (SWU) per year facility. Because USEC indicated the potential for future expansion to 7.0 million SWU per year, the environmental review looks at the impacts from a 7.0 million SWU per year facility. The proposed ACP would be licensed in accordance with the provisions of the *Atomic Energy Act*. Specifically, an NRC license under Title 10, "Energy," of the *U.S. Code of Federal Regulations* (10 CFR) Parts 30, 40, and 70 would be required to authorize USEC to possess and use special nuclear material, source material, and byproduct material at the proposed ACP site.

This Environmental Impact Statement (EIS) was prepared in compliance with the *National Environmental Policy Act* and the NRC regulations for implementing the Act. This EIS evaluates the potential environmental impacts of the proposed action and its reasonable alternatives. This EIS also describes the environment potentially affected by USEC's proposal, presents and compares the potential environmental impacts resulting from the proposed action and its alternatives, and describes USEC's environmental monitoring program and mitigation measures.

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<sup>1</sup> SWU relates to a measure of the amount of work used to enrich uranium.



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**APPENDIX A**  
**ENVIRONMENTAL SCOPING SUMMARY REPORT**



Docket No. 70-7004

**ENVIRONMENTAL IMPACT STATEMENT SCOPING PROCESS**

**ENVIRONMENTAL SCOPING SUMMARY REPORT**

**Proposed USEC Inc.  
American Centrifuge Plant  
Piketon, Ohio**

**April 2005**



**U.S. Nuclear Regulatory Commission  
Rockville, MD**

## 1. INTRODUCTION

On August 23, 2004, USEC Inc. (USEC) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a license to construct, operate, and decommission the American Centrifuge Plant (ACP), a gas centrifuge uranium enrichment facility located on the U.S. Department of Energy (DOE) reservation in Piketon, Ohio. The ACP, if licensed, would enrich uranium for use in commercial nuclear fuel for power reactors. Feed material would be comprised of non-enriched uranium hexafluoride (UF<sub>6</sub>). USEC proposes to use centrifuge technology to enrich the isotope uranium-235 in the UF<sub>6</sub> up to 10 percent. The initial license application is for a 3.5 million separative work unit (SWU)<sup>1</sup> facility. Because USEC indicated the potential for future expansion to 7.0 million SWU per year, the environmental review will look at the impacts from a 7.0 million SWU per year facility.

In accordance with NRC regulations in 10 CFR Part 51, and the National Environmental Policy Act (NEPA), the NRC is preparing an Environmental Impact Statement (EIS) for the proposed facility as part of its decision-making process. The proposed action is the issuance of an NRC license for USEC to possess and use special nuclear material, source material, and byproduct material at the proposed ACP. The activities to be conducted under the license would include the construction, operation and decommissioning of the proposed ACP. The EIS will examine the potential environmental impacts associated with the proposed ACP in parallel with the review of the license application. The EIS will be prepared by NRC staff with technical assistance from ICF Consulting Inc. and Trinity Engineering Associates. The NRC has not identified any cooperating agencies for the preparation of this EIS. In addition to the EIS, the NRC will prepare a Safety Evaluation Report (SER) which will document the staff's review of safety and security issues.

The NRC plans to operate on a 30-month licensing schedule with 19 months allocated for the environmental review. The current schedule for publication of the draft EIS is in August 2005, with a public meeting scheduled in September 2005 after publication of the draft EIS. The final EIS is tentatively scheduled for publication in March, 2006.

As part of the NRC's environmental review, and to comply with 10 CFR 51.26 and 51.27, scoping was initiated on October 15, 2004, with the publication in the *Federal Register* of a Notice of Intent to prepare an EIS and to conduct a scoping process (69 *Fed. Reg.* 61268). Scoping is an early and open part of the NEPA process designed to help determine the range of actions, alternatives, and potential impacts to be considered in the EIS, and identify significant issues related to the proposed action. The NRC solicits input from the public and other agencies in order to focus on issues of genuine concern.

On January 18, 2005, the NRC staff held a public scoping meeting in Piketon, Ohio, to receive both oral and written comments from interested parties. The public scoping meeting began with NRC staff providing a description of the NRC's role, responsibilities, and mission. A brief overview of the safety review process was followed by a description of the environmental review process and a discussion of how the public can effectively participate. The majority of the meeting was reserved for attendees to ask questions and make comments on the scope of the environmental review. The NRC postponed the originally scheduled public scoping meeting in Piketon, Ohio from November 15, 2004 until January 18, 2005 after removal of public

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<sup>1</sup> SWU relates to a measure of the work used to enrich uranium.

documents from the NRC public reading room and website for several weeks in November 2004 due to security concerns. Due to this delay, the public scoping comment period was extended from December 6, 2004 until February 1, 2005.

As part of the environmental review, NRC has begun a consultation process with the Ohio State Historic Preservation Officer (SHPO) as required by Section 106 of the National Historic Preservation Act. In accordance with 36 CFR 800.3(f), NRC will consult with Native American Tribal members identified by the SHPO and will consult with representatives of the Pike County Commission. Other consultations will include the Fish and Wildlife Service as required by Section 7 of the Endangered Species Act.

This report has been prepared to summarize the determinations and conclusions reached in the scoping process as required in 10 CFR 51.29(b). After publication of the draft EIS, the public will be invited to submit additional comments. Availability of the draft EIS, the dates of the public comment period, and information about a public meeting to be held to discuss the draft EIS will be announced in the *Federal Register*, on NRC's website (<http://www.nrc.gov/materials/fuel-cycle-fac/usecfacility.html>), and in the local news media when the draft EIS is distributed. After evaluating comments on the draft EIS, the NRC staff will issue a final EIS that will serve as the basis for the NRC's consideration of environmental impacts in its decision on the proposed ACP.

This report is organized into four main sections. Section 1 provides an introduction and background information on the environmental review process. Section 2 summarizes the comments and concerns expressed by government officials, agencies, and the public. Section 3 identifies the issues that the draft EIS will address and Section 4 describes those issues that are not within the scope of the draft EIS. Where appropriate, Section 4 also identifies other places in the decision-making process where issues that are outside the scope of the draft EIS may be considered.

## **2. ISSUES RAISED DURING THE SCOPING PROCESS**

### **2.1 OVERVIEW**

Approximately 80 individuals not affiliated with the NRC attended the January 18, 2005 public scoping meeting concerning the USEC license application for the ACP. During the meeting, five individuals asked specific questions about the scoping process. Sixteen individuals offered specific oral comments related to the proposed ACP. In addition, 24 written comments, including 1 duplicate, were received from various individuals during the public scoping period, which ended on February 1, 2005. The scoping meeting transcript (ML050590321) and the 24 written comments received by the NRC are available on the NRC website, electronic reading room, at <http://www.nrc.gov/reading-rm/adams/web-based.html>.

The active participation of the public in the scoping process is an important component in determining the major issues that the NRC should address in the draft EIS. Individuals providing oral and written comments addressed several subject areas related to the proposed USEC facility and the draft EIS development. In addition to private citizens, the various commenters included:

- A representative of the Governor of Ohio.
- A local official from the Village of Piketon.
- Pike and Scioto County Commissioners.
- Representatives of the Pike County Chamber of Commerce and the Chillicothe/Ross County Chamber of Commerce.
- Representatives of State of Ohio agencies or departments.
- Representatives of local businesses.
- Representatives of other organizations including:
  - Public Citizen
  - Portsmouth/Piketon Residents for Environmental Safety
  - National Nuclear Workers for Justice
  - Paper, Allied-Industrial, Chemical and Energy Workers International Union
  - Sierra Club, Central Ohio Group and Appalachian Ohio Section
  - Southern Ohio Diversification Initiative

The following general topics categorize the comments received during the public scoping period:

- NEPA and public participation.
- Need for the proposed facility.
- Land use.
- Alternatives.
- Ecology, air quality, soil and water resources.
- Socioeconomics.
- Transportation.
- Waste management.
- Historic and cultural resources.
- Cumulative impacts.
- Decommissioning.
- Safety and risk.
- Nuclear nonproliferation and security.
- Terrorism.
- Credibility.

In addition to raising important issues about the potential environmental impacts of the proposed facility, some commenters offered opinions and concerns that typically would not be included in the subject matter of an EIS - these include general opinions about nuclear proliferation and the use of nuclear energy. Comments of this type do not fall within the scope of environmental issues to be analyzed. Other statements may be relevant to the proposed action, but they have no direct bearing on the evaluation of alternatives or on the decision-making process involved in the proposed action. For instance, general statements of support for or opposition to the proposed action fall into this category. Again, comments of this type have been noted but are not used in defining the scope and content of the draft EIS.

Section 2.2 summarizes the comments received during the public scoping period. Most of the issues raised have a direct bearing on the NRC's analysis of potential environmental impacts.



## **2.2 SUMMARY OF ISSUES RAISED**

As noted above, a number of commenters expressed support for the facility. Several individuals, on the other hand, raised concerns regarding the construction and operation of the proposed ACP. The following summary groups the comments received during the scoping period by technical area and issue.

### **2.2.1 NEPA and public participation**

Several commenters expressed general support for the ACP stating that the facility would be beneficial to the economy. One commenter questioned the role of members of the public not located in the Piketon area and their possible impact on the decision-making process. The commenter stated that the focus of public participation should be on those members of the public most directly affected by the proposed facility. However, another commenter disagreed, stating that because materials, including wastes, would be shipped from the facility to various points around the country, everyone who is potentially affected by the facility should be included in the public participation process.

A number of commenters requested an extension of the time period for submitting comments on the scope of the draft EIS. These commenters cited several reasons for the extension request, but the reason cited most often was the lack of availability of documents on NRC's website because of security concerns. Two commenters noted that the public was not made aware of a public meeting on November 9, 2004, where USEC's record of accidents and contamination releases was discussed. Several commenters also noted that some of the information on NRC's website is not accessible, including information on reportable events such as releases from the plant. One commenter also noted that answers to questions that she submitted to the NRC on December 2, 2004 had not yet been answered.

Several commenters raised concerns regarding the availability of information contained in the license application and the Environmental Report. One commenter stated that some of the information related to the application has been classified as confidential for security purposes and therefore the public does not have access to it. Another commenter stated that the public should have access to all the information it may reasonably be expected to have known about. This commenter requested that NRC make all redactions in the ER available to the public, including Appendices B, D, and E. If not, the commenter requested an explanation as to why the information was redacted. Another commenter stated that restricting the public from information for reasons other than security protection constitutes an infringement on the democratic involvement of the people in the actions of its government. One commenter noted that an EIS had been completed for the Piketon site in the past, and that this document should be reviewed to determine if any information contained in that report is relevant to the proposed ACP.

Other comments included one person who indicated that she is entitled to a full copy of the license application. Another commenter stated that scoping should include perspective of those outside of the local community. A commenter also thought that it is important that impacts and alternatives must be assessed before an action is taken, not to justify a decision already made. Another commenter stated that it is expected that NRC will provide regulatory guidelines that will allow USEC to operate a plant efficiently with protection for both workers and the community.

A commenter specifically stated that the draft EIS should carry out a comprehensive evaluation that honestly takes into account the long-term environmental impacts of the proposed project. This commenter noted that this type of evaluation is especially relevant to facilities involved in the production of fuel for nuclear reactors because of the length of time the waste material is dangerous and the need for containment and monitoring for the duration of that time. Finally, two commenters requested waivers of fees for documents related to the licensing action.

### **2.2.2 Need for the proposed facility**

A number of commenters raised concerns about the need for a uranium enrichment facility. One commenter argued that the public must agree on the need for the facility. Several commenters stated that the draft EIS must analyze the need for the proposed facility given the existing enriched uranium stockpiles that could meet the needs for nuclear energy for several years. A commenter also stated that the draft EIS should consider that the proposed LES facility in New Mexico could actually start operations first, lessening the need for the ACP. Commenters indicated that the potential for an international moratorium on uranium enrichment exists, and the ramifications of this action should be accounted for in the analysis. Other commenters indicated that recent budget cuts and uncertainty in energy policy lessen the need for additional enriched uranium production. Specifically, one commenter stated that the draft EIS should evaluate the potential for a pause in production of nuclear fuel, which would allow the NRC and other agencies to focus resources in other areas such as cleaning up existing contamination, developing safe and permanent waste disposal options, lowering transportation risks, better documenting releases and events, and encouraging development of clean, safe, well-paying jobs.

Another commenter stated, however, that there will be an increase in demand for electricity in the future and that nuclear power will be critical to ensuring this supply and promoting energy independence. The commenter noted that the ACP would play a key role in providing that energy.

Other commenters stated that the draft EIS should evaluate the development of other less expensive, renewable energy resources with less significant environmental impacts. Commenters also suggested that material from disassembled nuclear weapons could be used as an alternate source for uranium enrichment.

A commenter stated that the draft EIS should address whether the operation of the ACP will have a negative impact on the "Megatons to Megawatts" program, in which highly enriched uranium from dismantled Russian nuclear weapons is down-blended and used as fuel in U.S. nuclear power plants. Another commenter requested an explanation as to why USEC requires a license for 10 percent assay when the license application states that USEC believes its customers only require 5 percent assay  $UF_6$ .

### **2.2.3 Land use**

A commenter expressed concern that the increased safety and security restrictions accompanying the proposed ACP would limit alternative use of the site. In addition, a commenter stated that the proposed ACP would eliminate the opportunities for cleanup and reuse of certain facilities on DOE's Portsmouth Reservation, beyond the scope of the USEC license. Another commenter asked whether the existing contamination cleanup at the site is far

enough along to ensure protection of site workers. The commenter wondered whether existing contamination could be cleaned up prior to the start of operations at the ACP. Another commenter was concerned that the ACP would restrict the possibility of public use of undeveloped parts of the site. Another commenter asked how the proposed ACP will affect farmland.

#### **2.2.4 Alternatives**

Several commenters noted that the draft EIS needs to address the full range of "reasonable alternatives." Commenters stated that alternative uses for the site, including private leasing and other governmental uses, must be developed and considered in the draft EIS. A commenter also stated that the reasonable alternatives must encompass not only the centrifuge buildings, but a "multiplicity of other uses" for other parts of the site. A commenter suggested instituting accelerated site cleanup as an alternative to allow the facility to be used for nonnuclear industry development. Another commenter suggested specifically that the draft EIS should analyze the Southern Ohio Diversification Initiative suggestion to locate a truck manufacturing company in one of the buildings. A commenter also suggested that the X-326 building could be entombed as a National Monument. A commenter stated that the draft EIS should consider expanding the "Megatons to Megawatts" program as an alternative to licensing the ACP. This commenter also stated that a reasonable alternative would be to consider reviving the Atomic Vapor Laser Isotope Separation process because the centrifuge technology concentrates uranium-234. A commenter suggested moving the environmental cleanup research program located at Oak Ridge National Laboratory to Piketon since the site will be the subject of ongoing environmental cleanup.

Another commenter stated that the cultural value of the Piketon site and the potential adverse impacts to these resources that have not been studied indicates two alternatives that should be considered including (1) moving the ACP to the Paducah site, and (2) opening part of the Piketon site as a cultural resource park with restoration of the earthworks.

Commenters also suggested that the draft EIS should analyze scenarios under which the ACP fails or the project is cancelled. A number of commenters stated that if the plant proceeds and becomes operational, this will preclude the site from any future use because of security restrictions and contamination, and will change or eliminate possibilities for reuse of certain facilities. A commenter stated that the impacts of the no-action alternative should be considered in terms of the site, not USEC's commitments to DOE to provide enriched uranium for nuclear fuel.

Another commenter stated that the draft EIS should focus on evaluating the impacts of a 3.5 million SWU per year plant and that any evaluation of impacts for a 7.0 million SWU per year plant should be done separately under a different licensing action.

#### **2.2.5 Ecology, air quality, soil and water resources**

**Ecology:** Several commenters stated that the wildlife of the region, including deer and fish, has been shown to be contaminated with radioactivity and expressed concern about the migration of wildlife in and out of the plant boundaries. One commenter suggested that procedures be put into place to ensure that wildlife that travel outside the plant boundaries will not carry additional contamination into the greater community. Another commenter was

concerned with the protection of birds and other animal species from future contamination. One commenter expressed general concern over the impact of air and water emissions on wildlife. Another commenter expressed the specific concern that chemical and radioactive leakage from DUF<sub>6</sub> cylinders might adversely affect fish downstream in the Scioto and Ohio rivers.

**Air Quality and Soil:** A number of commenters were concerned about the release of radioactive materials into air and soil. One commenter asked for a list of the kinds of air emissions likely to be released from the plant and another thought that emissions should be monitored by an independent agency.

**Water Resources:** A number of commenters were concerned with the plant's water usage, specifically the source of water and estimated volumes that will be used. Many commenters were concerned that chemical and radioactive leakage from plant operations and waste, including DUF<sub>6</sub> cylinders, might adversely affect the groundwater and surface water quality of the region. Several commenters asked for information about the kinds of contaminants likely to be released into the water and about current and future stream protection measures. Another stated that stream sediments have been found to have radioactivity five times the natural levels as well as increased levels of arsenic, cadmium, chromium, and mercury. The same commenter stated that Little Beaver Creek has a total uranium level nearly twice the level at which corrective action would be required at civilian nuclear plants. A commenter asked for the location of discharge points, any associated discharge standards (especially for radioactive contaminants), and the consequences for exceeding release limits. Another commenter requested information about radioactive concentration limits for discharges, and asked who was responsible for monitoring water discharges. One commenter recommended that an independent agency be in charge. A commenter recommended that storm-water analysis include scenarios of extreme climate conditions (i.e., flooding, tornados, earthquakes) that may be expected to occur over the projected lifetime of the plant. Another commenter stated that as an alternative to releases in streams and rivers, USEC should consider a "closed lid" system for managing effluents from plant operations.

### 2.2.6 Socioeconomics

A number of commenters expressed their support for the approximately 500 permanent high-paying, high-tech jobs and the hundreds of construction jobs that USEC expects to bring to the region. One commenter was in support of USEC's "long-term commitment to provide jobs to this region" and thought that "the plant represents an investment in the future of southern Ohio." Another expressed the desire to have future job opportunities in the area for his children and grandchildren. Many commenters stated their belief that having a new \$1.5 billion plant will help boost the local economy. One commenter stated that the presence of a uranium enrichment facility has not depressed land values or resulted in a decrease in population in Pike County, like some have claimed. The commenter pointed to the existence of expensive property values and a 12.5 percent population increase in the last decade.

One commenter stated that the proposed plant would be bad for the local economy. Another said that the proposed ACP will inhibit the creation of thousands of jobs because a similar investment of \$1.5 billion by any other company should generate 7,000 or 8,000 jobs instead of the 500 expected for the proposed facility.

### 2.2.7 Transportation

A commenter expressed satisfaction with current transportation regulations and specifications for the materials, construction, and procedures for containerizing/packaging contaminated material. The commenter stated that it would be "virtually impossible in a derailment scenario for contaminated material to get out." Another commenter expressed no confidence that USEC will actually meet the U.S. Department of Transportation's safety requirements when shipping radioactive materials. Several commenters had concerns about the safety of road conditions along the routes across Ohio and to other States like Tennessee, especially in regard to the transport of radioactive waste. They asked for information regarding evaluations of the roads for trucks and rail systems for trains and the standard procedures for transporting materials to and from the facility.

### 2.2.8 Waste management

**General Waste Management:** Several commenters stated that waste management must be analyzed in detail in the draft EIS. A commenter expressed concern that the Piketon site is already a nuclear waste disposal site and that the ACP will only add to the problem. Another commenter stated that DOE has already been shipping wastes to Piketon from other sites including Fernald, Oak Ridge, and Paducah and that the transfers would not happen if the ACP were not licensed. The commenter stated that there is a need to identify all the wastes that have been shipped to the site and what will ultimately happen to these wastes. Another commenter stated that all "newly generated" waste streams associated with the ACP should be fully characterized in the draft EIS.

**Depleted UF<sub>6</sub> Storage and Disposal:** An issue raised by numerous commenters concerned the plans for management of the DUF<sub>6</sub> tails currently stored onsite from past operations, similar wastes from other sites, and those tails expected to be generated as part of the ACP operations. These commenters stated that the draft EIS must address how much waste will be generated by the ACP, where the tails will ultimately go, and whether they could potentially be left onsite for long-term storage. Several commenters indicated that long-term storage of DUF<sub>6</sub> onsite at Piketon is not a reasonable waste management alternative. Two commenters noted that the possible conversion of DUF<sub>6</sub> by the DOE could take years (possibly up to 25 years), with the material being stored onsite in the meantime. A commenter stated that there are currently thousands of these waste cylinders at Piketon and they present a higher risk of radiation contamination to the environment. Another commenter noted that the ACP will only add to the amount of existing DUF<sub>6</sub> that needs to be converted or disposed.

Commenters also stated that, prior to licensing, a contract should be in place describing how and where DUF<sub>6</sub> tails will be disposed. A commenter recommended that the draft EIS describe in detail how much tails disposal will cost and consider the cost of disposal on USEC's ability to pay for the ACP (including decommissioning). Another commenter asked what limitations would be placed on the onsite storage of DUF<sub>6</sub> and whether any fines for noncompliance would be sufficient to motivate USEC to remove the wastes from the site for disposal.

### 2.2.9 Historic and cultural resources

Two commenters stated support for NRC to conduct a separate cultural resources assessment under Sections 106 and 110 of the National Historical Preservation Act (NHPA) at the Piketon site. These commenters indicated that DOE, which owns the site, has failed to conduct such

reviews previously. One commenter indicated that DOE has never attempted to identify properties that qualify for historic preservation on or near its land in Piketon.

A commenter stated that NRC must consider that in failing to conduct its own Section 106 review properly, DOE may have undermined the legal basis of its agreement with USEC to turn over its facilities for USEC's use.

One commenter stated that omissions of known archaeological sites in the DOE "Risk-Based End-State" report has allowed DOE to avoid its obligation of conducting a thorough cultural resource impact assessment of the site.

These same commenters indicated that the Piketon site has tremendous historical and prehistorical value that has never been studied. One commenter indicated that Pike County has two prehistoric sites (the Piketon Works and the Scioto Township Works), one on DOE's property and the other extending onto it. The commenter noted a third site (the Barnes Home) borders the proposed plant and once included land underneath the existing centrifuge plant. The commenter stated that the Barnes Home is currently under consideration for listing on the National Register of Historic Places, which qualifies it for full protection.

One commenter stated that the Piketon Works (National Register site 74001599) is located in the area where DOE uses earthen embankments to shield its water wells, which provide water to the site. The commenter indicated that pumping from these wells would resume with the operation of the ACP, but the possible effects of the pumping on the Piketon Works have not been studied. This same commenter stated that there has not been a recent survey of the Scioto Township Works (National Register site 74001600).

A commenter stated that DOE should make public a report that was used by USEC to support its contention that no important cultural resources survive on the site, so that the public can evaluate its contents.

One commenter argued that claims by DOE, USEC, and NRC that responsibility for adverse impacts extends only as far as the footprint of the proposed centrifuge plant is incorrect. This commenter stated that DOE and NRC, as Federal agencies, have the following responsibilities at the Piketon site:

- To assess the broad range of potential impacts of major Federal actions on cultural resources as part of the environmental review under NEPA;
- To assess and mitigate adverse impacts of major federal actions on sites that qualify for the National Register of Historic Places under Section 106 of the NHPA; and
- To protect and steward any historic or prehistoric resources on federal land under Section 110 of the NHPA.

The commenter went on to state that NRC must greatly expand the scope of its cultural resource impact analysis as part of the draft EIS and must conduct its own Section 106 review in compliance with NHPA. The commenter indicated that a review of the environmental impacts under NEPA is not a substitute for a Section 106 review unless the agency follows the

requirements of 36 CFR 800.8(c) regarding notifications, identification of historic properties and effects, consultation, and resolution of adverse comments. The commenter requested that NRC include in its review all kinds of effects on all kinds of properties, not simply direct effects on historic buildings or specific archaeological sites. The commenter noted that it may also be important for NRC to consider the possible need to address impacts on Native American graves and cultural items under the Native American Graves Protection and Repatriation Act; archaeological, historic, and scientific resources under the Archaeological and Historic Preservation Act; and cultural resources under NEPA.

#### **2.2.10 Cumulative impacts**

A commenter expressed concern over the cumulative effect and long-term public health impacts of building another uranium enrichment facility on the site of a retired one and stated that the draft EIS should consider this issue with increased scrutiny. Another commenter asked if the impact analysis considers that the site has existing contamination and that workers and community members have already had exposure.

#### **2.2.11 Decommissioning**

Several commenters expressed concern over USEC's financial standing and whether or not there was a funding plan for the plant's decontamination and decommissioning. There was concern that if USEC goes bankrupt, by default, DOE and taxpayer money would be utilized. Several commenters pointed out the fact that in 2004, DOE spent almost \$300 million in taxpayer money for cleanup and that the same is projected for 2005. The commenters recommend that NRC require USEC to create a performance bond, escrow account, or similar fund sufficient to cover the facility's cleanup prior to issuing a license. One commenter suggested that Pike County should possibly play a role in paying for the cleanup of the facility. Others recommended that cleanup costs should be paid by USEC up-front. Commenters also recommended that a study be done to assess total cleanup, waste storage, and decommissioning costs. One commenter asked about the existence of monitoring plans for radioactive landfills when the plant decommissions. The commenter recommended some kind of written agreement in advance to ensure that the DOE reservation does not become a waste dump.

Another commenter requested a detailed account of how Paducah decontamination and decommissioning operations would impact USEC's ability to pay for the development and operation of the ACP.

#### **2.2.12 Safety and risk**

**Plant Safety:** A number of commenters expressed confidence in the safety of the ACP, citing USEC's skilled, highly trained employees, strong employee safety programs and past safety record, and formalized programs to mitigate potential impacts in the event of emergencies. One commenter also noted that the likelihood of an accident that could affect the public is extremely low. Another commenter expressed confidence that USEC will continue to coordinate with the Ohio Environmental Protection Agency and the NRC, and will continue to utilize the most sophisticated tools available to assure the safety of its workers and the community. Another commenter requested information on noncritical, nonexplosive, and

accidental events that are apparently not contained in USEC's Environmental Report. The commenter indicated that information on the source of the contamination and cleanup actions for these releases should be made available and reviewed. The commenter also asked for an explanation of an apparent increase in worker exposure to UF<sub>6</sub> over time as seen from the Contaminated Feed Cleanup Project Dose Trend described in the Environmental Report.

One commenter noted that safety violations in earlier years were due in part to an incomplete understanding of the technology, putting workers at unnecessary risk. As a result, the community has taken a stronger interest in the safe operation of the plant. The commenter noted that it is believed that centrifuge technology is a "much safer and more efficient technology." Several commenters highlighted the great improvement in plant safety and efforts by both union and management working together as a team to ensure that workers and the public are protected. One person commented that "this plant is one of the safest in the country."

One commenter requested further information about the extent of personnel training to validate USEC's statement that "continuing education of employees and a closer monitoring by management can be used to help alleviate incidents." The commenter also asked about the procedure for a public alert after accidental releases. Another commenter recommended that NRC consider the effects of fire and ruptures in process piping in its safety analysis. A commenter also requested that the draft EIS investigate the claim by USEC that no regulated substances will be stored on the site in excess of threshold levels.

One commenter suggested that USEC's training programs should be reviewed because they are inadequate to the point where the plant would be unable to operate safely. The commenter referred to a management culture that "drags its heels to cover up mistakes."

**Worker Health and Safety:** Several commenters expressed concern over the general health of employees on the site. One commenter asked about the extent of worker monitoring programs and if monitoring will be done by an independent entity. Another commenter stated that "health issues and premature deaths are not being considered." Another questioned how occupational health and safety will be guaranteed and how it will be different from what was previously done during operation of the gaseous diffusion plant. The commenter expressed concern that USEC needs to be forthcoming and honest about the chemicals and substances the workers will be exposed to. One commenter suggested that NRC take into account a 1985 General Accounting Office report that the Portsmouth Gaseous Diffusion Plant workers had the highest exposure of any other gaseous diffusion plant. One commenter wanted assurance from NRC that USEC will always use the latest technology to ensure best possible safety practices to protect workers and the community.

A commenter also questioned the role of the Ohio Army National Guard workers at the site. The commenter asked for information on how many of these workers are at the site, where they are located, and what their role is, if any, in relation to the operation of the ACP.

### **2.2.13 Nuclear nonproliferation and security**

Several commenters stated that operation of the ACP could have nonproliferation impacts. One of these commenters noted that the implications of the proposed ACP are international in scope. Another commenter indicated that the Carnegie report, "A Strategy for Nuclear



Security” states that production of even lower levels of enriched uranium than proposed at ACP could have a destabilizing effect on nuclear treaties and initiate a stepped-up arms race. Similarly, two commenters stated that initiatives such as operation of new uranium enrichment facilities might actually risk rather than enhance our national security by encouraging other countries’ nuclear weapons initiatives.

In a separate but related comment, one person indicated that the draft EIS should model the effect of security breaches by USEC.

#### **2.2.14 Terrorism**

Two commenters expressed concern that the ACP would present a significant risk as a terrorist target, leading to increased terror alerts. Several commenters recommended studies to consider scenarios involving terrorist attacks and to assess security and terrorist risks. A commenter requested information about measures that will be taken to increase security and keep unauthorized people away from the plant.

#### **2.2.15 Credibility**

Several commenters indicated that USEC has a good record as a corporate citizen and a good safety record, and people trust that the licensing process is fair and open. These commenters stated that they believe the ACP will be operated in a safe manner, protective of public health and the environment. One commenter noted that an important factor is USEC meeting expectations. One commenter stated, however, that USEC has 16 violation notices, more than any other NRC materials licensee. The commenter noted that USEC has been ordered by NRC to pay civil penalties totaling \$378,000. The commenter stated that these past violations warrant exceptional scrutiny of the license application. A commenter stated that the draft EIS should model the impacts associated with uranium enrichment in excess of 10 percent, given USEC’s previous enforcement actions for exceeding its possession limit for such material. Commenters also questioned the viability of USEC to see the project through to completion. Other commenters stated that the draft EIS should critically examine the relationship between DOE and USEC.

Other commenters questioned the credibility of past operators of the site, and indicated that this lack of credibility should be considered when making a licensing decision. A few commenters described the past practices at the site as an indication that safety during past operations was a significant issue. For example, one commenter noted plutonium contamination at the site from past operations, which resulted in monetary compensation for plant workers. Another commenter noted that a 1985 GAO report states that workers at the Piketon Gaseous Diffusion Plant had the highest exposures of all the gaseous diffusion plants. Another commenter indicated that there had been several instances when apparent releases occurred at the site, but no notification was made to the public regarding these releases. One commenter stated that all indications point toward the operation failing and that USEC’s promises will not be fulfilled.

### **3. SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT**

The NEPA (Public Law 91-190, as amended), and the NRC’s Implementing Regulations for NEPA (10 CFR Part 51), specify in general terms what should be included in an EIS prepared by the NRC staff. Regulations established by the Council on Environmental Quality (40 CFR

Parts 1500-1508), while not binding on NRC staff, provide useful guidance. Additional guidance for meeting NEPA requirements associated with licensing actions can be found in NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated with Office of Nuclear Material Safety and Safeguards (NMSS) Programs."

Pursuant to 10 CFR 51.71(a), in addition to public comments received during the scoping process, the contents of the draft EIS will also address the matters discussed in the USEC Environmental Report. In accordance with 10 CFR 51.71(b), the draft EIS will consider major points of view and objections concerning the environmental impacts of the proposed action raised by other Federal, State, and local agencies, by any affected Indian tribes, and by other interested persons. Pursuant to 10 CFR 51.71(c), the draft EIS will list all Federal permits, licenses, approvals, and other entitlements that must be obtained in implementing the proposed action, and will describe the status of compliance with these requirements. Any uncertainty as to the applicability of these requirements will be addressed in the draft EIS.

Pursuant to 10 CFR 51.71(d), the draft EIS will include a preliminary analysis that considers and weighs the environmental effects of the proposed action; the environmental impacts of alternatives to the proposed action; and alternatives available for reducing or avoiding adverse environmental effects. In the draft analysis, due consideration will be given to compliance with environmental quality standards and regulations that have been imposed by Federal, State, regional, and local agencies having responsibilities for environmental protection. The environmental impact of the proposed action will be evaluated in the draft EIS with respect to matters covered by such standards and requirements, regardless of whether a certification or license from the appropriate authority has been obtained. Compliance with applicable environmental quality standards and requirements does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality, and to consider alternatives to the proposed action that are available for reducing adverse effects. While satisfaction of NRC standards and criteria pertaining to radiological effects will be necessary to meet the licensing requirements of the Atomic Energy Act, the draft EIS will also, for the purposes of NEPA, consider the radiological and nonradiological effects of the proposed action and alternatives.

The following documents are environmental assessments and other EISs which have been prepared that are related to the action under consideration. The following list is not intended to be a comprehensive list:

- Programmatic EIS for Alternative Strategies for the Long-Term Management and Use of Depleted Uranium Hexafluoride (DOE/EIS-0269, March 1999)
- Environmental Assessment of the USEC Inc. American Centrifuge Lead Cascade Facility at Piketon, Ohio (DOE/EA-1495, January 2004)
- Environmental Impact Statement for Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at the Paducah, Kentucky, Site (DOE/EIS-0359, December 2003)

- **Environmental Impact Statement for Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at Portsmouth, Ohio Site (DOE/EIS-0360, December 2003)**

Pursuant to 10 CFR 51.71(e), the draft EIS will include a preliminary recommendation by the NRC staff with respect to the proposed action. Any such recommendation would be reached after considering the environmental effects of the proposed action and reasonable alternatives, and after weighing the costs and benefits of the proposed action.

The scoping process summarized in this report will help determine the scope of the draft EIS for the proposed facility. The draft EIS will contain a discussion of the cumulative impacts of the proposed action as referenced in NUREG-1748. The development of the draft EIS will be closely coordinated with the SER prepared by the NRC staff to evaluate the health and safety impacts of the proposed action.

One goal in writing the draft EIS is to present the impact analyses in a manner that makes it easy for the public to understand. This draft EIS will provide the basis for the NRC decision with regard to potential environmental impacts. Significant impacts will be discussed in greater detail in the draft EIS, and explanations will be provided for determining the level of detail for different impacts. This should allow readers of the draft EIS to focus on issues that were determined to be important in reaching the conclusions supported by the draft EIS. The following topical areas and issues will be contained within the draft EIS.

- ***Alternatives.*** The draft EIS will describe and assess the no-action alternative and other reasonable alternatives to the proposed action. Other alternatives may include alternative sites, enrichment sources, or technological alternatives to the proposed centrifuge technology.
- ***Need for the Facility.*** The draft EIS will provide a discussion of the need for the proposed ACP.
- ***Compliance with Applicable Regulations.*** The draft EIS will present a listing of the relevant permits and regulations that are believed to apply to the proposed ACP. These would include air, water, and solid waste regulations and disposal permits.
- ***Land Use.*** The draft EIS will discuss the potential land use impacts associated with the proposed construction, manufacturing, and operating activities.
- ***Transportation.*** The draft EIS will discuss the impacts associated with the transportation of construction materials, centrifuge parts, feed material, product, and waste tails during both normal transportation and under credible accident scenarios. The impacts on local transportation routes due to workers, delivery vehicles, and waste removal vehicles will be evaluated.
- ***Geology and Soils.*** The draft EIS will assess the potential impacts to the geology and soils of the proposed ACP site due to soil compaction, erosion, contamination, landslides, and disruption of natural drainage patterns. Evaluation of the potential for

earthquakes or any other major ground motion considerations will be addressed mainly in the SER and only in terms of possible environmental impacts in the draft EIS.

- *Water Resources.* The draft EIS will assess the potential impacts on surface water and groundwater quality and water use due to the proposed action and alternatives.
- *Ecological Resources.* The draft EIS will assess the potential environmental impacts on ecological resources including plant and animal species. Threatened and endangered species and critical habitats will also be discussed, along with the appropriate consultation as required by Section 7 of the Endangered Species Act (16 USC Section 1536(a)(2)). As appropriate, the assessment will include an analysis of mitigation measures to address potential adverse impacts.
- *Air Quality.* The draft EIS will make determinations concerning the meteorological conditions of the site location, the ambient air quality, and the contribution of other sources. In addition, the draft EIS will assess the impacts of the ACP's refurbishment, construction, and operation on local air quality.
- *Noise.* The draft EIS will discuss potential impacts associated with noise levels generated from refurbishment, construction, and operation of the proposed ACP.
- *Historic and Cultural Resources.* The draft EIS will address the potential impacts of the proposed ACP on the historic and archaeological resources of the area. Additionally, as described in a letter dated December 28, 2004 to the Ohio State Historic Preservation Officer, the EIS will also be used to fulfill NHPA Section 106 (36 CFR Part 800) requirements. Potential impacts to the overall visual and scenic character of the facility may also be addressed.
- *Socioeconomics.* The draft EIS will address the demography, economic base, labor pool, housing, utilities, public services, education, and recreation as impacted by the proposed action and alternatives. The hiring of new workers from the outside area could lead to impacts on the regional housing, public infrastructure, and economic resources. Population changes leading to changes to the housing market and demands on the public infrastructure will be assessed.
- *Costs and Benefits.* The draft EIS will address the potential cost/benefits of constructing and operating the ACP, and will discuss the cost/benefits of tails disposition options.
- *Resource Commitments.* The draft EIS will identify the unavoidable adverse impacts and irreversible and irretrievable commitments of resources. It will also address the relationship between local, short-term uses of the environment and the maintenance and enhancement of long-term productivity. Associated mitigative measures and environmental monitoring will be presented, if applicable.
- *Public and Occupational Health.* The draft EIS will include a determination of potentially adverse effects on human health that result from chronic and acute exposures to ionizing radiation and hazardous chemicals as well as from physical safety hazards. These potentially adverse effects on human health might occur during facility refurbishment, construction, or operation. Impacts associated with the implementation

of the proposed action will be assessed under normal operation and credible accident scenarios.

- **Waste Management.** The draft EIS will discuss the management of wastes, including by-product materials, generated from the refurbishment, construction, and operation of the ACP to assess the impacts of generation, storage, and disposal. Onsite storage of wastes will also be included in the assessment.
- **Depleted Uranium Disposal.** The draft EIS will discuss the  $DUF_6$  material, or tails, that results from the enrichment operation over the lifetime of the proposed plant's operation. These concerns include the safe and secure storage and ultimate removal of the material from the site, and the potential conversion of the  $DUF_6$  to  $U_3O_8$  and ultimate disposition.
- **Decommissioning.** The draft EIS will include a discussion of facility decommissioning and associated impacts.
- **Cumulative Impacts.** The draft EIS will address the potential cumulative impacts from past, present, and reasonably foreseeable activities at and near the site
- **Environmental Justice.** The draft EIS will address environmental impacts of the proposed ACP on low-income or minority populations if disproportionately high and if low-income or minority populations are identified. The impacts that could be evaluated include health, ecological (including water quality), social, cultural, and economic resources.

#### **4. ISSUES CONSIDERED TO BE OUTSIDE THE SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT**

The purpose of an EIS is to assess the potential environmental impacts of a proposed action in order to assist in an agency's decision-making process – in this case, NRC's licensing decision. As noted in Section 2.2, some issues and concerns raised during the scoping process are not relevant to the draft EIS because they are not directly related to the assessment of potential impacts or to the decision-making process. The lack of in-depth discussion in the draft EIS, however, does not mean that an issue or concern lacks value. Issues beyond the scope of the draft EIS either may not yet be at the point where they can be resolved, or are more appropriately discussed and decided in other venues.

Some of the issues raised during the public scoping process (e.g., the Carnegie Report, the "Hobson Doctrine," and the "Megatons to Megawatts" program) will not be addressed in the draft EIS. Other issue areas including nonproliferation concerns, security and safety issues (e.g., the domino effect, tornado effects due to climate change), and credibility are also beyond the scope of the EIS. In *The Matter of Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), 56 NRC 340 (2002), the Commission held that NRC staff is not required to consider terrorism in its EISs. The Commission indicated, "the possibility of a terrorist attack...is speculative and simply too far removed from the natural or expected consequences of agency action to require a study under NEPA."

Some of the issues raised during the public scoping process for the proposed facility are outside the scope of the draft EIS, but they will be analyzed in the SER. For example, health

and safety issues will be considered in detail in the SER prepared by NRC staff for the proposed action and will be summarized in the EIS. The draft EIS and the SER are related in that they may cover the same topics and may contain similar information, but the analysis in the draft EIS is limited to an assessment of potential environmental impacts. In contrast, the SER primarily deals with safety evaluations and procedural requirements or license conditions to ensure the health and safety of workers and the general public. The SER also covers other aspects of the proposed action such as demonstrating that the applicant will provide adequate funding for the proposed facility in compliance with NRC's financial assurance regulations.

**APPENDIX B**  
**SUMMARY OF SECTION 106 CONSULTATION CORRESPONDENCE**





**APPENDIX B**  
**SUMMARY OF SECTION 106 CONSULTATION CORRESPONDENCE**

This appendix provides a chronological list of Section 106 related correspondence and information broken down by government organizations, Tribal organizations, consulting parties, and interested members of the public. Section B.1 (beginning on page B-3) lists information related to Federal, State, and local government agencies. Section B.2 (beginning on page B-55) lists information related to Tribal governments, and Section B.3 (beginning on page B-161) lists information related to consulting parties and interested members of the public. All of this correspondence can be found on NRC's website at the following link:  
<http://www.nrc.gov/materials/fuel-cycle-fac/summ-section-106.html>.



**B.1 COMMUNICATIONS TO/FROM FEDERAL, STATE, AND  
LOCAL GOVERNMENT AGENCIES**




NRC FORM 699 (9-2003)		U.S. NUCLEAR REGULATORY COMMISSION		DATE 11/23/2004
<b>CONVERSATION RECORD</b>				TIME
NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU David Snyder		TELEPHONE NO. 614 298 2000		TYPE OF CONVERSATION <input type="checkbox"/> VISIT <input type="checkbox"/> CONFERENCE <input checked="" type="checkbox"/> TELEPHONE <input type="checkbox"/> INCOMING <input checked="" type="checkbox"/> OUTGOING
ORGANIZATION Ohio Historic Preservation Office (OHPO)				
SUBJECT USEC				

SUMMARY (Continue on Page 2)

Brief conversation w/ David Snyder of OHPO indicating that NRC is planning to send out a section 106 consultation letter to Mark Epstein regarding information on historic resources. Clarified to Mr. Snyder that initial consultations were done by USEC and not on NRC's behalf - NRC needs to confirm that information is correct and complete.

Continue on Page 2

ACTION REQUIRED NONE			
NAME OF PERSON DOCUMENTING CONVERSATION Ron C. Linton NOV 23 2004		SIGNATURE 	DATE
ACTION TAKEN			
TITLE OF PERSON TAKING ACTION		SIGNATURE OF PERSON TAKING ACTION	DATE

December 28, 2004

Mr. Mark Epstein, Department Head  
Ohio Historic Preservation Office  
Resource Protection and Review  
567 East Hudson Street  
Columbus, OH 43211-1030

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT  
SECTION 106 PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Epstein:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium -235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

Two preliminary phase I archaeological surveys and one draft cultural resource report have been completed for the DOE reservation. Archaeological surveys and the cultural report results are discussed section 3.8 of the ER (enclosed). Historical and cultural resource impacts are discussed in section 4.8 of the ER (enclosed).

As required by 36 CFR 800.3 (f), the NRC is requesting any information you may have regarding other parties that may be entitled to be consulting parties by this action. As required by 36 CFR 800.4(a), the NRC is requesting the views of the State Historic Preservation Officer and your office on further actions to identify historic properties that may be affected by the proposed ACP.

M. Epstein

-2-

As part of the EIS preparation, the NRC will be hosting a public scoping meeting on Tuesday, January 18, 2005, at the Zahns Corner Middle School in Piketon from 7:00 - 9:45. The meeting will include NRC staff presentations on the environmental review process, after which members of the public will be given the opportunity to present their comments. This scoping information, along with any information you provide, and material provided by USEC in the ER, will be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Chief  
Environmental and Performance  
Assessment Branch  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

M. Epstein

-2-

As part of the EIS preparation, the NRC will be hosting a public scoping meeting on Tuesday, January 18, 2005, at the Zahns Corner Middle School in Piketon from 7:00 - 9:45. The meeting will include NRC staff presentations on the environmental review process, after which members of the public will be given the opportunity to present their comments. This scoping information, along with any information you provide, and material provided by USEC in the ER, will be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

/RA/

B. Jennifer Davis, Chief  
Environmental and Performance  
Assessment Branch  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

DISTRIBUTION: EPAD r/f

Log No.: 04-126

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OFC	DWMEP		DWMEP	
NAME	RLinton		JDavis	
DATE	12/21/04		12/28/04	



USEC Service List

cc:

William Szymanski  
U.S. Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585

Michael Marriott  
Nuclear Information and resource Service,  
1424 16<sup>th</sup> St., NW  
Washington, DC 20036

The Honorable Robert W. Ney  
Member, United States House of  
Representatives  
2438 Rayburn HOB  
Washington, DC 20515

The Honorable George V. Voinovich  
United States Senator  
317 Hart Senate Office Building  
Washington, DC 20510

The Honorable Rob Portman  
Member, United States House of  
Representatives  
238 Cannon House Office Building  
Washington, DC 20515

The Honorable Mike DeWine  
United States Senator  
140 Russell Senate Office Building  
Washington, DC 20410

The Honorable Bob Taft  
Governor of Ohio  
77 South High Street  
30<sup>th</sup> Floor  
Columbus, Ohio 43215-6117

Ms. Mary Glasgow  
601 Chillicothe Street  
Portsmouth, Ohio 45662

Mr. Teddy L. Wheeler  
Pike County Auditor  
Pike County Government Center  
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Weaverly, Ohio 45690-1289

Mr. Harry Rioer  
Pike County Commissioner  
230 Weaverly Plaza Suite 1000  
Weaverly, Ohio 45690

Mr. Larry E. Scaggs  
Township Trustee  
230 Weaverly Plaza Suite 1400  
Weaverly, Ohio 45690

Kara Willis  
16 North Paint St., Suite 102  
Chillicothe, Ohio 45601

Jim Brushart  
Pike Co. Comm. Chair  
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Weaverly, Ohio 45690

Mr. Gary Hager  
ATTN: Mailstop-4025  
P.O.Box 628  
Piketon, Ohio 45661

Mr. Blaine Beekman  
Executive Director  
Pike County Chamber of Commerce  
P.O. Box 107  
Weaverly, Ohio 45696

Billy Spencer, Mayor of Piketon  
Mayor of Piketon  
P. O. Box 547  
Piketon, Ohio 45661

Rocky Brown, Mayor of Beaver  
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Beaver, Ohio 45613

Mr. Peter J. Miner, Director  
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Randall Devault, Regulatory Oversight Manager  
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Teddy West  
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Piketon, OH 45661

Carol O'Claire, Supervisor  
Radiological Branch  
Ohio Emergency Management Agency  
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Columbus, OH 43235-2206

Rod Krich, Vice President  
Licensing Projects  
Exelon Generation Co.  
4300 Winfield Road  
Warrenville, IL 60555

**Ohio Historic Preservation Office**

567 East Hudson Street  
Columbus, Ohio 43211-1030  
614/298-2000 Fax: 614/298-2037

Visit us at [www.ohiohistory.org](http://www.ohiohistory.org)



February 2, 2005

**OHIO  
HISTORICAL  
SOCIETY**  
SINCE 1885

Ron Linton  
Environmental and Performance Assessment Branch  
Nuclear Regulatory Commission  
Washington, DC 20555-0001

Re: Docket No. 70-7004, American Centrifuge Commercial Plant  
Portsmouth Gaseous Diffusion Plant (PORTS), Pike County, Ohio

Dear Mr. Linton,

This is in response to correspondence from your office dated December 28, 2004 (received January 3) regarding the above referenced project. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]); the Department of Energy serves as the lead federal agency.

Your correspondence initiates consultation by the Nuclear Regulatory Commission (NRC) for the above referenced project. We acknowledge that the NRC will be following regulations at 36 CFR 800.8 in the review process integrating the Section 106 review with the development of the Environmental Report (ER) for this project. Your correspondence also requests information on consulting parties.

This office has previously reviewed information on the proposed project and has responded to the position that the proposed new construction will include buildings of similar design and size to the nearby buildings and that there will be similar functions carried out in these new buildings. Given the available information on the size, design, and function of the existing and the proposed buildings, we were able to offer our opinion that the proposed project will not adversely affect the Portsmouth Gaseous Diffusion Plant historic property.

As you are aware, private citizens have raised concerns about the potential for this project to affect historic properties, including prehistoric archaeological sites. The National Historic Preservation Act encourages federal agencies to include comments and concerns from the public throughout the Section 106 review process.

In addition to other consulting parties that your agency may have identified, we recommend that you consider notifying Native American Federally-Recognized Tribal authorities that are historically associated with south-central Ohio and may have information on historic properties in this area. Attached please find a partial list of Tribes with historical ties to Ohio. We believe that this list may be helpful in finalizing your list of potential consulting parties to whom you will be providing notification of the project.

I think that it is important for you to clearly convey to consulting parties and to the public the extent of the efforts to identify historic properties and to assess the potential for the project to adversely affect historic properties. I am concerned that the discussions in your correspondence and in the attached sections from the draft ER should be clearer and more precise. For example, the archaeological surveys were not preliminary, but their conclusions are preliminary and we are still working at interpreting the results and developing a consensus on the findings. In some cases it might be appropriate to describe an archaeological survey as preliminary, especially when the primary objective of the work for a survey is to

Mr. Ron Linton  
February 2, 2005  
Page 2

lay the ground work for the next phase of an intended and expected survey. The predictive model work that you reference might be described as preliminary but it also provides important information on the distribution of known sites in the vicinity of the Portsmouth Gaseous Diffusion Plant. Also, at least one additional archaeological study has been conducted within the facility at archaeological site 33-PK-210. This study may not be relevant to this project, but language in the draft ER might lead some to conclude that all of the previous archaeological work is referenced rather than only a portion of the previously completed work. The survey methods employed in the predictive model work are likely quite different from the survey methods employed in identification efforts.

I think that it would be more helpful to describe the conclusions of the Schweikart 1997 archaeological survey as recommendations, not as determinations. In the past we have encountered some confusion in descriptions of known archaeological sites both within and in the general area surrounding the facility. For example, not all archaeological sites with prehistoric components are burial grounds and many archaeological sites are quite small, less than 100 square meters.

Similar kinds of concerns could also be raised concerning the presentation of the information on architectural properties in the Environmental Report.

In summary, it would be helpful for the documentation to provide greater clarity and to provide greater precision to facilitate the integration the discussions on archaeological sites, architectural properties, and other kinds of cultural resources within the overall assessment of effects.

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,



David Snyder, Archaeology Reviews Manager  
Resource Protection and Review

DMS/ds (OHPO Serial Number 105834)

Enclosure

To assist you in the event that consultation with federally recognized tribal authorities is needed, OHPO maintains a list of federally recognized tribal authorities including listings from the Bureau of Indian's Affairs' Tribal Leaders Directory. This list is not all-inclusive; it represents a first step in developing procedures to address issues of disposition and repatriation. There are currently no federally recognized tribal authorities in Ohio since Ohio does not have any Native American Reservations or Land. However, there are many active Native American groups and organizations in Ohio. Also, in some cases, the Ohio Historic Preservation Office may be able to assist agencies and individuals contact individuals who have expressed an interest in the issues involving reburial. If the need develops we can provide assistance to get you started in compiling a list of interested parties.

Endnote. For further information, you may wish to contact the following:

Tim McKeown, National Center for Cultural Resources, National Park Service, P.O. Box 37127, Washington, D.C. 20013-7127, (202) 343-1142

Francis McManamon, National Center for Cultural Resources, National Park Service, P.O. Box 37127, Washington, D.C. 20013-7127, (202) 343-4101

The following are representatives of Federally-recognized Tribal Authorities of some tribes having historic connections to Ohio (based on the Tribal Leaders Directory, Bureau of Indian Affairs, Division of Tribal Government Services, January 1992 - for more information phone: 202/208-4400):

Mr. James Leaffe, Chief  
Cayuga Nation  
P.O. Box 11  
Versailles, NY 14168  
Attn: Mr. Clint Halftown, THPO  
Representative  
Telephone: 716-532-4847

Mr. Charles Todd, Chief  
Ottawa Tribe of Oklahoma  
P.O. Box 110  
Miami, OK 74355  
Attn: Mr. Roy Ross  
Telephone: 918-540-1536  
FAX: 918-542-3214

Cherokee Nation of Oklahoma  
P.O. Box 948  
Ada, OK 74820

Mr. John P. Froman, Chief  
Peoria Tribe of Oklahoma  
P.O. Box 1527  
118 S. Eight Tribes Trail  
Miami, OK 74355  
Attn: Mr. Bud Ellis, Repatriation  
Committee Chairman  
Telephone: 918-540-2535  
FAX: 918-540-2538

Turtle Mountain Band of Chippewa Indians  
P.O. Box 900  
Belcourt, ND 58316  
Attn: Mr. Kade M. Ferris, Tribal Historic  
Preservation Officer, Office of  
Archaeology and Historic  
Preservation  
THPO: Mr. Kade M. Ferris

Mr. Harold Frank, Chairperson  
Forest County Potawatomi  
P.O. Box 340  
Community of Wisconsin Potawatomi  
Crandon, WI 54520  
Attn: Ms. Clarice M. Werle, NAGPRA  
Contact  
Telephone: 715-478-7381 (Werle)  
FAX: 715-478-7385

Mr. Bruce Gonzales, President  
Delaware Tribe of Western Oklahoma  
P.O. Box 825  
Anardarko, OK 73005  
Attn: Ms. Tamara Francis, Delaware  
Nation NAGPRA Office  
Telephone: 405-247-2448  
FAX: 405-247-9393  
Email: aapanahkih@westerndelaware.nsn.us

Mr. John A. Barrett, Jr., Chairperson  
Citizen Potawatomi Nation  
1601 S. Gordon Cooper Drive  
Shawnee, OK 74801  
Attn: Mr. Jeremy Finch  
Telephone: 405-275-3121  
FAX: 405-275-0198  
800 Number: 800-880-9880

Mr. John Pryor, Executive Officer  
Miami Tribe of Oklahoma  
P.O. Box 1326  
202 South Eight Tribes Trail  
Miami, OK 74355  
Attn: Ms. Julie Olds, THPO  
THPO: Ms. Julie Olds  
Telephone: 918-542-1445 X16 (Olds)  
FAX: 918-542-7260  
Email: jolds@miamination.com

Mr. Calvin John, President  
Seneca Nation of Indians  
P.O. Box 231  
Salamanca, NY 14779  
Attn: Ms. Kathleen Mitchell, THPO  
THPO: Ms. Kathleen Mitchell  
Telephone: 716-945-9427  
FAX: 716-945-1989  
Email: [snithpo@netscape.net](mailto:snithpo@netscape.net)

---

**Mr. Jerry Dilliner, Chief**  
Seneca-Cayuga Tribe of Oklahoma  
P.O. Box 1283  
R2301 E. Steve Owens Blvd.  
Miami, OK 74355  
Attn: Mr. Paul Barton  
Telephone: 918-542-6609  
FAX: 918-542-3684  
Email: [maimit5@onenet.net](mailto:maimit5@onenet.net)

**Mr. Charles D. Enyart, Chief**  
Eastern Shawnee Tribe of Oklahoma  
P.O. Box 350  
Seneca, MO 64865  
Attn: R.C. Kisse  
Telephone: 918-666-2435 X241  
FAX: 918-666-3325  
Email: [estochief@hotmail.com](mailto:estochief@hotmail.com)

**Mr. James Squirrel**  
Loyal Shawnee Tribe  
Route 4, Box 30  
Jay, OK 74346

**Mr. Kenneth Daugherty, Tribal Secretary**  
Absentee-Shawnee Tribe of Oklahoma  
2025 S. Gordon Cooper Drive  
Shawnee, OK 74801-9381  
Attn: Ms. Karen Kaniatobe  
Telephone: 405-275-4030 X124  
FAX: 405-275-1922  
Email: [jenniferm@astribe.com](mailto:jenniferm@astribe.com)

**Mr. Leaford Bearskin, Chief**  
Wyandotte Nation  
P.O. Box 250  
Wyandotte, OK 74370  
Attn: Ms. Sherri Clemons

**From:** Ron Linton  
**To:** Matthew Blevins  
**Date:** 3/10/05 4:13PM  
**Subject:** USEC sect 106 tribal consultation, NPS contact

**Matt:**  
I put together a short memo (see attached) about my conversation with Tim McKeown of the NPS regarding Indian tribes with historical connections to the south-central Ohio area.  
Ron



**Mail Envelope Properties (4230B861.750 : 22 : 21859)**

**Subject:** USEC sect 106 tribal consultation, NPS contact  
**Creation Date:** 3/10/05 4:13PM  
**From:** Ron Linton

**Created By:** rcl1@nrc.gov

<b>Recipients</b>	<b>Action</b>	<b>Date &amp; Time</b>
nrc.gov		
twf4_po.TWFN_DO	Delivered	03/10/05 04:13PM
MXB6 (Matthew Blevins)	Opened	03/10/05 04:13PM

<b>Post Office</b>	<b>Delivered</b>	<b>Route</b>
twf4_po.TWFN_DO	03/10/05 04:13PM	nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	601	03/10/05 04:13PM
MemotoMXB-NPS contact McKeown.wpd	5680	03/10/05 04:05PM

**Options**

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**Expiration Date:** None  
**Notify Recipients:** Yes  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:**  
 Send Notification when Opened

**Concealed Subject:** No  
**Security:** Standard

**To Be Delivered:** Immediate  
**Status Tracking:** Delivered & Opened

**Memorandum****To: Matthew Blevins, Senior Project Manager****From: Ron Linton, Project Manager****Date: March 10, 2005****Subject: USEC American Centrifuge Plant, National Historic Preservation Act (NHPA) Section 106 consultation process and American Indian Tribes identified with historical connections to south-central Ohio**

By letter dated February 2, 2005, David Snyder, Archaeology Reviews Manager, Ohio Historical Society (Ohio State Historical Preservation Office) responded to our letter requesting assistance with identifying other consulting parties under the NHPA Section 106 process. In his letter, he identified 15 Native American Federally-recognized tribal authorities that are historically associated with south-central Ohio and may have information on historic properties in the area. He also indicated that more information may be obtained on Native American Federally-recognized tribal authorities by contacting individuals with the National Park Service.

On March 7, 2005, I contacted Mr. Tim McKeown, Archeologist, with the National Park Service, to discuss tribal authorities that are historically associated with south-central Ohio. Mr. McKeown was very helpful and indicated that all of the State of Ohio was secured from Native American Indian tribes via several treaties. While on the phone together, we concurrently visited several web sites to determine what tribes were involved in treaties with the United States in Ohio. We were able to determine that all of south-central Ohio was obtained by the United States on August 3, 1795 after the signing of the Treaty of Greenville. The Treaty of Greenville was signed by Chiefs of the Wyandot, Delaware, Shawnee, Ottawa, Miami, Eel River, Wea, Chippewa, Potawatomi, Kickapoo, Piankashaw, and Kaskaskia Indians. After determining what tribes were involved with the treaty we went to the Native American Consultation Database (NACD) at <http://cast.uark.edu/other/nps/nacd/> which is a tool for identifying consultation contacts for Indian tribes and other Native-American organizations. The NACD database is one database under the National Native American Graves Protection and Repatriation Act Online Databases of the National Park Service. At that point, Mr. McKeown indicated that I could query the database using the tribes we identified as being involved in the Treaty of Greenville.

I queried the database for the 12 tribes identified as signors of the treaty and printed out the results. After review, I determined contact names for Federally-recognized Indian tribes with land claims in Ohio. Nine of the tribal contact names supplied by Mr. Snyder were on the lists. Six of the tribal contact names supplied by Mr. Snyder were not on the lists. Two additional tribal contact names were identified that were not supplied by Mr. Snyder. I have sent Section 106 consultation letters to the 15 tribal contacts listed by Mr. Snyder (9 of which were on the NACD database) as well as the two additional tribal contacts identified through the NACD search, for a total of 17 tribal consultation letters. The consultation letters request any known information on historical or cultural resources at the DOE reservation at Piketon, Ohio.

NRC FORM 699  
9-2003

U.S. NUCLEAR REGULATORY COMMISSION

DATE

CONVERSATION RECORD

3/7/05

TIME

2:45 pm

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Mr. Tim McKean

TELEPHONE NO.

202-354-2206

TYPE OF CONVERSATION

VISIT

CONFERENCE

TELEPHONE

INCOMING

OUTGOING

ORGANIZATION

NPS

SUBJECT

TPHO contacts

SUMMARY (Continue on Page 2)

Treaty # 11 Treaty of Greenville, Aug 3, 1795  
 Aug 3, 1795 - the following tribes - Wyandot, Delaware, Shawnee,  
 Chippewa  
 Ottawa, Chickasaw, Potawatomi, Miami, EEL River,  
 Wea, Kickapoo, Piankishaw, Kaskaskia - (Peoria  
 (was  
~~Peoria~~  
 Peoria  
 Kaskaskia)

<http://www.cast.vark.edu/other/nps/nacd/>

Spoke @ length w/ Tim McKean. We searched several databases.  
 He found that land in central + southern Ohio was subject to the  
 Treaty of Greenville, Aug 3, 1795 and involved the tribes listed  
 above. I downloaded and searched NPS database for contact w/ historical  
 land claims to OH. All noted that I found were already identified  
 by Ohio SHPO as well as several others. Seems the OHIO SHPO  
 list is comprehensive of those tribes w/ historical claims and connections  
 w/ Southern + central Ohio.

ACTION REQUIRED

NONE

NAME OF PERSON DOCUMENTING CONVERSATION

Ken LINTON

SIGNATURE

DATE

3/7/05

ACTION TAKEN

TITLE OF PERSON TAKING ACTION

SIGNATURE OF PERSON TAKING ACTION

DATE

March 14, 2005

Mr. James Brushart  
President, Pike County Commissioners  
230 Waverly Plaza, Suite 1000  
Waverly, Ohio 45690

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Brushart:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

Two phase I archaeological surveys and one draft cultural resource report have been completed for the DOE reservation. Archaeological surveys and the cultural report results are discussed section 3.8 of the ER (enclosed). Historical and cultural resource impacts are discussed in section 4.8 of the ER (enclosed). The Area of Potential Effects (APE) is defined as the DOE reservation in Piketon, Ohio.

As required by 36 CFR 800.3 (f), the NRC is requesting any information you may have regarding historic sites or cultural resources within the APE. The NRC is interested in knowing if you have specific knowledge of any sites that you believe have traditional religious and cultural significance. In addition, we are interested in knowing if you are aware of or are concerned for any site, or object, eligible for inclusion on the National Register of Historic Places. This will assure appropriate consideration in the Section 106 process.

Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

J. Brushart

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

**From:** Ron Linton  
**To:** Matthew Blevins  
**Date:** 3/24/05 3:15PM  
**Subject:** USEC ACP, Scioto Township Works I and Piketon Mounds

**Matt:**

Memo to you of my conversation with David Snyder, Ohio SHPO, clarifying the Scioto Township Works I and the Piketon Mounds that are listed on the National Register in Piketon, Ohio. Hope this is helpful.

Ron C. Linton  
Project Manager  
U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety and Safeguards  
Mail Stop T7 J08  
Washington, DC 20555-0001  
301-415-7777 phone  
301-415-5397 fax  
rc11@nrc.gov

**CC:** Marian Zobler

**Mail Envelope Properties (42431FF9.AD8 : 22 : 16483)****Subject:** USEC ACP, Scioto Township Works I and Piketon Mounds**Creation Date:** 3/24/05 3:15PM**From:** Ron Linton**Created By:** RCL1@nrc.gov

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twf4_po.TWFN_DO	03/24/05 03:15PM	nrc.gov

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<b>Return Notification:</b>	Send Notification when Opened

<b>Concealed Subject:</b>	No
<b>Security:</b>	Standard

<b>To Be Delivered:</b>	Immediate
<b>Status Tracking:</b>	Delivered & Opened

**Memorandum****To: Matthew Blevins, Senior Project Manager****From: Ron Linton, Project Manager****Date: March 24, 2005****Subject: Discussion with David Snyder, Archaeology Reviews Manager, Resource Protection and Review, Ohio Historic Preservation Office, concerning the Scioto Township Works I and Piketon Mounds listed on the *National Register* in Piketon, Ohio**

On March 24, 2005, I contacted Mr. David Snyder to discuss the prehistoric earthworks that are in proximity to the proposed American Centrifuge Plant (ACP). These earthworks were discussed by Mr. Geoffrey Sea in written comments received by the NRC during the scoping period and in a subsequent contention in Mr. Sea's petition to intervene.

Mr. Snyder relayed to me that the earthworks referenced on the *National Register* as the Scioto Township Works I (74001600) comprise the square and circle connected by a linear feature, and several other smaller features, as depicted by Squier and Davis, 1846. This circle, square, connecting linear feature and several other smaller features are reproduced by Mr. Sea from Squier and Davis, 1846, and are included in Mr. Sea's scoping statement. This is also depicted by Mr. Sea as exhibit A in his list of contentions attached to his petition to intervene filed February 28, 2005. In both his petition to intervene and in his scoping statement, Mr. Sea has depicted a much larger circle encompassing the square (see exhibit A of his petition to intervene). He has noted in his petition that the larger circle has not been professionally surveyed. Mr. Snyder indicated that there is no archeological evidence at this time to make any conclusions about the larger circle identified by Mr. Sea. Mr. Snyder indicated that approximately 90% of the Scioto Township Works I have been obliterated over the years by a sand/gravel/quarry operation and other construction.

Additionally, the earthworks depicted by Mr. Sea near the DOE water-supply wells, referenced by Mr. Sea as "section of Piketon Works", were referred to by Mr. Snyder as a "graded way" that may be isolated from the Scioto Township Works I. Mr. Snyder indicated that to make the connection between the "graded way" earthworks by the DOE water-supply wells and the Scioto Township Works I would take further study by a professional archeologist. I confirmed that the Piketon Mounds (74001599) listed on the *National Register* are not to the west of the DOE reservation and are not the "graded way" referenced by Mr. Snyder near the DOE water-supply wells. This may cause some confusion in the future as the Piketon Mounds on the *National Register* are also known as "Piketon Mounds and Graded Way". Mr. Snyder indicated that a linear feature is often referred to as a "graded way" and that this is a very generic term.

Mr. Snyder indicated that there are earthworks every few miles along the Scioto River from Portsmouth to Circleville, Ohio which is approximately 75 miles.



NRC FORM 699  
(9-2003)

U.S. NUCLEAR REGULATORY COMMISSION

DATE

CONVERSATION RECORD

3/24/05

TIME

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

David Snyder

TELEPHONE NO.

614-298-2000

TYPE OF CONVERSATION

VISIT

CONFERENCE

TELEPHONE

INCOMING

OUTGOING

ORGANIZATION

Ohio SHPO

SUBJECT

USRR

SUMMARY (Continue on Page 2)

DAVID SNYDER

Immed. west of Sixth across road  
known @ Scioto Township Wark 1  
Wakes every few miles along the River  
75 miles from Portsmouth to Circleville - along that  
Stream - 1820 - Atwater -

Complexes are very big -

90% - obliterated by sand/gravel <sup>(quarry)</sup> operation  
"graded way" - by wells - may be isolated - hard to make the  
connection -

no archeological evidence at this point to  
well field to development - could be helpful - understanding access road -  
helpful

Continue on Page 2

ACTION REQUIRED

NONE

NAME OF PERSON DOCUMENTING CONVERSATION

RON LINTON

SIGNATURE

DATE

3/24/05

ACTION TAKEN

TITLE OF PERSON TAKING ACTION

SIGNATURE OF PERSON TAKING ACTION

DATE

May 20, 2005

ACHP, Office of Federal Agency Programs  
Attention: Don Klima, Director  
1100 Pennsylvania Avenue NW, Suite 809  
Washington, D.C. 20004

SUBJECT: COORDINATION OF NATIONAL HISTORIC PRESERVATION ACT  
SECTION 106 REQUIREMENTS AND NATIONAL ENVIRONMENTAL POLICY  
ACT REVIEW FOR THE PROPOSED AMERICAN CENTRIFUGE PLANT, PIKE  
COUNTY, OHIO

Mr. Klima:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The proposed facility is to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an environmental impact statement (EIS) as required by the NRC's National Environmental Policy Act (NEPA) implementing regulations. The proposed facility will use gas centrifuge technology to enrich the isotope uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the proposed facility.

Two preliminary phase I archaeological surveys and one draft cultural resource report have been completed for the DOE reservation. Archaeological surveys and the cultural report results are discussed in section 3.8 of USEC's ER (enclosed). Historical and cultural resource impacts are discussed in section 4.8 of USEC's ER (enclosed).

As described in 36 CFR 800.8 we are notifying you that we intend to use the NRC's NEPA review process for Section 106 purposes. In using the NRC's NEPA process in lieu of the procedures set forth in 36 CFR 800.3 through 800.6 we will ensure the standards set forth in 800.8(c)(1) through 800.8(c)(5) are met.

We have previously notified the Ohio State Historical Preservation Officer of our intent to utilize the NRC's NEPA review process to comply with Section 106 requirements in a letter dated December 28, 2004 (enclosed). Additionally, we have solicited information from 17 Indian tribes and one local official in letters dated March 14, 2005 and March 18, 2005. Also, as part of our NEPA review process, we hosted a NEPA public scoping meeting on January 18, 2005, in Piketon, Ohio. At this meeting, we solicited information on cultural and historic properties. A full transcript of this meeting as well as all project related correspondence is available at the NRC's public web site: <http://www.nrc.gov/reading-rm/adams.html>.

-2-

We plan to issue the draft EIS in September 2005 and will include you in our distribution. If you have any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

/RA/

B. Jennifer Davis, Section Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosures:

1. Section 3.8 and Section 4.8 of USEC's Environmental Report (ML043550029)
2. December 28, 2004 letter to Ohio SHPO (ML043520095)

We plan to issue the draft EIS in September 2005 and will include you in our distribution. If you have any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

/RA/

B. Jennifer Davis, Section Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosures:

1. Section 3.8 and Section 4.8 of USEC's Environmental Report (ML043550029)
2. December 28, 2004 letter to Ohio SHPO (ML043520095)

**DISTRIBUTION:** EPADr/f      LCamper      SFlanders      YFaraz      BSmith  
MFederline      JStrosnider      LMarshall      RLinton      CWalls      JGitter  
JHenson, RII      RVirgilio, OSP      LRakovan, EDO      JGitter, SPB      AMullins      RPierson  
SLewis, OGC      MWoods, OGC      DMclntyre, OPA      SEchols, SPB      JHenson, RII      JHolonich

**ML050970090**

<b>OFC</b>	DWMEP		DWMEP		OGC		DWMEP	
<b>NAME</b>	MBlevins		RLinton		MZobler		BJDavis	
<b>DATE</b>	04/07/05		04/12/05		04/08/05		05/20/05	

OFFICIAL RECORD COPY

USEC Service List cc:

William Szymanski  
U.S. Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585

Michael Marriott  
Nuclear Information and resource Service,  
1424 16<sup>th</sup> St., NW  
Washington, DC 20036

The Honorable Robert W. Ney  
Member, United States House of  
Representatives  
2438 Rayburn HOB  
Washington, DC 20515

The Honorable George V. Voinovich  
United States Senator  
317 Hart Senate Office Building  
Washington, DC 20510

The Honorable Rob Portman  
Member, United States House of  
Representatives  
238 Cannon House Office Building  
Washington, DC 20515

The Honorable Mike DeWine  
United States Senator  
140 Russell Senate Office Building  
Washington, DC 20410

The Honorable Bob Taft  
Governor of Ohio  
77 South High Street  
30<sup>th</sup> Floor  
Columbus, Ohio 43215-6117

Ms. Mary Glasgow  
601 Chillicothe Street  
Portsmouth, Ohio 45662

Mr. Teddy L. Wheeler  
Pike County Auditor  
Pike County Government Center  
230 Weaverly Plaza, Suite 200  
Weaverly, Ohio 45690-1289

Mr. Harry Rioer  
Pike County Commissioner  
230 Weaverly Plaza Suite 1000  
Weaverly, Ohio 45690

Mr. Larry E. Scaggs  
Township Trustee  
230 Weaverly Plaza Suite 1400  
Weaverly, Ohio 45690

Kara Willis  
16 North Paint St., Suite 102  
Chillicothe, Ohio 45601

Jim Brushart  
Pike Co. Comm. Chair  
230 Weaverly Plaza Suite 1000  
Weaverly, Ohio 45690

Mr. Gary Hager  
ATTN: Mailstop-4025  
P.O.Box 628  
Piketon, Ohio 45661

Mr. Blaine Beekman  
Executive Director  
Pike County Chamber of Commerce  
P.O. Box 107  
Weaverly, Ohio 45696

Billy Spencer, Mayor of Piketon  
Mayor of Piketon  
P. O. Box 547  
Piketon, Ohio 45661

Rocky Brown, Mayor of Beaver  
7677 State sr335  
Beaver, Ohio 45613

Mr. Geoffrey Sea  
340 Haven Ave. Apt. 3C  
New York, NY 10033

Ms. Vina K. Colley, President PRESS  
3706 McDermott Pond Creek  
McDermott, Ohio 45652

Mr. Peter J. Miner, Director  
Regulatory and Quality Assurance  
USEC Inc.  
6903 Rockledge Drive  
Bethesda, MD 20817

Randall Devault, Regulatory Oversight Manager  
Department of Energy - Oak Ridge  
P.O. Box 2001  
Oak Ridge, TN 37831-8651

Dan Minter  
Southern Ohio Development Initiative  
P.O.Box 467  
Piketon, OH 45661

Mr. James R. Curtiss, Winston & Strawn  
1400 L Street, NW  
Washington, DC. 20005-3502

Teddy West  
2170 Wakefield Mound Road  
Piketon, OH 45661

Carol O'Claire, Supervisor  
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Ohio Emergency Management Agency  
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Columbus, OH 43235-2206

Rod Krich, Vice President  
Licensing Projects  
Exelon Generation Co.  
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Warrenville, IL 60555

Patricia Marida  
Central Ohio Sierra Club  
1710 Dorsetshire Rd.  
Columbus, OH 4322

Elisa Young  
48360 Carmel Road  
Racine, Ohio 45771

NRC FORM 699  
(8-2003)

U.S. NUCLEAR REGULATORY COMMISSION

DATE

CONVERSATION RECORD

6/6/2005

TIME

3:00 pm

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

David Snyder - Archaeology Reviews Manager.

TELEPHONE NO.

614 278-2000

TYPE OF CONVERSATION

VISIT

CONFERENCE

TELEPHONE

INCOMING

OUTGOING

ORGANIZATION

Ohio Historical Preservation Office

SUBJECT

Section 106 consults ACP - USLE

SUMMARY (Continue on Page 2)

Discussed sendy drafts of Chapter 3 + 4 (DCIS) to see if we have clarified information for consulty parties. Discussed w/ him on ongoing <sup>informal</sup> consultations w/ Tribes and formal consultation w/ Absentee Shawnee. We are looking for info from Shawnee on cultural attributes of Sen to Township works and why important to them, comments on finding of Id efforts + evaluation efforts, comment on proposed determination of effort on Sen to T.W. Should we ask for informal review from him on DCIS sects 3 + 4 or can we proceed w/ formal report even though we are still consulty w/ A-Shawnee. He is ok either way. Ok to ask for formal concurrence of determinations if concurred your findings and determinations will hold - speeds up as is ok. They are not shy about their opinions w/ Ohio and will tell us if

Continue on Page 2 problems or if ok.

ACTION REQUIRED

NONE

NAME OF PERSON DOCUMENTING CONVERSATION

Ron Linton

SIGNATURE

Ron Linton

DATE

6/6/05

ACTION TAKEN

TITLE OF PERSON TAKING ACTION

SIGNATURE OF PERSON TAKING ACTION

DATE

September 6, 2005

ACHP, Office of Federal Agency Programs  
Attention: Don Klima, Director  
1100 Pennsylvania Avenue NW, Suite 809  
Washington, D.C. 20004

**SUBJECT: TRANSMITTAL OF DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED AMERICAN CENTRIFUGE PLANT IN PIKETON, OHIO IN ACCORDANCE WITH NATIONAL HISTORIC PRESERVATION ACT SECTION 106 COORDINATION REQUIREMENTS**

Dear Mr. Klima,

This letter follows a letter of May 20, 2005, in which the Nuclear Regulatory Commission (NRC) indicated that we were using the NRC's National Environmental Policy Act review process for Section 106 requirements of the National Historic Preservation Act in our review of USEC Inc.'s proposal to build the American Centrifuge Plant in Piketon, OH.

As required under Section 106, the NRC has undertaken the steps of identifying and evaluating historic properties that may be affected by construction and operation of the proposed American Centrifuge Plant. The NRC found that there have been surveys conducted previously to find archaeological and historic sites in the area of the proposed project.

Enclosed is the "Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment." Section 3.3, "Historic and Cultural Resources," provides a description of the identification and evaluation process. Section 4.2.2 "Historic and Cultural Resource Impacts," presents the NRC's preliminary findings related to this undertaking, including a description of the "area of potential effects" and preliminary determinations of project effect.

In accordance with 36 CFR 800.8(c)(2) we are providing copies of the draft Environmental Impact Statement to the State Historic Preservation Officer, interested Indian tribes, consulting parties, and members of the public. We will hold a public meeting in Piketon, OH on September 29, 2005, during which we will solicit additional comments on the draft Environmental Impact Statement.



D. Klima

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton by phone at 301-415-7777 or e-mail at RCL1@nrc.gov.

Sincerely,

/RA/

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosure, see attached list

D. Klima

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton by phone at 301-415-7777 or e-mail at RCL1@nrc.gov.

Sincerely,

/RA/

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosure, see attached list

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**ML052450243**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC
<b>NAME</b>	MBlevins	BJDavis	MZobler
<b>DATE</b>	8/30/05	9/02/05	8/31/05

OFFICIAL RECORD COPY

**USEC Service List**

cc:

**William Szymanski**  
U.S. Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585

**Michael Marriott**  
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1424 16<sup>th</sup> St., NW  
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**The Honorable Robert W. Ney**  
Member, United States House of  
Representatives  
2438 Rayburn HOB  
Washington, DC 20515

**The Honorable George V. Voinovich**  
United States Senator  
317 Hart Senate Office Building  
Washington, DC 20510

**The Honorable Rob Portman**  
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238 Cannon House Office Building  
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**The Honorable Mike DeWine**  
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Washington, DC 20410

**The Honorable Bob Taft**  
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**Rocky Brown, Mayor of Beaver**  
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**Mr. Geoffrey Sea**  
1832 Wakefield Mound Road  
Piketon OH 45661

**Ms. Vina K. Colley, President PRESS**  
3706 McDermott Pond Creek  
McDermott, Ohio 45652

- 2 -

Mr. Peter J. Miner, Director  
Regulatory and Quality Assurance  
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6903 Rockledge Drive  
Bethesda, MD 20817

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Manager  
Department of Energy - Oak Ridge  
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Chief, Bureau of Radiation Protection  
Ohio Dept. of Health  
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Columbus, OH 43266

Donald J. Silverman  
Morgan, Lewis & Bockius  
1111 Pennsylvania Ave. N.W.  
Washington, DC 20004

September 6, 2005

Mr. Mark Epstein, Department Head  
Ohio Historic Preservation Office  
Resource Protection and Review  
567 East Hudson Street  
Columbus, OH 43211-1030

**SUBJECT: TRANSMITTAL OF DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR  
THE PROPOSED AMERICAN CENTRIFUGE PLANT IN PIKETON, OHIO IN  
ACCORDANCE WITH NATIONAL HISTORIC PRESERVATION ACT SECTION  
106 COORDINATION REQUIREMENTS**

Dear Mr. Epstein:

This letter follows a letter of December 28, 2004, in which the Nuclear Regulatory Commission (NRC) indicated that we were using the NRC's National Environmental Policy Act review process for Section 106 requirements of the National Historic Preservation Act in our review of USEC Inc.'s proposal to build the American Centrifuge Plant in Piketon, OH.

As required under Section 106, the NRC has undertaken the steps of identifying and evaluating historic properties that may be affected by construction and operation of the proposed American Centrifuge Plant. The NRC found that there have been surveys conducted previously to find archaeological and historic sites in the area of the proposed project.

Enclosed is the "Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment." Section 3.3, "Historic and Cultural Resources," provides a description of the identification and evaluation process. Section 4.2.2 "Historic and Cultural Resource Impacts," presents the NRC's preliminary findings related to this undertaking, including a description of the "area of potential effects" and preliminary determinations of project effect.

In accordance with 36 CFR 800.8(c)(2) we are providing copies of the draft Environmental Impact Statement to the Advisory Council on Historic Preservation, interested Indian tribes, consulting parties, and members of the public. We will hold a public meeting in Piketon, OH on September 29, 2005, during which we will solicit additional comments on the draft Environmental Impact Statement.

M. Epstein

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton by phone at 301-415-7777 or e-mail at RCL1@nrc.gov.

Sincerely,

*/RA/*

**B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards**

Docket No.: 70-7004

Enclosures: As stated

cc: w/o Enclosure, see attached list

M. Epstein

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton by phone at 301-415-7777 or e-mail at RCL1@nrc.gov.

Sincerely,

/RA/

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
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Docket No.: 70-7004

Enclosures: As stated

cc: w/o Enclosure, see attached list

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**ML052450265**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC
<b>NAME</b>	MBlevins	BJDavis	MZobler
<b>DATE</b>	8/30/05	9/02/05	8/31/05

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9/8/05  
70FR53396  
(3)



October 5, 2005

RECEIVED

2005 OCT 14 AM 9:20

RULES AND DIRECTIVES  
BRANCH  
US:RBC

Ron Linton  
Environmental and Performance Assessment Branch  
Nuclear Regulatory Commission  
Washington, DC 20555-0001

Re: Draft Environmental Impact Statement, Docket No. 70-7004, American Centrifuge Commercial Plant  
Portsmouth Gaseous Diffusion Plant (PORTS), Pike County, Ohio

Dear Mr. Linton,

This is in response to correspondence from your office dated September 6, 2005 (received September 9) providing a copy of the Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment, U.S. Nuclear Regulatory Commission, dated August 2005, regarding the above referenced project. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]); the Department of Energy serves as the lead federal agency.

The draft Report provides detailed discussions of many factors under consideration during the review for the proposed project. Our comments are intended to provide some clarification regarding the discussions of cultural resources. We are substantially in agreement regarding consideration of cultural resources. The differences in phrasing and interpretation, and clarification recommended, should not be interpreted as disagreement.

Throughout the discussions of cultural resources and consultation with the Ohio Historic Preservation Office, the Report offers the impression that there is concurrence that there will be no historic properties affected by the proposed and cumulative project development. The inset table on Page xxii defines "Small" as "...effects that are not detectable or are so minor that they would neither destabilize nor noticeably alter any important attribute of the resource." In Table 2-7 (Page 2-38), the report presents the finding that the impacts to historic and cultural resources would be small. This finding is repeated in Table 2-8 (Page 2-50). On Pages 4-5 and 4-6, the report states that there is concurrence with this office on a finding of "no effect" for the undertaking and that the impacts would be "SMALL". It was the intent of our correspondence, specifically our letter dated May 20, 2004, to set forth as part of ongoing consultation our interpretation that the proposed project would not adversely affect historic properties. That is, there are historic properties in the Area of Potential Effects, but the proposed project will not diminish the qualities and characteristics that make them significant. We believe that the changes will be noticeable. In some ways we feel that the immediate impacts from the proposed undertaking are perhaps more along the lines of MODERATE as compared to SMALL impacts. From a philosophical perspective, as the Gaseous Diffusion technology is replaced there will be changes to the Cold War buildings but since science is not static we shouldn't expect our recognition of significance based on science and technology to require static preservation.

SESP Review Complete

Template = ADM-013

E-REDS = ADM-03

Call = M. Blavin's  
(4X86)

OHIO HISTORICAL SOCIETY  
Ohio Historic Preservation Office  
567 East Hudson Street, Columbus, Ohio 43211-1030 ph: 614.298.2000 fax: 614.298.2037  
www.ohiohistory.org  
B-42

Mr. Ron Linton  
October 5, 2005  
Page 2

Also, here are some additional points for consideration. On Page 2-42, the Report states that Alternate Locations B and C within the Reservation were graded during construction of the Gaseous Diffusion facility. From my limited understanding of this area, it appears to me that the majority of both of these areas lie outside of the area that was severely disturbed by previous construction. In my opinion, the lack of severe disturbance throughout the entirety of Alternate Locations B and C increases concerns for historic preservation, and likely for other factors as well, and thus the lack of severe disturbance further supports your selection of Location A as the preferred site for the undertaking.

The Report provides information on the size of the Reservation in several places and it appeared to me that the numbers aren't always the same. For instance, on Page 2-2 the Reservation is described as encompassing 3,700 acres with 1,300 acres inside the perimeter loop road while on Page 3-1 (and also see Page 3-5) the report states that within the Reservation there are 750 security-fenced acres with 550 acres in the central area surrounded by the Perimeter Road.

On Page 3-7, the Report states that an initial archaeological survey of the DOE reservation was completed in 1952 and reportedly found no evidence of archaeological materials with reference to a 1977 Environmental Impact Statement. Is it possible to obtain a copy of relevant portions of this 1977 document? It might be helpful to include copies of selected portions in the final EIS report for this undertaking. It can be difficult to compare meaningfully work completed in 1952 when there was no authority to take into account effects of undertakings on historic properties with work being conducted today (and since 1986) under authority of the National Historic Preservation Act of 1966, as amended, and its implementing regulations at 36 CFR 800.

There are several places where the Report refers to sites, buildings, structures, and districts with potential National Register eligibility. For instance, the Report states that identified archaeological sites that have not yet been fully evaluated for National Register eligibility (and refers to them as potentially eligible) be treated as eligible for inclusion in the National Register (Page 4-5 – inset text box). There are also references to the potentially eligible Barnes House and potentially contributing elements within the historic district. We believe that there is a slight and subtle shift in the meaning of the word potential differentiating potential effects and potential impacts from potential significance and potential eligibility, and that this shift in meaning could lead to some confusion if not clarified. Regarding the 14 identified archaeological sites that have not been fully evaluated for National Register eligibility, we suggest that you consider language that establishes the specific measures that will be taken to protect the sites from effects during this undertaking until such time as sufficient information is available to complete the evaluation. That is, treat them as archaeological sites that are being protected not as historic properties that are being protected. For the Barnes House, and for the listed Scioto Township Works I archaeological site, assess the potential for the undertaking to have effects based on those qualities and characteristics that are known and understood to contribute to the importance of these properties recognizing that we may have a better understanding of these properties in the future.

The Report carefully considers the use of existing wells and finds that this will not result in changes to the ground around the wells and will not result in increased maintenance activities around the wells that has the potential to adversely affect historic properties. If the wells immediately west of the Reservation are on an embankment that is part of an earthwork complex dating to some 2,000 years ago and if this archaeological site meets National Register criteria, we would agree with your inclusion of this area with the project's finding, that the use of the existing wells will not adversely affect historic properties, provided that sufficient safeguards and conditions are in place to continue consultation if future work is proposed

Mr. Ron Linton  
October 5, 2005  
Page 3

around these wells, or becomes necessary around these wells, that would have the potential to adversely affect historic properties. We recommend that you develop appropriate conditions to provide for preservation the areas around the wells until such time as these areas can be more fully evaluated.

The Report carefully considers the potential impacts from increased vehicular traffic and finds that the increased traffic will be small and will not introduce adverse effects. Within the limits defined in the Report, we agree with this finding provided that appropriate conditions are developed to reopen consultation if vehicular traffic increases above this level or if new construction of roads or railroads becomes necessary as a direct and foreseeable consequence of the development of this project.

In general we are in agreement the conclusions and findings presented in the Report. Within the integrated National Environmental Policy Act review process, this reaffirms our interpretation that the proposed American Centrifuge Plant undertaking will not adversely affect historic properties. There are some places in the Report where it would be helpful for the documentation to provide greater clarity and to provide greater precision to facilitate the integration the discussions on archaeological sites, architectural properties, and other kinds of cultural resources within the overall assessment of effects. It would also be helpful to reinforce language that establishes conditions to restrain effects from rising to adverse levels.

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,



David Snyder, Archaeology Reviews Manager  
Resource Protection and Review

DMS/ds (OHPO Serial Number 1002038)

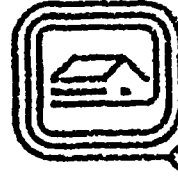
Enclosed: OHPO letter dated May 20, 2004  
OHPO letter dated November 17, 2003

xc: Geoffrey Sea, 1832 Wakefield Mound Road, Piketon, OH 45662  
Karen Kaniatobe, Absentee Shawnee Tribe of Oklahoma, 2025 S. Gordon Cooper Drive, Shownee, OK 74801-9381

**Ohio Historic Preservation Office**

567 East Hudson Street  
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Visit us at [www.ohiohistory.org](http://www.ohiohistory.org)



**OHIO  
HISTORICAL  
SOCIETY**  
SINCE 1885

May 20, 2004

Peter J. Miner  
USEC, Inc.  
6903 Rockledge Drive  
Bethesda, MD 20817-1818

**Re: Installation and Operation of the American Centrifuge Commercial Plant  
Portsmouth Gaseous Diffusion Plant (PORTS), Pike County, Ohio**

Dear Mr. Miner,

This is in response to correspondence from your office dated March 2, 2004 (received March 5) regarding the above referenced project. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]); the Department of Energy serves as the lead federal agency.

Your correspondence offers the position that the proposed new construction will include buildings of similar design and size to the nearby buildings and that there will be similar functions carried out in these new buildings. Although not specifically stated in your correspondence, it appears that your discussion is to conclude that the qualities and characteristics that make PORTS significant will not be diminished by the proposed new construction. While we believe that clarification of those qualities that make PORTS significant would be helpful, given the available information on the size, design, and function of the existing and the proposed buildings, we are able to offer our opinion that the proposed project will not adversely affect the Portsmouth Gaseous Diffusion Plant historic property.

As you are aware, private citizens have raised concerns about the potential for this project to affect historic properties, including prehistoric archaeological sites. The National Historic Preservation Act strongly encourages federal agencies to include comments and concerns from the public throughout the Section 106 review process. It is our understanding the area of proposed new construction has been previously severely disturbed by previous construction, that the topsoil in this area was removed to a depth well into the subsoil and the contours were completely regraded during previous construction. However, we believe that it is an important responsibility to listen carefully to public concerns and to provide thoughtful and sensitive responses.

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

Mark J. Epstein, Department Head  
Resource Protection and Review

MJE:DMS/ds (OHPO Serial Number 100903)

xc: Gary S. Hartman, DOE - Oak Ridge, P.O. Box 2001, Oak Ridge, TN 37831

**Ohio Historic Preservation Office**

567 East Hudson Street  
Columbus, Ohio 43211-1030  
614/ 298-2000 Fax: 614/ 298-2037

Visit us at [www.ohiohistory.org](http://www.ohiohistory.org)



**OHIO  
HISTORICAL  
SOCIETY**  
SINCE 1885

November 17, 2003

**Russell J. Vranicar, Acting Site Manager  
U.S. Department of Energy, PORTS  
Portsmouth Site Office  
P.O. Box 700  
Piketon, OH 45661-0700**

**Re: Review of report, Testing at site 33-PK-210  
Portsmouth Gaseous Diffusion Plant, Scioto Township, Pike County, Ohio**

Dear Mr. Vranicar,

This is in response to correspondence from your office dated September 19, 2003 (received September 24) transmitting the report titled "Phase II Archaeological Testing at Site 33PK210, Scioto Township, Pike County, Ohio" by Christopher M. Hazel, July 2003. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]); the Department of Energy serves as the lead federal agency.

The archaeological testing was restricted to the portion of site 33-PK-210 on Department of Energy property. It appears that more than half of the site extends south of Department of Energy property. The testing included background review, pedestrian walk-over, and shovel testing. Although the extent of site exposed through a combination of shovel testing, excavation units, and auger testing was quite small, we agree that the research design was sufficient to identify any pattern of artifacts or features within the tested portion of the site. We agree with the conclusions that no sensitive archaeological deposits were identified in the tested portion of site 33-PK-210 and that no further archaeological investigations are warranted within this portion of the site. We do not concur that sufficient testing has been conducted to conclude that the entire site doesn't meet the criteria for National Register eligibility. Given the modest assemblage recovered from site 33-PK-210 we do not believe that additional testing at this site is a preservation priority. Assuming that all development within PORTS takes place north of the fence line marking the southern boundary of the tested portion of the site, we concur that no further archaeological testing at site 33-PK-210 is necessary and that no further coordination with this office is necessary for this site.

Mr. Russell J. Vranicar  
November 17, 2003  
Page 2

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink that reads "David Snyder". The signature is written in a cursive style with a large, prominent "D" and "S".

David Snyder, Archaeology Reviews Manager  
Resource Protection and Review

DMS:ds

xc: Gary Hartman, DOE - Oak Ridge, P.O. Box 2001, Oak Ridge, TN 37831  
Kristi Wiehle, DOE - PORTS, P.O. Box 700, Piketon, OH 45661-0700

January 27, 2006

ACHP, Office of Federal Agency Programs  
Attention: Don Klima, Director  
1100 Pennsylvania Avenue NW, Suite 809  
Washington, D.C. 20004

SUBJECT: SECTION 106 CONSULTATION REFERRAL FOR THE PROPOSED  
AMERICAN CENTRIFUGE PLANT, PIKE COUNTY, OHIO

Dear Mr. Klima:

The U.S. Nuclear Regulatory Commission (NRC) is providing additional information relevant to the Section 106 consultation for USEC Inc.'s proposed American Centrifuge Plant (ACP). The NRC informed the Council by letter dated May 20, 2005, of its intent to use the National Historic Preservation Act (NEPA) process to fulfill NRC responsibilities under Section 106 of the NEPA. We subsequently transmitted a copy of the draft environmental impact statement (DEIS) by letter dated September 6, 2005.

This letter is submitted in fulfillment of 36 CFR 800.8(c)(2)(ii), to refer to you objections by a consulting party on the NRC's compliance with Section 106 through use of its NEPA process and of the NRC's findings of no effect on historic properties that were presented in the DEIS.

Enclosed is a complete chronological listing of Section 106 correspondence regarding the proposed undertaking that is directly available at the NRC's website: <http://www.nrc.gov/materials/fuel-cycle-fac/summ-section-106.html>. Table 1 provides a listing of all correspondence to and from Federal, state, and local government organizations. Table 2 provides a listing of all correspondence to and from Indian tribes. Table 3 provides a listing of all correspondence to and from the objecting party, Mr. Geoffrey Sea. The documents listed in Table 3 include Mr. Sea's scoping comments, his pleadings as an intervenor, his oral comments at a public meeting, email communications, and the appendices to his promised written comments submitted on the DEIS. The actual comments were not received by the NRC as Mr. Sea indicated that he would be providing them directly to the Council. Finally, Table 4 provides a listing of publicly available cultural resource surveys and related information. Additionally, the NRC is maintaining a public website, <http://www.nrc.gov/materials/fuel-cycle-fac/usecfacility.html>, that provides access to information concerning the NRC's safety and environmental review for the proposed ACP, and includes a link to the DEIS.

In the DEIS, the NRC staff presents a discussion of historic resources in Chapter 3 on pages 3-5 to 3-11. Subsequently, the staff presents a discussion of impacts to historic resources in Chapter 4 of the DEIS on pages 4-4 to 4-7. On page 4-5 of the DEIS, the NRC staff identifies historic properties and other properties that may be eligible for the National Register within the area of potential effects (APE) of the project. After consideration of the construction and operations activities that might affect these properties, the DEIS concludes that the project will have no effect on historic properties or potentially Register-eligible properties within the APE.



Because of Mr. Sea's concerns about effects on his house, known as The Barnes Home, which is adjacent to the APE, a structure that is likely Register-eligible under Criteria A and C, the DEIS also considered potential effects on this property. Similarly, because of the concerns of Mr. Sea and those of two Native American tribes about the possible project effects on the Scioto Township Works (approximately 1 kilometer from the proposed ACP), a prehistoric earthworks listed on the National Register for Criterion D values, the NRC also considered possible effects on this property. The visual setting, noise levels, and traffic levels around these properties are unlikely to change significantly from current conditions as a result of the project. Consequently, in both cases, the DEIS analysis on pages 4-5 to 4-7 found that activities associated with construction and operation of the American Centrifuge Plant would have no effect on the attributes that contribute to historic significance of the properties. The NRC's evaluation of effects on the Scioto Township works presumed that Native American concerns related to attributes under Criterion A. The NRC has asked the Native American tribes to provide more information about the values of concern associated with the Scioto Township works, but has received no information from the tribes beyond what is provided in the enclosed referenced materials.

Mr. Sea has also indicated concerns about what appeared to be prehistoric earthworks at one of the well fields that will supply water for the proposed ACP. The DEIS presents a discussion of impacts from the well field in question on page 4-7 and the NRC's findings that there would be no effect on these apparent earthworks. Subsequent to publication of the DEIS, the NRC received a statement from Mr. Blaine Bleekman (see Table 4 in enclosure), a local resident, who described construction of three levies along the Scioto River after a 1959 flood, including the levy that Mr. Sea is concerned about. While it appears most likely that these structures are recently constructed flood control levies, it is still the NRC's position that there will be no effect on these structures from continued pumping at this U.S. Department of Energy (DOE) well field

Mr. Sea is also concerned about several other properties, including the Rittenour Home, the Sargent Home, and the location where the last passenger pigeon was killed, but these are further from the proposed ACP than the Barnes House or Scioto Township Works and so were not considered in the DEIS analysis.

Finally, Mr. Sea believes that we have not properly carried out the Section 106 consultation requirements nor have we properly incorporated Section 106 compliance into the NRC's NEPA process as described in 36 CFR 800.8.

While you will be able to review the materials, it appears to the NRC that Mr. Sea believes there is a historic landscape linking the prehistoric Scioto Township Works; the historic Barnes Home, Rittenour Home, Sargents Home, and the passenger pigeon kill site; and the Portsmouth Gaseous Diffusion Plant Historic District. He disagrees that NRC has adequately identified historic properties because the NRC's analysis has not considered this historic landscape. Mr. Sea has a vision of promoting tourism to this landscape to enable public appreciation of the history represented on this landscape. He feels that NRC's action in approving the license for the ACP will lead to future operations on a DOE site that he believes would otherwise be closed. He believes that continuing operations at the DOE site would diminish the opportunity for public appreciation of the historic values in the landscape. He finds this to be an effect on those historic properties and cultural resources.

Additionally, the NRC has received comments from the Ohio Historic Preservation Office that suggest the usage of "small" to characterize impacts in the NEPA document following description of findings of "no effect on historic properties" may be confusing, and that there may be some observable impacts that are better described as "moderate" in level although these impacts do not extend to attributes that contribute to the properties' National Register eligibility. The NRC will clarify this language in the DEIS.

The NRC believes that it has met its Section 106 obligations including the identification of consulting parties, identification of historic properties within and beyond the APE, and that its assessment of project effects are correct. We welcome the Council's review of Mr. Sea's objections and look forward to learning of the Council's findings.

If you have any questions about this information or wish to provide any other additional information please feel free to respond in writing or to contact Matthew Blevins by phone at 301-415-7684 or by e-mail at [MXB6@nrc.gov](mailto:MXB6@nrc.gov). Mr. Blevins will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

*/RAJ*

**B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards**

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

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*/RA/*

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

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**ML060120438**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC	
<b>NAME</b>	MBlevins	BJDavis	LClark	
<b>DATE</b>	01/23/06	01/27/06	01/17/06	

OFFICIAL RECORD COPY

**USEC Service List**

cc:

**William Szymanski**  
U.S. Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585

**Michael Marriotte**  
Nuclear Information and Resource Service  
1424 16<sup>th</sup> St., NW  
Washington, DC 20036

**The Honorable Robert Ney**  
Congressman  
c/o Carrie Mytinger  
51 E Second Street  
Chillicothe, OH 45601

**The Honorable George V. Voinovich**  
United States Senator  
524 Hart Senate Office Building  
Washington, DC 20510

**Mr. Marvin Jones**  
President and CEO  
Chillicothe Chamber of Commerce  
165 South Paint Street  
Chillicothe, OH 45601

**The Honorable Mike DeWine**  
United States Senator  
140 Russell Senate Office Building  
Washington, DC 20410

**The Honorable Bob Taft**  
Governor of Ohio  
77 South High Street  
30<sup>th</sup> Floor  
Columbus, Ohio 43215-6117

**Ms. Mary Glasgow**  
601 Chillicothe Street  
Portsmouth, Ohio 45662

**Mr. Teddy L. Wheeler**  
Pike County Auditor  
Pike County Government Center  
230 Waverly Plaza, Suite 200  
Waverly, Ohio 45690-1289

**Mr. Harry Rioer**  
Pike County Commissioner  
230 Waverly Plaza, Suite 1000  
Waverly, Ohio 45690

**Mr. Larry E. Scaggs**  
Township Trustee  
230 Waverly Plaza, Suite 1000  
Waverly, Ohio 45690

**Kara Willis**  
16 North Paint St., Suite 102  
Chillicothe, Ohio 45601

**Jim Brushart**  
Pike County Commission Chair  
230 Waverly Plaza Suite 1000  
Waverly, Ohio 45690

**Mr. David Bowe**  
ATTN: Mail Stop 4025  
P.O. Box 628  
Piketon, OH 45661

**Mr. Blaine Beekman**  
Executive Director  
Pike County Chamber of Commerce  
12455 State Route 104  
Waverly, OH 45690

**Billy Spencer**  
Mayor of Piketon  
P. O. Box 547  
Piketon, Ohio 45661

**Rocky Brown, Mayor of Beaver**  
7677 State sr335  
Beaver, Ohio 45613

**Mr. Geoffrey Sea**  
The Barnes Home  
1832 Wakefield Mound Road  
Piketon, OH 45661

Ms. Vina K. Colley, President PRESS  
3706 McDermott Pond Creek  
McDermott, Ohio 45652

Mr. Peter J. Miner, Licensing Manager  
USEC, Inc.  
6903 Rockledge Drive  
Bethesda, MD 20817

Mr. Randall De Vault  
U.S. Department of Energy  
P.O. Box 2001  
Oak Ridge, TN 37831

Mr. Dan Minter  
Southern Ohio Development Initiative  
P.O. Box 467  
Piketon, OH 45661

Mr. James R. Curtiss  
Winston & Strawn,  
1700 K Street, NW  
Washington, DC. 20006

Mr. Teddy West  
2170 Wakefield Mound Road  
Piketon, OH 45661

Ms. Carol O'Claire, Supervisor  
Radiological Branch  
Ohio Emergency Management Agency  
2855 West Dublin-Granville Road  
Columbus, OH 43235-2206

Mr. Rod Krich, Vice President  
Licensing Projects  
Exelon Generation Co.  
4300 Winfield Road  
Warrenville, IL 60555

Mr. Lindsay A. Lovejoy, Jr.  
Nuclear Information and Resource Service  
618 Paseo de Peralta, Unit B  
Santa Fe, NM 87501

Mr. Robert Huff, President and CEO  
Portsmouth Area Chamber of Commerce  
324 Chillicothe St.  
P.O. Box 509  
Portsmouth, OH 45662

Robert E. Owen  
Chief, Bureau of Radiation Protection  
Ohio Dept. Of Health  
35 East Chestnut Street  
Columbus, OH 43215

Donald J. Silverman  
Morgan, Lewis and Bockius  
1111 Pennsylvania Ave, NW  
Washington D.C. 20004

Ewan Todd  
403 E. Oakland Avenue  
Columbus, OH 43202

Ms. MarJean Kennedy  
Regional Representative  
Governor's Office  
of Economic Development  
15 N. Paint St., Suite 102  
Chillicothe, OH 45601

Ms. Joyce Leeth  
Pike County Recorder  
230 Waverly Plaza, Suite 500  
Waverly, OH 45690

Mr. Dwight Massie  
c/o The First National Bank  
P.O. Box 147  
Waverly, OH 45690-0147

Mr. Marvin Jones  
President and CEO  
Chillicothe Chamber of Commerce  
165 South Paint Street  
Chillicothe, OH 45601

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**B.2 COMMUNICATIONS TO/FROM TRIBAL ORGANIZATIONS**

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*EXHIBIT N*  
**Absentee Shawnee Tribe of Oklahoma**

2025 S. Gordon Cooper

Shawnee, Oklahoma 74801-9351

(405) 275-4030

Fax: 405-878-4533

Cultural/Historic  
Preservation Department

February 24, 2005

**RE: Support of Geoffrey Sea's Intervention in the USEC American Centrifuge Plant Licensing Action**

**To the Commissioners, Secretary and Atomic Safety and Licensing Board of the US Nuclear Regulatory Commission and to Whom it May Concern:**

I am writing in support of the intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action. I am the Tribal Historic Preservation Officer for the Absentee Shawnee Tribe. Our interest in supporting Mr. Sea's is based on the fact that Ohio is part of our ancestral homelands. Through historical research we have identified a number of village sites in the Ohio Valley. In fact, quite a few are located along the Scioto River. Furthermore, if you look at a map, you will notice that the names of towns, cities and counties reflect the Shawnee's historical presence within the state of Ohio.

We are part of the Algonquian family of Native American peoples, and the Algonquian tribes of the Ohio/Great Lakes region are collectively believed to be descended from the culture called Ft Ancient. In turn the Ft Ancient are considered descendants of the Hopewell culture. The people of the Hopewell Culture built the many astounding geometric earthworks, including those called the Barnes Works in Scioto Township.

All of the historic and prehistoric sites in the region of Scioto Township have great meaning and significance. The Barnes Works, being one of the largest and most beautiful prehistoric architectural works in North America, is a site that has already suffered desecration and destruction—but what remains can be saved.

Many more historic sites may exist in the area, remaining to be found for lack of extensive survey. Surveys to find such sites should be conducted as part of any 106 review for the ACP.

The American Centrifuge Project may impact all these sites in many ways that have not been studied or considered. Physical destruction caused by new buildings is only one concern. We also need to consider potential destruction of earthworks along the river caused by additional water pumping, the impacts of herbicides used to defoliate a security zone around the DOE site perimeter, the impacts of keeping the area under national-security restriction, rather than opening the area to study and tourism, and the aesthetic impacts of marring a sacred area with security fences, more roads, and shipments of radioactive fuel and waste.



# Absentee Shawnee Tribe of Oklahoma

2025 S. Gordon Cooper

Shawnee, Oklahoma 74801-9381

(405) 275-4030

Fax: 405-878-4533

Cultural/Historic  
Preservation Department

Our tribe has not been contacted by DOE about the American Centrifuge Project for consultation. We first learned about the American Centrifuge Project from Geoffrey Sea. Please note that we count on being included as a consulting party in future 106 and 110 reviews at the Piketon site.

We understand that the NRC has initiated a section 106 review as part of its licensing process. That is good. However this is an important test for preservation law. If a major federal nuclear project involving two different federal agencies can proceed without any consideration of one of the largest sacred sites in North America next door, then it means that the provisions of the National Historic Preservation Act have become meaningless.

Many alternatives to the proposed action deserve full study and consideration. USEC's environmental report mentions the possible alternatives of moving ACP to the north side of the Piketon site or moving it from Piketon to Paducah, Kentucky. Since the current site at the southwest corner of the DOE reservation involves many potential impacts, those alternatives among others need careful review.

Respectfully,

Karen Kaniatobe  
Tribal Historic Preservation Officer

March 14, 2005

Mr. James Leaffe, Chief  
Cayuga Nation  
P.O. Box 11  
Versailles, NY 14168  
Attn: Mr. Halftown, THPO  
Representative

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Leaffe:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

Two phase I archaeological surveys and one draft cultural resource report have been completed for the DOE reservation. Archaeological surveys and the cultural report results are discussed section 3.8 of the ER (enclosed). Historical and cultural resource impacts are discussed in section 4.8 of the ER (enclosed). The Area of Potential Effects (APE) is defined as the DOE reservation in Piketon, Ohio.

As required by 36 CFR 800.3 (f), the NRC is requesting any information you may have regarding historic sites or cultural resources within the APE. The NRC is interested in knowing if you have specific knowledge of any sites that you believe have traditional religious and cultural significance. In addition, we are interested in knowing if you are aware of or are concerned for any site, or object, eligible for inclusion on the National Register of Historic Places. This will assure appropriate consideration in the Section 106 process.

Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

J. Leaffe

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Cherokee Nation of Oklahoma  
P.O. Box 948  
Ada, OK 74820

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Cherokee Nation of Oklahoma:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

Cherokee Nation of Oklahoma

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

**/RA/**

**B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards**

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Turtle Mountain Band  
of Chippewa Indians  
Attn: Mr. Kade M. Ferris  
Tribal Historic Preservation Officer  
Office of Archaeology  
and Historic Preservation  
P.O. Box 900  
Belcourt, ND 58316

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Ferris:

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K. Ferris

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report



March 14, 2005

Mr. Bruce Gonzales, President  
Delaware Tribe of Western Oklahoma  
P.O. Box 825  
Anardarko, OK 73005  
Attn: Ms. Tamara Francis, Delaware  
Nation NAGPRA Office

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Gonzales:

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B. Gonzales

-2-

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Mr. John Pryor, Executive Officer  
Miami Tribe of Oklahoma  
P.O. Box 1326  
202 South Eight Tribes Trail  
Miami, OK 74355  
Attn: Ms. Julie Olds, THPO

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Pryor:

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J. Pryor

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

**B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards**

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Mr. Charles Todd, Chief  
Ottawa Tribe of Oklahoma  
P.O. Box 110  
Miami, OK 74355  
Attn: Mr. Roy Ross

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Todd:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

Two phase I archaeological surveys and one draft cultural resource report have been completed for the DOE reservation. Archaeological surveys and the cultural report results are discussed section 3.8 of the ER (enclosed). Historical and cultural resource impacts are discussed in section 4.8 of the ER (enclosed). The Area of Potential Effects (APE) is defined as the DOE reservation in Piketon, Ohio.

As required by 36 CFR 800.3 (f), the NRC is requesting any information you may have regarding historic sites or cultural resources within the APE. The NRC is interested in knowing if you have specific knowledge of any sites that you believe have traditional religious and cultural significance. In addition, we are interested in knowing if you are aware of or are concerned for any site, or object, eligible for inclusion on the National Register of Historic Places. This will assure appropriate consideration in the Section 106 process.

Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

C. Todd

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Mr. John P. Froman, Chief  
Peoria Tribe of Oklahoma  
P.O. Box 1527  
118 S. Eight Tribes Trail  
Miami, OK 74355  
Attn: Mr. Bud Ellis, Repatriation  
Committee Chairman

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Froman:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

J. Forman

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report



March 14, 2005

Mr. Harold Frank, Chairperson  
Forest County Potawtomi  
P.O. Box 340  
Community of Wisconsin Potawtomi  
Crandon, WI 54520  
Attn: Ms. Clarice M. Werle, NAGPRA  
Contact

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Frank:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

H. Frank

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Mr. John A. Barret, Jr., Chairperson  
Citizen Potawatomi Nation  
1601 S. Gordon Cooper Drive  
Shawnee, OK 74801  
Attn: Mr. Jeremy Finch

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Barrett:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF6), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

J. Barrett

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 16, 2005

Mr. Calvin John, President  
Seneca Nation of Indians  
P.O. Box 231  
Salamanca, NY 14779  
Attn: Ms. Kathlenn Mitchell, THPO

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. John:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF6), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

C. John

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

/RA/

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Mr. Jerry Dilliner, Chief  
Seneca-Cayuga Tribe of Oklahoma  
P.O. Box 1283  
R2301 E. Steve Owens Blvd.  
Miami, OK 74355  
Attn: Mr. Paul Barton

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Dilliner:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF6), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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J. Dilliner

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report



March 14, 2005

Mr. Charles D. Enyart, Chief  
Eastern Shawnee Tribe of Oklahoma  
P.O. Box 350  
Seneca, MO 64865  
Attn: R.C. Kisse

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Enyart:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

C. Enyart

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Mr. Kenneth Daughtery, Tribal Secretary  
Absentee-Shawnee Tribe of Oklahoma  
2025 S. Gordon Cooper Drive  
Shawnee, OK 74801-9381  
Attn: Ms. Karen Kaniatobe

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Daughtery:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

K. Daughtery

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Mr. James Brushart  
President, Pike County Commissioners  
230 Waverly Plaza, Suite 1000  
Waverly, Ohio 45690

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Brushart:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an *Environmental Impact Statement (EIS)* for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an *Environmental Report (ER)* that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

J. Brushart

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

**B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards**

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 14, 2005

Mr. Leaford Bearskin, Chief  
Wyandotte Nation  
P.O. Box 250  
Wyandotte, OK 74370  
Attn: Ms. Sherri Clemons

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Bearskin:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF6), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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L. Bearskin

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*IRA*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report



March 14, 2005

Mr. James Squirrel  
Loyal Shawnee Tribe  
Route 4, Box 30  
Jay, OK 74346

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Squirrel:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

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J. Squirrel

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

J. Squirrel

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

DISTRIBUTION: EPAD r/f  
ML050670006

OFC	DWMEP		DWMEP			
NAME	RLinton		JDavis			
DATE	03/09/05		03/14/05			

March 18, 2005

Mr. Ron Sparkman  
Shawnee Tribe  
P.O. Box 189  
Miami, OK 74355

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Sparkman:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

Two phase I archaeological surveys and one draft cultural resource report have been completed for the DOE reservation. Archaeological surveys and the cultural report results are discussed section 3.8 of the ER (enclosed). Historical and cultural resource impacts are discussed in section 4.8 of the ER (enclosed). The Area of Potential Effects (APE) is defined as the DOE reservation in Piketon, Ohio.

As required by 36 CFR 800.3 (f), the NRC is requesting any information you may have regarding historic sites or cultural resources within the APE. The NRC is interested in knowing if you have specific knowledge of any sites that you believe have traditional religious and cultural significance. In addition, we are interested in knowing if you are aware of or are concerned for any site, or object, eligible for inclusion on the National Register of Historic Places. This will assure appropriate consideration in the Section 106 process.

Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

R. Sparkman

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

/RA/

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

March 18, 2005

Mr. Rey Kitchkumme  
Prairie Band of Potawatomi Nation  
16277 Q Road  
Mayetta, KS 66509-8970

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Kitchkumme:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF6), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

Two phase I archaeological surveys and one draft cultural resource report have been completed for the DOE reservation. Archaeological surveys and the cultural report results are discussed section 3.8 of the ER (enclosed). Historical and cultural resource impacts are discussed in section 4.8 of the ER (enclosed). The Area of Potential Effects (APE) is defined as the DOE reservation in Piketon, Ohio.

As required by 36 CFR 800.3 (f), the NRC is requesting any information you may have regarding historic sites or cultural resources within the APE. The NRC is interested in knowing if you have specific knowledge of any sites that you believe have traditional religious and cultural significance. In addition, we are interested in knowing if you are aware of or are concerned for any site, or object, eligible for inclusion on the National Register of Historic Places. This will assure appropriate consideration in the Section 106 process.

Any information you provide may be used to document affects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.

R. Kitchkumme

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

**B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards**

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

R. Kitchkumme

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

/RA/

B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

cc: USEC Service List

Enclosure: Section 3.8 and 4.8 Environmental Report

DISTRIBUTION: EPAD r/f  
ML050750405

\*See previous concurrence

OFC	DWMEP		DWMEP*			
NAME	RLinton		JDavis			
DATE	03/09/05		03/18/05			





**PEORIA TRIBE OF INDIANS OF OKLAHOMA**

118 S. Eight Tribes Trail (918) 540-2535 FAX (918) 540-2538

P.O. Box 1527

MIAMI, OKLAHOMA 74355

Rec'd 3/29/05  
ROB

CHIEF  
John P. Froman

SECOND CHIEF  
Joe Goforth

12/29/04

69FR 78058

①

March 23, 2005

Chief, Rules and Directives Branch  
Division of Administrative Services  
Mail Stop T-6 D59  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

**RE: Initiation of the National Historic Reservation Act Section 106 Consultation Process for the Proposed American Centrifuge Commercial Plant, Pike County, Ohio**

Thank you for notice of the referenced project. The Peoria Tribe of Indians of Oklahoma is currently unaware of any documentation directly linking Indian Religious Sites to the proposed construction. In the event any items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during construction, the Peoria Tribe request notification and further consultation.

The Peoria Tribe has no objection to the proposed construction. However, if any human skeletal remains and/or any objects falling under NAGPRA are uncovered during construction, the construction should stop immediately, and the appropriate persons, including state and tribal NAGPRA representatives contacted.

John P. Froman  
Chief

xc: Bud Ellis, Repatriation/NAGPRA Committee Chairman

*SISP Review Complete*

*FRDS = ADM-03*

*Case = M. Blevins (M106)*

TREASURER  
John Sharp

SECRETARY  
Mark Downum

FIRST COUNCILMAN  
Claude Landers

SECOND COUNCILMAN  
Jenny Rampey

THIRD COUNCILMAN  
Jason Dollarhide

*Template = ADM-013*

*J. FAIRZ (YHF)*

NRC FORM 699 (9-2003)		U.S. NUCLEAR REGULATORY COMMISSION		DATE 3/28/05
<b>CONVERSATION RECORD</b>				TIME 12:25
NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU Rebecca Hawkins		TELEPHONE NO. 918-542-2441		TYPE OF CONVERSATION <input type="checkbox"/> VISIT <input type="checkbox"/> CONFERENCE <input checked="" type="checkbox"/> TELEPHONE <input checked="" type="checkbox"/> INCOMING <input type="checkbox"/> OUTGOING
ORGANIZATION Shansee Tube - THPO		SUBJECT USEZ		

SUMMARY (Continues on Page 2)

Not sure if Hopewell are linear descendants of Hopewell. Specifically no use to NRC - but from general record, they are interested in preservation of archeological features. She has been in contact w/ Dave Snyder - Ohio SHPO - she indicated she was comfortable that NRC + Ohio SHPO was aware and was doing due diligence about Scioto Township Works.


Some groups in Ohio - claim to be Shansee - but not really Indians - try to get standing - be aware that they may try to interrupt or interfere.

Video - Ohio Historical Society - good + interesting watch of S. Ohio history "Searching for the Great Hopewell Road" - Talks about Gradall Mays and extensive earth works in S. Ohio.

Continue on Page 2

ACTION REQUIRED

NONE - She will follow-up w/ Letter to NRC.

NAME OF PERSON DOCUMENTING CONVERSATION Row Linton	SIGNATURE 	DATE 3/28/05
ACTION TAKEN		
TITLE OF PERSON TAKING ACTION	SIGNATURE OF PERSON TAKING ACTION	DATE



# Seneca Nation Tribal Historic Preservation

*Kathleen J. Mitchell*  
Officer

467 Center St. Salamanca, NY 14779  
Phone: (716) 945-9427 • Fax: (716) 945-0351  
E-mail: snithpo@nycountry.com

*Lana K. Wall*  
Cultural Resource Tech.

April 5, 2005

Attention: Mr. Ron Linton  
MS T7 J08  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

RE: Proposed American Centrifuge Commercial Plant, Pike County, Ohio

Dear Mr. Linton,

Our office has completed a review of submitted information regarding the above referenced project proposal. In order to further facilitate our review of the project we are requesting that copies of the Phase I Archaeological/Cultural Reports, along with any completed Phase II reports, be forwarded to our office at your earliest convenience.

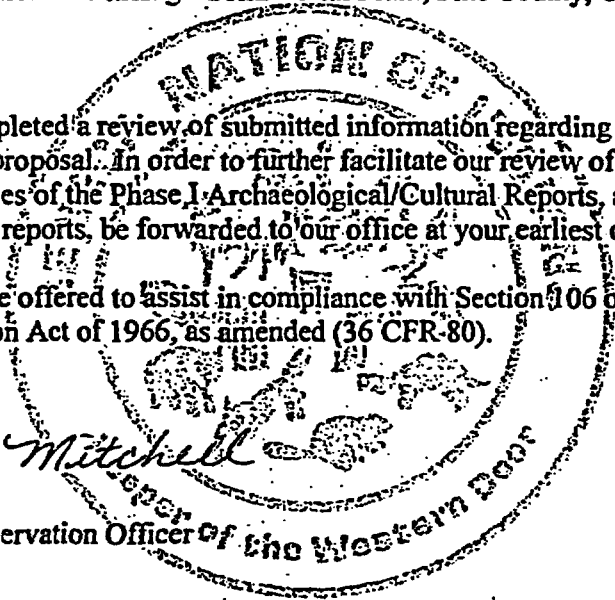
These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR-80).

Respectfully,

*Kathleen Mitchell*

Kathleen Mitchell

Tribal Historic Preservation Officer of the Western Dept



NRC FORM 699  
(9-2003)

U.S. NUCLEAR REGULATORY COMMISSION

DATE

6/1/05

CONVERSATION RECORD

TIME

4:30

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Mr. Paul Barton

TELEPHONE NO.

918-542-6609

TYPE OF CONVERSATION

VISIT

CONFERENCE

TELEPHONE

INCOMING

OUTGOING

ORGANIZATION

Saratoga-Cayuga Tribe of OK

SUBJECT

ACP Sect 106 Consultation Process

SUMMARY (Continue on Page 2)

Discussed ACP w/ Mr. Paul Barton. He had not seen the letter, but found it as we were discussing on the phone. He will look over and respond or call back with questions.

Continue on Page 2

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

Ron Linton

SIGNATURE

DATE

6/1/05

ACTION TAKEN

TITLE OF PERSON TAKING ACTION

SIGNATURE OF PERSON TAKING ACTION

DATE

NRC FORM 699 (9-2003)		U.S. NUCLEAR REGULATORY COMMISSION		DATE 6/1/05
<b>CONVERSATION RECORD</b>				TIME 12:40
NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU Ms. Julie Olds		TELEPHONE NO. 918-542-1445		TYPE OF CONVERSATION <input type="checkbox"/> VISIT <input type="checkbox"/> CONFERENCE <input checked="" type="checkbox"/> TELEPHONE <input type="checkbox"/> INCOMING <input checked="" type="checkbox"/> OUTGOING
ORGANIZATION Miami Tribe of Oklahoma				
SUBJECT Sect 106 consultation process				

SUMMARY (Continue on Page 2)

She had no seen letter directed to Mr. John Payer. I gave her the ML# for the 15 letters sent to Tribes on 3/14/05, and told her the letter to Miami Tribe was about 4th on the list. I directed her to www.nrc.gov → reading room - ADAMS web based search → ML#. Also gave her the ML#s for ACP CR, Phase II Archeological Survey, and told her we should be getting the Schunkert phase I publication on ADAMS soon. If she needed to see it, to please contact me and I would provide ML# or copy. She may request by mail, or by email to me. I gave her my ~~phone~~ email address.

Continue on Page 2

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION Row LINTON	SIGNATURE 	DATE 6/1/05
---	--	----------------

ACTION TAKEN

TITLE OF PERSON TAKING ACTION	SIGNATURE OF PERSON TAKING ACTION	DATE
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NRG FORM 699  
(9-2003)

U.S. NUCLEAR REGULATORY COMMISSION

DATE

6/1/05

CONVERSATION RECORD

TIME

12:22 pm

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Tamara Francis,

TELEPHONE NO.

405-247-2448

TYPE OF CONVERSATION

VISIT

CONFERENCE

TELEPHONE

INCOMING

OUTGOING

ORGANIZATION

Delaware Tribe of Western Oklahoma

SUBJECT

Sect 106 Consultation - ACP

SUMMARY (Continue on Page 2)

Have no interests in Pike County, Ohio.

Spoke briefly w/ Ms. Tamara Francis, tribal contact, the Delaware have no interests in Pike County, Ohio. I explained I sent letter to Delaware b/c they were listed on Ohio SHPO letter dated 2/2/05 as a possible consulting tribe. She again reiterated that the Delaware of Western Ok have no interests in Pike Co, Ohio, and that's probably why they did not respond.

Continue on Page 2

ACTION REQUIRED

NONE

NAME OF PERSON DOCUMENTING CONVERSATION

RON LINTON

SIGNATURE

DATE

6/1/2005

ACTION TAKEN

TITLE OF PERSON TAKING ACTION

SIGNATURE OF PERSON TAKING ACTION

DATE

**From:** Ron Linton  
**To:** Matthew Blevins  
**Date:** 10/14/05 10:57AM  
**Subject:** Status: Section 106 Tribal consultations for USEC ACP, to date

**Matt:**

This is the status, to date, of the Section 106 Tribal consultations for the USEC ACP.

A list of 15 Tribes with historical ties to Ohio was provided by the Ohio Historic Preservation Office (SHPO) on February 2, 2005. An additional 2 tribes with historical ties to Ohio were identified with the assistance of the National Park Service. Initial 106 consultation letters were sent to 15 Tribes in letters dated March 14, 2005 and to two Tribes in letters dated March 18, 2005. Consultation letters were sent to both the Loyal Shawnee Tribe (March 14) and the Shawnee Tribe (March 18). In correspondence received later from the Shawnee Tribe, they clarified that the Loyal Shawnee Tribe name was changed to Shawnee Tribe several years ago. Therefore, a total of 16 tribes were contacted in total. To date, we have received written or verbal comments or replies from ten Tribes. These replies have been documented and are docketed in ADAMS. The following provides the attempts made to elicit comments from the additional six Tribes.

**Cayuga Nation** - The initial Section 106 consultation letter was sent to Mr. James Leafie, Chief dated March 14, 2005. I followed up with phone calls to the Cayuga Nation on June 1 and June 2, 2005 and left messages to contact me in reference to the March 14, 2005 letter. I was not contacted. On August 24, 2005 I phoned the Cayuga Nation and spoke with a staff member who asked me to fax a copy of the March 14, 2005 letter. I faxed the March 14, 2005 letter to the tribe on August 25, 2005. To date, NRC has not received comments from the Cayuga Nation.

**Cherokee Nation of Oklahoma** - The initial Section 106 consultation letter was sent to the Cherokee Nation dated March 14, 2005. I did not have a phone number for the Cherokee Nation. In June 2005, I had attempted to find the Cherokee Nation in Ada, Oklahoma, as identified by the SHPO, through an Internet search. I could not locate the Cherokee Nation in Ada, Oklahoma. On August 25, 2005, I again tried an Internet search to identify the Cherokee Nation. I did identify the Cherokee Nation in Tahlequah, Oklahoma. On August 25, 2005, I contacted a general phone number and was referred to the cultural center. I was told by a Mr. David Rabon that the Tribe did not have a tribal historic preservation officer. I was given a phone number of a Dr. Richard Allen who might be able to assist with our consultation. I called Dr. Allen on August 25, 2005 and left a voice mail message. I did not hear back from him. To date, NRC has not received comments from the Cherokee Nation.

**Forest County Potawatomi** - The initial Section 106 consultation letter was sent to the Forest County Potawatomi dated March 14, 2005. I attempted to call Ms. Clarice Werle, the contact identified by the SHPO, but the number did not go through. I did an Internet search and called the Forest County Potawatomi and was told that Mr. Mike Alloway, Sr was the contact. I called and left a message on June 2, 2005 for Mr. Mike Alloway, Sr.. I again called on August 25, 2005 and left a message for Mr. Alloway. To date, NRC has not received comments from the Forest County Potawatomi.

**Citizen Potawatomi Nation** - The initial Section 106 consultation letter was sent to the Citizen Potawatomi Nation dated March 14, 2005. I called and left a message on June 1 and June 2, 2005 for Mr. Jeremy Finch. I again called on August 25, 2005 and left a message for Mr. Finch. To date, NRC has not received comments from the Citizen Potawatomi Nation.

**Seneca Nation of Indians** - The initial Section 106 consultation letter was sent to the Seneca Nation of Indians dated March 14, 2005. The Seneca Nation of Indians responded in a letter dated April 5, 2005 requesting copies of Phase I and Phase II archaeological/cultural reports. The reports were forwarded to the Tribe in an e-mail to Kathleen Mitchell dated August 25, 2005. A copy of the Draft Environmental Impact Statement (DEIS) was also sent to the Seneca Nation of Indians after it was published. To date, NRC has not received comments from the Seneca Nation of Indians.

Absentee-Shawnee Tribe of Oklahoma - The initial Section 106 consultation letter was sent to the Absentee-Shawnee Tribe of Oklahoma dated March 14, 2005. The Absentee-Shawnee tribe had commented earlier in correspondence sent to the ASLB. I called and left a message on June 1 or 2, 2005, but I don't have a record of leaving a message. I know I called because I was pronouncing Ms. Kaniatobie's name wrong after listening to the message on her voice mail. I call again on August 24, 2005 and left a message. A copy of the DEIS was also sent to the Seneca Nation of Indians after publication. To date, NRC has not received comments from the Absentee-Shawnee Tribe of Oklahoma other than those that were previously sent to the ASLB.

Let me know if you need any other information.  
Ron

CC: Jennifer Davis



**Mail Envelope Properties (434FC74C.A78 : 8 : 1314)**

**Subject:** Status: Section 106 Tribal consultations for USEC ACP, to date  
**Creation Date:** 10/14/05 10:57AM  
**From:** Ron Linton

**Created By:** RCL1@nrc.gov

**Recipients**

nrc.gov  
twf4\_po.TWFN\_DO  
BJD1 CC (Jennifer Davis)  
MXB6 (Matthew Blevins)

**Post Office**  
twf4\_po.TWFN\_DO

**Route**  
nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	5910	10/14/05 10:57AM

**Options**

**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:**  
Send Notification when Opened

**Concealed Subject:** No  
**Security:** Standard

NRC FORM 699  
(9-2003)

U.S. NUCLEAR REGULATORY COMMISSION

DATE

6/2/05

CONVERSATION RECORD

TIME

4:10 pm

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Ms. ~~John~~ Beckham

TELEPHONE NO. X234

918-666-2435

TYPE OF CONVERSATION

VISIT

CONFERENCE

TELEPHONE

INCOMING

OUTGOING

ORGANIZATION

Eastern Shawnee Tribe of OK - Admin Asst / NAC-PRA contact

SUBJECT

Section 106 Consultation

SUMMARY (Continue on Page 2)

Called and spoke w/ Ms. Jo Ann Beckham about 106 Consultation letter 3/14/05. I directed her to our web site and ADAMS search. She found the letter to Mr. Charles Eynart and downloaded a copy of letter. Also directed her to the USEZ EOC and Cultural Resource Sections in Section 3 and 4. She will contact me if she needs any other information and will research if they have or know of any sites in Pice Co near the ACP.

Continue on Page 2

ACTION REQUIRED

NONE

NAME OF PERSON DOCUMENTING CONVERSATION

Ron Linton

SIGNATURE

DATE


6/2/2005

ACTION TAKEN

TITLE OF PERSON TAKING ACTION

SIGNATURE OF PERSON TAKING ACTION

DATE

NRC FORM 699 (9-2003)		U.S. NUCLEAR REGULATORY COMMISSION		DATE 6/2/2005
CONVERSATION RECORD				TIME
NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU Sherrri Clemons		TELEPHONE NO. 918-678-2298		TYPE OF CONVERSATION <input type="checkbox"/> VISIT <input type="checkbox"/> CONFERENCE <input type="checkbox"/> TELEPHONE <input type="checkbox"/> INCOMING <input type="checkbox"/> OUTGOING
ORGANIZATION Wyanadotte Nation				
SUBJECT Section 106 consultation - ACP				
SUMMARY (Continue on Page 2) Wyanadotte doesn't show a presence in Pike County, Ohio. Tribe requests that "go with idea that you may find something" show respect and notify tribes if burial grounds are found.  No other information is needed @ this time to go forward with the US.  I gave her the USCER Docket # 07007004 and several USER <del>USER</del> USCER ER + Phase II Archeological Study - also let her know Schmitt would be available soon.  She indicated she did not need any further information, but if graves were found, would like to be contacted.				
Continue on Page 2				
ACTION REQUIRED NONE				
NAME OF PERSON DOCUMENTING CONVERSATION RON LINTON		SIGNATURE 		DATE 6/2/2005
ACTION TAKEN				
TITLE OF PERSON TAKING ACTION		SIGNATURE OF PERSON TAKING ACTION		DATE

NRC FORM 699  
(9-2003)

U.S. NUCLEAR REGULATORY COMMISSION

DATE  
6/2/05  
TIME  
12:16 pm

CONVERSATION RECORD

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU  
Rhonda Dixon

TELEPHONE NO.  
918-540-1536

TYPE OF CONVERSATION  
 VISIT  
 CONFERENCE  
 TELEPHONE  
 INCOMING  
 OUTGOING

ORGANIZATION  
Ottawa Tribe of Oklahoma

SUBJECT  
Sect 106 consultation ACP

SUMMARY (Continue on Page 2)

No ties with Southern Ohio - all ties or presence is along Lake Erie in Northern Ohio. No further information is needed.

Mr. Roy Ross returned an earlier message - transferred me to tribal historian, Rhonda Dixon, who gave me info that tribe is connected to N. Ohio along the Lake Erie, and not S. Ohio or Pike County. She indicated she did have copy of 3/14/05 letter, but had not responded.

Continue on Page 2

ACTION REQUIRED  
NONE

NAME OF PERSON DOCUMENTING CONVERSATION  
RON LINTON

SIGNATURE  


DATE  
6/2/2005

ACTION TAKEN

TITLE OF PERSON TAKING ACTION

SIGNATURE OF PERSON TAKING ACTION

DATE

**From:** "Eastern Shawnee Tribe Chief Enyart" <estochief@hotmail.com>  
**To:** <rcl1@nrc.gov>  
**Date:** 6/3/05 4:52PM  
**Subject:** 106 Consultation

June 3, 2005

**RE: PROPOSED AMERICAN CENTRIFUGE COMMERCIAL PLANT, PIKE COUNTY, OH**

**To Whom It May Concern:**

Thank you for notice of the referenced project(s). The Eastern Shawnee Tribe of Oklahoma is currently unaware of any documentation directly linking Indian Religious Sites to the proposed construction. In the event any items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during construction, the Eastern Shawnee Tribe request notification and further consultation.

The Eastern Shawnee Tribe has no objection to the proposed construction. However, if any human skeletal remains and/or any objects falling under NAGPRA are uncovered during construction, the construction should stop immediately, and the appropriate persons, including state and tribal NAGPRA representatives contacted.

Sincerely,  
Jo Ann Beckham, Administrative Assistant  
Eastern Shawnee Tribe of Oklahoma

**Mail Envelope Properties (42A0C2FB.7FB : 12 : 47099)**

**Subject:** 106 Consultation  
**Creation Date:** 6/3/05 4:51PM  
**From:** "Eastern Shawnee Tribe Chief Enyart" <estochief@hotmail.com>

**Created By:** estochief@hotmail.com

**Recipients**  
nrc.gov  
twf4\_po.TWFN\_DO  
RCL1 (Ron Linton)

**Post Office**  
twf4\_po.TWFN\_DO

**Route**  
nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	945	06/03/05 04:51PM
Mime.822	1946	

**Options**  
**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

NRC FORM 699 (9-2003)	U.S. NUCLEAR REGULATORY COMMISSION	DATE 6/7/05
<b>CONVERSATION RECORD</b>		TIME 10:55 am

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU Mr. Roy Kitchkumme	TELEPHONE NO. 785-966-2255	TYPE OF CONVERSATION <input type="checkbox"/> VISIT <input type="checkbox"/> CONFERENCE <input checked="" type="checkbox"/> TELEPHONE <input checked="" type="checkbox"/> INCOMING <input type="checkbox"/> OUTGOING
ORGANIZATION Prairie Band of Potawatomi Nation		
SUBJECT Section 106 consult - NCP		

SUMMARY (Continue on Page 2)

They are not aware of cultural or historical sites in that area - fine with the project. Come across inadvertent discoveries, please notify. No site aware of. For record - they were primarily located along the Lake - Lake Erie - and not in Southern Ohio. I indicated that we would most likely not contact him again since their presence was along the Lake and near the lake. He was ok with that. I told him we had several other tribes that we could/ would contact if we did do to inadvertent discoveries or remains. Gave him a brief description of the project and how/ why he was contacted (Potawatomi chief who signed signature on Treaty of Greenville).  
 Continue on Page 2 in 1794

ACTION REQUIRED

NONE

NAME OF PERSON DOCUMENTING CONVERSATION RON LINTON	SIGNATURE 	DATE 6/7/05
---	---------------	----------------

ACTION TAKEN

.....

.....

TITLE OF PERSON TAKING ACTION	SIGNATURE OF PERSON TAKING ACTION	DATE
-------------------------------	-----------------------------------	------

NRC FORM 699  
(9-2003)

U.S. NUCLEAR REGULATORY COMMISSION

DATE

8/24/2005

CONVERSATION RECORD

TIME

4:45 pm

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Mr. Brady Grant

TELEPHONE NO.

701-477-2600

TYPE OF CONVERSATION

VISIT

CONFERENCE

TELEPHONE

INCOMING

OUTGOING

ORGANIZATION

Turtle Mountain Band of Chippewa Indians

SUBJECT

Section 106 consultations, USEC ACP

SUMMARY (Continue on Page 2)

Brady Grant - Section 106 - If don't respond - not concerned with, Mr. Grant is very short staffed, he indicated the way he is working now with Section 106 consultations is that if he doesn't respond within a short period of time, he is not interested, or doesn't have the time to respond. He said that projects in Ohio he would not be responding to. I told him that if anything came up, please contact us and that we know alot about historic resources / cultural resources around and @ the site, but we were looking for the unknown. He then indicated that he was not, not interested, just doesn't have time to respond to issues in Ohio.

Continue on Page 2

ACTION REQUIRED

NONE

NAME OF PERSON DOCUMENTING CONVERSATION

ROD LINTON

SIGNATURE

*Rod Linton*

DATE

8/24/2005

ACTION TAKEN

TITLE OF PERSON TAKING ACTION

SIGNATURE OF PERSON TAKING ACTION

DATE



NRC FORM 699  
(5-2003)

U.S. NUCLEAR REGULATORY COMMISSION

DATE

CONVERSATION RECORD

8/24/2005

TIME

4:20 pm

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Mr. Paul Boston

TELEPHONE NO.

918-542-6609

TYPE OF CONVERSATION

- VISIT
- CONFERENCE
- TELEPHONE
  - INCOMING
  - OUTGOING

ORGANIZATION

Seneca-Cayuga Tribe of OK

SUBJECT

Section 106 Consultation, USER NRP

SUMMARY (Continue on Page 2)

No Comments - If during construction - any funeral objects or inadvertent discoveries, remains, please contact. Seneca-Cayuga - Northern Part of the State primarily Logan County, etc. Not much in southern Ohio. Really don't know of any connection. I told him we were looking for the unknown, what we don't know. We know of Hopewell sites along Scioto River & on the National Register, info from the Phase I's and Phase II Cultural Report, but we are looking for culturally significant sites, etc, we don't know about. He was not aware of any or any persons that had any association w/ Pike County, Ohio.

Continue on Page 2

ACTION REQUIRED

NONE

NAME OF PERSON DOCUMENTING CONVERSATION

Ken Linton

SIGNATURE



DATE

8/24/2005

ACTION TAKEN

TITLE OF PERSON TAKING ACTION

SIGNATURE OF PERSON TAKING ACTION

DATE

NRC FORM 699  
(5-2003)

U.S. NUCLEAR REGULATORY COMMISSION

DATE

8/24/05

CONVERSATION RECORD

TIME

4:30 pm

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Unknown - Cayuga Newton

TELEPHONE NO.

716-532-4847

TYPE OF CONVERSATION

VISIT

CONFERENCE

TELEPHONE

INCOMING

OUTGOING

ORGANIZATION

Cayuga Newton

SUBJECT

Section 106 Consult, USE2 AC D

SUMMARY (Continue on Page 2)

Didn't get name - they were not aware of letter. asked  
to refer @ 716-337-0268 Attn: Mr. Clint Halfstrom

Continue on Page 2

ACTION REQUIRED

Refer FAX 3/14/05 letter

NAME OF PERSON DOCUMENTING CONVERSATION

RON LINTON

SIGNATURE

Ron Linton

DATE

8/24/05

ACTION TAKEN

FAXED 3/14/05 ltr to Mr. Halfstrom. 8/25/05

TITLE OF PERSON TAKING ACTION

R-LINTON

SIGNATURE OF PERSON TAKING ACTION

R-L

DATE

8/25/05

MODE = MEMORY TRANSMISSION



START=AUG-25 09:05

END=AUG-25 09:07

FILE NO. = 020

STN NO.	COM	ASBR NO.	STATION NAME/TEL.NO.	PAGES	DURATION
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\*\*\*\*\* - \*\*\*\*\* - \*\*\*\*\*

 <p>UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555-0001</p>	
FACSIMILE COVER PAGE	DATE: August 25, 2005
<b>TO:</b> NAME: Mr. Clint Halfown COMPANY: Cayuga Nation FAX NUMBER: 716-337-0268 TELEPHONE NUMBER:	
<b>FROM:</b> OFFICE OF MATERIAL SAFETY AND SAFEGUARDS DIVISION OF WASTE MANAGEMENT AND ENVIRONMENTAL PROTECTION NAME: Ron C. Linton  FAX NUMBER: (301) 415-5397 TELEPHONE NUMBER: (301) 415-7777	
<b>REMARKS:</b> Copy of NRC letter dated March 14, 2005 as requested in my phone conversation with one of your staff yesterday.	
PAGE 1 of 3	



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

FACSIMILE COVER PAGE

DATE: August 25, 2005

**TO:**

NAME: Mr. Clint Halftown

COMPANY: Cayuga Nation

FAX NUMBER: 716-337-0268

TELEPHONE NUMBER:

**FROM:**

OFFICE OF MATERIAL SAFETY AND SAFEGUARDS  
DIVISION OF WASTE MANAGEMENT AND ENVIRONMENTAL PROTECTION

NAME: Ron C. Linton 

FAX NUMBER: (301) 415-5397

TELEPHONE NUMBER: (301) 415-7777

**REMARKS:**

Copy of NRC letter dated March 14, 2005 as requested in my phone conversation with one of your staff yesterday.

PAGE 1 of 3

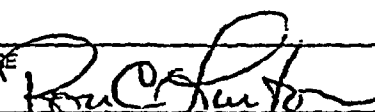

NRC FORM 699 (9-2003)		U.S. NUCLEAR REGULATORY COMMISSION		DATE 8/21/05
<b>CONVERSATION RECORD</b>				TIME 5:00 pm
NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU Ms Rebecca Hawkins		TELEPHONE NO. 918-542-2441		TYPE OF CONVERSATION <input type="checkbox"/> VISIT <input type="checkbox"/> CONFERENCE <input checked="" type="checkbox"/> TELEPHONE <input type="checkbox"/> INCOMING <input checked="" type="checkbox"/> OUTGOING
ORGANIZATION Shawnee Tribe				
SUBJECT Section 106 consultations, USEC ACP				

SUMMARY (Continue on Page 2)

Spoke to Ms. Hawkins. She indicated that she had meant to respond on the letter, but had not done so. She asked me to fax her a copy of the March 18, 2005 letter to 918-542-<sup>12922</sup>~~2441~~ so she could properly respond.

I asked her if the Shawnee Tribe was Federally recognized and she indicated that they were. I was just confirming what I thought was true from the NAG-PRA database I used to get her name - name of Ron Spaulman - Mr. Spaulman had noted in an e-mail that the Shawnee Tribe of Ok was not recognized.

Continue on Page 2

ACTION REQUIRED FAX 3/18/2005 letter to R. Hawkins		
NAME OF PERSON DOCUMENTING CONVERSATION RON LINTON	SIGNATURE 	DATE 8/24/2005
ACTION TAKEN FAXED 3/18/05 letter to R. Hawkins. 8/15/2005		
TITLE OF PERSON TAKING ACTION R. LINTON	SIGNATURE OF PERSON TAKING ACTION 	DATE 8/25/05

MODE = MEMORY TRANSMISSION



START=AUG-25 09:03

END=AUG-25 09:04

FILE NO. = 019

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\*\*\*\*\* - \*\*\*\*\* - \*\*\*\*\*

 <p><b>UNITED STATES NUCLEAR REGULATORY COMMISSION</b> WASHINGTON, DC 20555-0001</p>	
<b>FACSIMILE COVER PAGE</b>	<b>DATE: August 25, 2005</b>
<b>TO:</b> NAME: Ms. Rebecca Hawkins COMPANY: Shawnee Tribe FAX NUMBER: 918-542-2922 TELEPHONE NUMBER:	
<b>FROM:</b> <p style="text-align: center;"><b>OFFICE OF MATERIAL SAFETY AND SAFEGUARDS DIVISION OF WASTE MANAGEMENT AND ENVIRONMENTAL PROTECTION</b></p> NAME: Ron C. Linton  FAX NUMBER: (301) 415-5397 TELEPHONE NUMBER: (301) 415-7777	
<b>REMARKS:</b> Copy of NRC letter dated March 18, 2005 as requested in my phone conversation with you yesterday.	
<b>PAGE 1 of 3</b>	



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

FACSIMILE COVER PAGE

DATE: August 25, 2005

**TO:**

NAME: Ms. Rebecca Hawkins

COMPANY: Shawnee Tribe

FAX NUMBER: 918-542-2922

TELEPHONE NUMBER:

**FROM:**

OFFICE OF MATERIAL SAFETY AND SAFEGUARDS  
DIVISION OF WASTE MANAGEMENT AND ENVIRONMENTAL PROTECTION

NAME: Ron C. Linton 

FAX NUMBER: (301) 415-5397

TELEPHONE NUMBER: (301) 415-7777

**REMARKS:**

Copy of NRC letter dated March 18, 2005 as requested in my phone conversation with you yesterday.

PAGE 1 of 3

March 18, 2005

Mr. Ron Sparkman  
Shawnee Tribe  
P.O. Box 189  
Miami, OK 74355

**SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106  
CONSULTATION PROCESS FOR THE PROPOSED AMERICAN CENTRIFUGE  
COMMERCIAL PLANT, PIKE COUNTY, OHIO**

Dear Mr. Sparkman:

The United States Nuclear Regulatory Commission (NRC) has received a license application from USEC, Inc. (USEC) for the construction, operation, and decommissioning of a gas centrifuge uranium enrichment facility known as the American Centrifuge Plant (ACP). The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located at the Department of Energy (DOE) reservation in Piketon, Ohio. USEC's license application contained an Environmental Report (ER) that will be used to support the NRC's development of an EIS for the ACP. The proposed facility will use gas centrifuge technology to enrich the isotope Uranium-235 in uranium hexafluoride (UF<sub>6</sub>), up to 10-weight percent. The proposed ACP will have a design capacity of seven million separative work units. The forthcoming EIS will document the impacts associated with the construction, operation, and decommissioning of the facility.

Two phase I archaeological surveys and one draft cultural resource report have been completed for the DOE reservation. Archaeological surveys and the cultural report results are discussed section 3.8 of the ER (enclosed). Historical and cultural resource impacts are discussed in section 4.8 of the ER (enclosed). The Area of Potential Effects (APE) is defined as the DOE reservation in Piketon, Ohio.

As required by 36 CFR 800.3 (f), the NRC is requesting any information you may have regarding historic sites or cultural resources within the APE. The NRC is interested in knowing if you have specific knowledge of any sites that you believe have traditional religious and cultural significance. In addition, we are interested in knowing if you are aware of or are concerned for any site, or object, eligible for inclusion on the National Register of Historic Places. This will assure appropriate consideration in the Section 106 process.

Any information you provide may be used to document effects in accordance with 36 CFR 800.4 and 800.5. Additionally, we intend to use the EIS process for Section 106 purposes as described in 36 CFR 800.8.



R. Sparkman

- 2 -

If you any questions or comments, or need additional information, please contact Ron Linton at (301) 415-7777.

Sincerely,

*/RA/*

**B. Jennifer Davis, Section Chief  
Environmental and Low-Level  
Waste Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards**

**Docket No.: 70-7004**

**cc: USEC Service List**

**Enclosure: Section 3.8 and 4.8 Environmental Report**

**From:** Ron Linton  
**To:** sniarch@sni.org  
**Date:** 8/25/05 8:24AM  
**Subject:** NHPA 106 Consultation

Ms. Kathleen Mitchell  
Tribal Historic Preservation Officer  
Seneca Nation Tribal Historic Preservation

**Re:** National Historic Preservation Act Section 106 Consultation Process for the Proposed American Centrifuge Plant, Pike County, Ohio

Dear Ms. Mitchell:

This is a follow-up to your April 5, 2005 request for Phase I and Phase II Archaeological/Cultural Resource Reports related to the above referenced project. Your April 5, 2005 request followed our March 16, 2005 letter to Mr. Calvin John requesting if you have specific knowledge of any sites that you believe have traditional religious and cultural significance within the area of potential effects. In addition, we are interested in knowing if you are aware of or are concerned for any site, or object, eligible for inclusion on the National Register of Historic Places.

The Phase I and Phase II reports and other information can be obtained electronically on NRC's Agencywide Documents Access and Management System (ADAMS), which provides text and image files of NRC's public documents. ADAMS may be accessed through the NRC's Public Electronic Reading Room on the Internet at <http://www.nrc.gov/reading-rm/adams.html>. Click on the button for "Web Based Access" and, on the next page, "Begin ADAMS search." Enter the ML number (i.e., MLXXXXXXXXX) in the search field. The following documents may be of interest:

ML052200307, Phase I Archaeological Survey for the Portsmouth Gaseous Diffusion Plant (PORTS Facility), Pike County, Ohio  
ML051110118, Archaeological Testing at Site 33PK210, Scioto Township, Pike County, Ohio  
ML051510305, Environmental Report for the American Centrifuge Plant in Piketon, Ohio, Revision 1  
ML043620096, License Application for the American Centrifuge Plant in Piketon, Ohio

For other documents related to NRC's Section 106 compliance process, I suggest using the Advanced Search on this website, searching the Docket Number field with the value "07007004" and the Title field with various keywords such as "106," "Phase 1," "Cultural Resources," etc.

Additionally, the Draft Environmental Impact Statement (DEIS) is scheduled to be published in September 2005. The DEIS will present NRC's preliminary findings related to this undertaking, including a description of the "area of potential effects" and preliminary determinations of project effect. If requested, a copy of the DEIS will be forwarded to you for your review and comment.

If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737 or by email to [PDR@nrc.gov](mailto:PDR@nrc.gov).

Please contact me if you have any questions.

Sincerely;

Ron C. Linton  
Project Manager  
U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety and Safeguards  
Mail Stop T7 J08

Washington, DC 20555-0001  
301-415-7777 phone  
301-415-5397 fax  
rcf1@nrc.gov

CC: Matthew Blevins

**Mail Envelope Properties (430DB88D.281 : 16 : 1314)**

**Subject:** NHPA 106 Consultation  
**Creation Date:** 8/25/05 8:24AM  
**From:** Ron Linton

**Created By:** RCL1@nrc.gov

<b>Recipients</b>	<b>Action</b>	<b>Date &amp; Time</b>
nrc.gov		
twf4_po.TWFN_DO	Delivered	08/25/05 8:24 AM
MXB6 CC (Matthew Blevins)	Opened	08/25/05 8:25 AM

sni.org  
sniarch (sniarch@sni.org)

<b>Post Office</b>	<b>Delivered</b>	<b>Route</b>
twf4_po.TWFN_DO	08/25/05 8:24 AM	nrc.gov
	Pending	sni.org

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	4690	08/25/05 08:24AM

**Options**  
**Auto Delete:** No  
**Expiration Date:** None  
**Notify Recipients:** Yes  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:**  
Send Notification when Opened

**Concealed Subject:** No  
**Security:** Standard

**To Be Delivered:** Immediate  
**Status Tracking:** Delivered & Opened

September 6, 2005

Ms. Kathleen Mitchell  
Tribal Historic Preservation Officer  
Seneca Nation Tribal Historic Preservation  
467 Center Street  
Salamanca, NY 14779

**SUBJECT: CONTINUATION OF THE NATIONAL HISTORIC PRESERVATION ACT  
SECTION 106 CONSULTATION PROCESS FOR THE PROPOSED AMERICAN  
CENTRIFUGE PLANT, PIKE COUNTY, OHIO: TRANSMITTAL OF  
ADDITIONAL INFORMATION**

Dear Ms. Mitchell:

This letter follows a letter of March 14, 2005, in which the Nuclear Regulatory Commission (NRC) initiated consultation for the proposed American Centrifuge Commercial Plant. In a letter dated April 5, 2005, you requested additional information about archaeological and historical studies in the project area.

As required under Section 106, the NRC has undertaken the steps of identifying and evaluating historic properties that may be affected by construction and operation of the proposed American Centrifuge Plant. The NRC found that there have been surveys conducted previously to find archaeological and historic sites in the area of the proposed project. Enclosed is the "Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment." Section 3.3, "Historic and Cultural Resources," provides a description of the identification and evaluation process. Section 4.2.2 "Historic and Cultural Resource Impacts," presents the NRC's preliminary findings related to this undertaking, including a description of the "area of potential effects" and preliminary determinations of project effect. The NRC hopes that this additional information allows the tribe to respond to the requests in our letter of March 14, 2005.

The NRC welcomes your input and comment on the findings of the inventory and evaluation effort and the preliminary determinations of effect on the identified historic properties. The NRC requests a response by October 24, 2005. Please feel free to respond in writing or to contact

K. Mitchell

- 2 -

Ron Linton by phone at 301-415-7777 or e-mail at RCL1@nrc.gov. Mr. Linton will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

*/RA/*

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o Enclosure, see attached list

K. Mitchell

- 3 -

Ron Linton by phone at 301-415-7777 or e-mail at RCL1@nrc.gov. Mr. Linton will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

/RA/

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o Enclosure, see attached list

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JClifford            DMartin            MBurrell, OE

**ML052450146**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC
<b>NAME</b>	MBlevins	BJDavis	MZobler
<b>DATE</b>	8/30/05	9/02/05	8/31/05

OFFICIAL RECORD COPY

USEC Service List

cc:

William Szymanski  
U.S. Department of Energy  
1000 Independence Ave, SW  
Washington, D.C. 20585

Michael Marriott  
Nuclear Information and Resource Service,  
1424 16<sup>th</sup> St., NW  
Washington, D.C. 20036

The Honorable Robert W. Ney  
Member, United States House of  
Representatives  
2438 Rayburn HOB  
Washington, D.C. 20515

The Honorable George V. Voinovich  
United States Senator  
317 Hart Senate Office Building  
Washington, D.C. 20510

The Honorable Rob Portman  
Member, United States House of  
Representatives  
238 Cannon House Office Building  
Washington, D.C. 20515

The Honorable Mike DeWine  
United States Senator  
140 Russell Senate Office Building  
Washington, D.C. 20410

The Honorable Bob Taft  
Governor of Ohio  
77 South High Street  
30<sup>th</sup> Floor  
Columbus, Ohio 43215-6117

Ms. Mary Glasgow  
601 Chillicothe Street  
Portsmouth, Ohio 45662

Mr. Teddy L. Wheeler  
Pike County Auditor  
Pike County Government Center  
230 Waverly Plaza, Suite 200  
Waverly, Ohio 45690-1289

Mr. Harry Rioer  
Pike County Commissioner  
230 Waverly Plaza Suite 1000  
Waverly, Ohio 45690

Mr. Larry E. Scaggs  
Township Trustee  
230 Waverly Plaza Suite 1400  
Waverly, Ohio 45690

Kara Willis  
16 North Paint St., Suite 102  
Chillicothe, Ohio 45601

Jim Brushart  
Pike County Comm. Chair  
230 Waverly Plaza Suite 1000  
Waverly, Ohio 45690

Mr. Gary Hager  
ATTN: Mailstop-4025  
P.O. Box 628  
Piketon, Ohio 45661

Mr. Blaine Beekman  
Executive Director  
Pike County Chamber of Commerce  
P.O. Box 107  
Waverly, Ohio 45696

Billy Spencer, Mayor of Piketon  
P.O. Box 547  
Piketon, Ohio 45661

Rocky Brown, Mayor of Beaver  
7677 State Route 335  
Beaver, Ohio 45613

Mr. Geoffrey Sea  
1832 Wakefield Mound Road  
Piketon OH 45661

Ms. Vina K. Colley, President PRESS  
3706 McDermott Pond Creek  
McDermott, Ohio 45652



Mr. Peter J. Miner, Director  
Regulatory and Quality Assurance  
USEC Inc.  
6903 Rockledge Drive  
Bethesda, MD 20817

Randall Devault, Regulatory Oversight  
Manager  
Department of Energy - Oak Ridge  
P.O. Box 2001  
Oak Ridge, TN 37831-8651

Dan Minter  
Southern Ohio Development Initiative  
P.O. Box 467  
Piketon, OH 45661

Mr. James R. Curtiss, Winston & Strawn  
1400 L Street, NW  
Washington, D.C. 20005-3502

Teddy West  
2170 Wakefield Mound Road  
Piketon, OH 45661

Carol O'Claire, Supervisor  
Radiological Branch  
Ohio Emergency Management Agency  
2855 West Dublin-Granville Road  
Columbus, OH 43235-2206

Rod Krich, Vice President  
Licensing Projects  
Exelon Generation Co.  
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Lindsay A. Lovejoy, Jr.  
NIRS  
618 Paseo de Peralta, Unit B  
Santa Fe, NM 87501

Robert Huff, President and CEO  
Portsmouth Area Chamber of Commerce  
324 Chillicothe St.  
P.O. Box 509  
Portsmouth, OH 45662

Roger L. Suppes  
Chief, Bureau of Radiation Protection  
Ohio Dept. of Health  
35 East Chestnut Street  
Columbus, OH 43266

Donald J. Silverman  
Morgan, Lewis & Bockius  
1111 Pennsylvania Ave. N.W.  
Washington, D.C. 20004

September 6, 2005

Mr. Kenneth Daughtery, Tribal Secretary  
Absentee-Shawnee Tribe of Oklahoma  
Attn: Ms. Karen Kaniatobe  
2025 S. Gordon Cooper Drive  
Shawnee, OK 74801-9381

**SUBJECT: CONTINUATION OF THE NATIONAL HISTORIC PRESERVATION ACT  
SECTION 106 CONSULTATION PROCESS FOR THE PROPOSED AMERICAN  
CENTRIFUGE PLANT, PIKE COUNTY, OHIO: REQUEST FOR COMMENT ON  
PROPOSED FINDINGS AND DETERMINATIONS OF EFFECT**

Dear Mr. Daughtery:

Following transmittal of our letter of March 14, 2005, initiating consultation for the proposed American Centrifuge Commercial Plant, the U. S. Nuclear Regulatory Commission (NRC) became aware of a letter from Ms. Karen Kaniatobe, dated February 24, 2005. The letter indicates that the tribe wishes to be included as a consulting party in the Section 106 process. It mentions concerns about the Barnes Works in Scioto Township and states that surveys should be conducted to find other sites that may be present. Ms. Kaniatobe's letter indicates that the Absentee Shawnee Tribe, collectively with the Algonquian tribes of the Ohio/Great Lakes Region, considers itself to be descended from the people of the Fort Ancient culture who, in turn, were descendants of the people of the Hopewell Culture who built the Barnes Works.

As required under Section 106, the NRC has undertaken the steps of identifying and evaluating historic properties that may be affected by construction and operation of the proposed American Centrifuge Plant. The NRC found that there have been surveys conducted previously to find archaeological and historic sites in the area of the proposed project.

Enclosed is the "Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment." Section 3.3, "Historic and Cultural Resources," provides a description of the identification and evaluation process. Section 4.2.2 "Historic and Cultural Resource Impacts," presents the NRC's preliminary findings related to this undertaking, including a description of the "area of potential effects" and preliminary determinations of project effect.

As indicated in these sections, the site referred to by Ms. Kaniatobe as the Barnes Works in Scioto Township is known as the Scioto Township Works and is listed on the National Register of Historic places under Criterion D, for sites "that have yielded or may be likely to yield information important in history or prehistory."

These sections also indicate that the Scioto Township Works site has cultural importance to the Absentee Shawnee tribe. NRC would welcome information about the site attributes that contribute to its importance to the Absentee Shawnee tribe. In the absence of that information NRC has assumed that the site may have importance related to Criterion A of the National

K. Daughtery

- 2 -

Register of Historic Places, for sites that "are associated with events that have made a significant contribution to the broad patterns of our history."

As indicated in Section 3.3.3 "Results of Document Review," the Scioto Township Works site lies about 250 m (820 ft) from the boundary of the Department of Energy Reservation, and about one kilometer (3250 ft) from the closest construction effort associated with the proposed American Centrifuge Plant. Based on this distance, the NRC has made a determination of no effect on the information values that make the site eligible for listing on the National Register under Criterion D. Additionally, because the activities associated with construction and operation will not change the present setting and feel of the Scioto Township Works site, NRC has made a preliminary determination of no effect on these values (i.e., Criterion A) that may be of importance to the Absentee Shawnee Tribe.

The NRC welcomes your input and comment on the findings of its inventory and evaluation effort and its preliminary determination of effect on the Scioto Township Works site. If the tribe can provide information about site attributes other than those included under Criterion A that contribute to the site's importance to the Absentee Shawnee, the NRC will be able to consider these in applying the criteria of adverse effect.

The NRC requests a response from the tribe by October 24, 2005. Please feel free to respond in writing or to contact Ron Linton by phone at 301-415-7777 or by e-mail at [RCL1@nrc.gov](mailto:RCL1@nrc.gov). Mr. Linton will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

/RA/

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o attachment, see attached list

Register of Historic Places, for sites that "are associated with events that have made a significant contribution to the broad patterns of our history."

As indicated in Section 3.3.3 "Results of Document Review," the Scioto Township Works site lies about 250 m (820 ft) from the boundary of the Department of Energy Reservation, and about one kilometer (3250 ft) from the closest construction effort associated with the proposed American Centrifuge Plant. Based on this distance, the NRC has made a determination of no effect on the information values that make the site eligible for listing on the National Register under Criterion D. Additionally, because the activities associated with construction and operation will not change the present setting and feel of the Scioto Township Works site, NRC has made a preliminary determination of no effect on these values (i.e., Criterion A) that may be of importance to the Absentee Shawnee Tribe.

The NRC welcomes your input and comment on the findings of its inventory and evaluation effort and its preliminary determination of effect on the Scioto Township Works site. If the tribe can provide information about site attributes other than those included under Criterion A that contribute to the site's importance to the Absentee Shawnee, the NRC will be able to consider these in applying the criteria of adverse effect.

The NRC requests a response from the tribe by October 24, 2005. Please feel free to respond in writing or to contact Ron Linton by phone at 301-415-7777 or by e-mail at RCL1@nrc.gov. Mr. Linton will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

/RA/

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o attachment, see attached list

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JClifford	DMartin	MBurrell, OE			

**ML052440393**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC	
<b>NAME</b>	MBlevins	BJDavis	MZobler	
<b>DATE</b>	8/30/05	9/06 /05	8/31/05	

**USEC Service List**

cc:

**William Szymanski**  
U.S. Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585

**Michael Marriott**  
Nuclear Information and Resource Service,  
1424 16<sup>th</sup> St., NW  
Washington, DC 20036

**The Honorable Robert W. Ney**  
Member, United States House of  
Representatives  
2438 Rayburn HOB  
Washington, DC 20515

**The Honorable George V. Voinovich**  
United States Senator  
317 Hart Senate Office Building  
Washington, DC 20510

**The Honorable Rob Portman**  
Member, United States House of  
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**The Honorable Mike DeWine**  
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Washington, DC 20410

**The Honorable Bob Taft**  
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**Mr. Larry E. Scaggs**  
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Pike County Chamber of Commerce  
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P.O. Box 547  
Piketon, Ohio 45661

**Rocky Brown, Mayor of Beaver**  
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Beaver, Ohio 45613

**Mr. Geoffrey Sea**  
1832 Wakefield Mound Road  
Piketon OH 45661

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Ohio Dept. of Health  
35 East Chestnut Street  
Columbus, OH 43266

Donald J. Silverman  
Morgan, Lewis & Bockius  
1111 Pennsylvania Ave. N.W.  
Washington, DC 20004

**From:** "shawnee tribe" <shawneetribe@neok.com>  
**To:** "Ron Linton" <RCL1@nrc.gov>  
**Date:** 9/7/05 5:29PM  
**Subject:** Re: Nuclear Regulatory Commission Section 106 Consultation (Attn:R. Hawkins)

Dear Ron,

Indeed, we are one and the same (and we apologize for my being such a laggard in corresponding to you - it's been short-handed and very busy here of late). In 2000, with an Act of Congress, we officially changed our name from the Loyal Shawnee Tribe to the Shawnee Tribe. James Squirrel has never lived in Tahlequah and hasn't been chairman since 2000. David Snyder should know this, as I have told him, just this year! Anyhow, we used to be administered by Cherokee Nation, thus the (seemingly neverending) mix-up. Certainly not your fault, and good to know this confusion still exists. Tomorrow, I promise you, I will respond to your request for consultation,

Rebecca

----- Original Message -----

**From:** "Ron Linton" <RCL1@nrc.gov>  
**To:** <Shawneetribe@neok.com>  
**Sent:** Wednesday, September 07, 2005 3:59 PM  
**Subject:** Nuclear Regulatory Commission Section 106 Consultation (Attn:R. Hawkins)

Attn: Rebecca Hawkins  
Shawnee Tribe  
P. O. Box 189  
Miami, OK 74355

Rebecca:

I'm trying to tie up a loose end. What if any is the relationship between the Shawnee Tribe and the Loyal Shawnee Tribe?

In our initial letter from David Snyder at the Ohio Historical Society, he listed the Loyal Shawnee as one Tribe we should contact. We sent a letter to a Mr. James Squirrel, Loyal Shawnee Tribe, Rt 4 Box 30, Jay, OK 74346. The letter was never returned. I recently did an internet search and the Loyal Shawnee Tribe was listed on a website that listed all Tribes in Oklahoma. The number listed, 918-456-0671 x333, turned out to be the number for the Cherokee Nation. When I called the number, I was transferred to the Cherokee Nation registration desk. I spoke with Lee at the registration desk. He looked up Loyal Shawnee Tribe on his contact list and gave me the number 918-542-7774, but he wasn't sure if it was still a valid number. When I called the number, I reached the office of Mr. Ron Sparkman of the Tax Commission and the Chairman of the Shawnee Tribe. The woman I spoke with at his office gave me the number 918-542-2441, which I recognized as your number. She also indicated that the Loyal Shawnee Tribe became the Shawnee Tribe a few years ago. Therefore, the Loyal Shawnee Tribe name may be an old name that is no longer used.

I thought I would ask you to clarify this for me. Any insights into this quandary?

Thanks for your help.

Ron C. Linton  
Project Manager  
U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety and Safeguards  
Mail Stop T7 J08  
Washington, DC 20555-0001  
301-415-7777 phone  
301-415-5397 fax  
rcl1@nrc.gov



**Mail Envelope Properties (431F5BAF.65C : 2 : 9820)**

**Subject:** Re: Nuclear Regulatory Commission Section 106 Consultation (Attn:R. Hawkins)  
**Creation Date:** 9/7/05 5:28PM  
**From:** "shawnee tribe" <shawneetribe@neok.com>  
**Created By:** shawneetribe@neok.com

**Recipients**  
nrc.gov  
twf4\_po.TWFN\_DO  
RCL1 (Ron Linton)

**Post Office**  
twf4\_po.TWFN\_DO

**Route**  
nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	2604	09/07/05 05:28PM
Mime.822	3900	

**Options**  
**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

**From:** "shawnee tribe" <shawneetrib@neok.com>  
**To:** "Ron Linton" <RCL1@nrc.gov>  
**Date:** 9/9/05 1:04PM  
**Subject:** Re: response to request for consultation

Dear Mr. Linton,

Thank you for your continued correspondence with the Shawnee Tribe, and for the U.S. Nuclear Regulatory Commission Office of Nuclear Material Safety and Safeguards' interest in establishing a consultative relationship with the Shawnee Tribe.

In particular reference to the Chillicothe, Ohio, project, we would like to continue consultation on an as-needed basis. However, the Shawnee Tribe does not have any cultural resources information specific to this project and unique to the Shawnee Tribe. In cases such as this, we are thus forced to rely on the State Historic Preservation Office for (1) an assessment of the need for archaeological or historical research, or, if such research already has been performed, for (2) the SHPO's concurrence with the research report's findings and recommendations.

You have shared with me already the results of site file searches and known sites in and around the area. We remain interested, if any additional research is performed or findings are garnered, in knowing the results, regarding which we may have some additional comment. We would appreciate it, if further research is performed, to be forwarded the formal summary section from the archaeologist's or historian's report to the SHPO. You may e-mail this or, alternatively, fax it to 918-542-2922. As well, in the event that archaeological materials are discovered during the course of construction or other project-related activities, we likely will wish to consult further.

Please continue to keep us informed regarding the SHPO's concerns and decisions; you may e-mail or fax copies of their official determination regarding the project. We applaud the thoroughness of your efforts in this matter.

We also appreciate your efforts to communicate with us electronically as much as possible and help us to decrease the amount of paper waste and storage.

s/s

Rebecca A. Hawkins

Tribal Administrator

THPO

**Mail Envelope Properties (4321C087.0DE : 19 : 61662)**

**Subject:** Re: response to request for consultation  
**Creation Date:** 9/9/05 1:03PM  
**From:** "shawnee tribe" <[shawneetrib@neok.com](mailto:shawneetrib@neok.com)>

**Created By:** [shawneetrib@neok.com](mailto:shawneetrib@neok.com)

**Recipients**

nrc.gov  
twf4\_po.TWFN\_DO  
RCL1 (Ron Linton)

**Post Office**  
twf4\_po.TWFN\_DO

**Route**  
nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	1976	09/09/05 01:03PM
Mime.822	3233	

**Options**

**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

**From:** Ron Linton  
**To:** shawnee tribe  
**Date:** 10/14/05 10:03AM  
**Subject:** Re: Nuclear Regulatory Commission Section 106 Consultation (Attn:R. Hawkins)

Rebecca:  
Yes, clearing up the Loyal Shawnee Tribe and the Shawnee Tribe name was a big help.

We have entered your comments into the docket 070-07004 for USEC. NUREG 1834, Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, draft report for comment, was issued a few weeks ago and is on our public website at [www.nrc.gov](http://www.nrc.gov). If you would like to see it, you can access the document from our public reading room and do an ADAMS search using "ML0524404330". If you enter that ML number, the report should appear. You can also do a keyword search to find it.

Thanks again for your comments and I enjoyed talking with you.  
Ron

>>> "shawnee tribe" <[shawneetribe@neok.com](mailto:shawneetribe@neok.com)> 09/21/05 5:24 PM >>>  
Hi Ron,

Was my e-response to you sufficient?

Rebecca

----- Original Message -----

**From:** "Ron Linton" <[RCL1@nrc.gov](mailto:RCL1@nrc.gov)>  
**To:** <[Shawneetribe@neok.com](mailto:Shawneetribe@neok.com)>  
**Sent:** Wednesday, September 07, 2005 3:59 PM  
**Subject:** Nuclear Regulatory Commission Section 106 Consultation (Attn:R. Hawkins)

Attn: Rebecca Hawkins  
Shawnee Tribe  
P. O. Box 189  
Miami, OK 74355

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I thought I would ask you to clarify this for me. Any insights into this quandary?

Thanks for your help.

Ron C. Linton  
Project Manager  
U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety and Safeguards  
Mail Stop T7 J08  
Washington, DC 20555-0001  
301-415-7777 phone  
301-415-5397 fax  
[rcl1@nrc.gov](mailto:rcl1@nrc.gov)

**Mail Envelope Properties (434FBAB8.E66 : 8 : 1314)**

**Subject:** Re: Nuclear Regulatory Commission Section 106 Consultation (Attn:R. Hawkins)  
**Creation Date:** 10/14/05 10:03AM  
**From:** Ron Linton  
**Created By:** RCL1@nrc.gov

<b>Recipients</b>	<b>Action</b>	<b>Date &amp; Time</b>
neok.com	Transferred	10/14/05 10:04 AM
shawneetribе (shawnee tribe)		

<b>Post Office</b>	<b>Delivered</b>	<b>Route</b>
		neok.com

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	5598	10/14/05 10:03AM

**Options**  
**Auto Delete:** No  
**Expiration Date:** None  
**Notify Recipients:** Yes  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:**  
 Send Notification when Opened

**Concealed Subject:** No  
**Security:** Standard

**To Be Delivered:** Immediate  
**Status Tracking:** Delivered & Opened

November 29, 2005

Chief Hawk Pope  
Shawnee Nation, United Remnant Band  
2911 Elmo Place  
Middletown OH 45042

**SUBJECT: REQUEST FOR COMMENT ON PROPOSED FINDINGS AND  
DETERMINATIONS OF EFFECT FOR THE PROPOSED AMERICAN  
CENTRIFUGE PLANT, PIKE COUNTY, OHIO**

Dear Chief Pope:

The U.S. Nuclear Regulatory Commission (NRC) received a copy of your letter written in late March 2005, from Mr. Geoffrey Sea. We had intended to provide you a copy of the document "Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment," (DEIS), however, it has come to our attention that you were inadvertently left off the mailing list. The DEIS is enclosed for your review.

The NRC has undertaken the steps of identifying and evaluating historic properties that may be affected by construction and operation of the proposed American Centrifuge Plant. The NRC found that there have been surveys conducted previously to find archaeological and historic sites in the area of the proposed project.

Within the DEIS, information on cultural and historic resources can be found in Section 3.3, "Historic and Cultural Resources," which provides a description of the identification and evaluation process. Also, Section 4.2.2 "Historic and Cultural Resource Impacts," presents the NRC's preliminary findings related to this undertaking, including a description of the "area of potential effects" and preliminary determinations of project effect.

Specifically, the location of proposed ACP is described on pages 3-1 to 3-2. A description of existing cultural and historic resources near this location is provided on pages 3-5 through 3-11. Included in this description is the location and condition of the earthworks known as the "Barnes Works" or "Scioto Township Works."

Possible project effects are discussed on pages 4-4 to 4-7. The reasons that NRC does not expect the project to have any effects on the "Scioto Township Works" is discussed at the tops of pages 4-6 and 4-7, respectively. Specifically, the earthworks are more than one half mile from the construction area and outside the fenced reservation boundary. Construction and operation of the centrifuge plant will not change the existing setting and feeling of the earthworks site, which has been previously affected by agriculture, quarrying, and the construction and use of U.S. Route 23.

Mr. Sea had also expressed concern about what appear to be earthworks at the wellfield that will supply water for the project. The DEIS presents a discussion of impacts to the wellfield on



page 4-7 and the NRC's findings that there would be no effect on these apparent earthworks. Subsequent to publication of the DEIS, NRC received a statement from Mr. Blaine Bleekman (enclosure), a local resident, who described construction of three levies along the Scioto River after 1959, including the levy that Mr. Sea was concerned about. Thus, it is the NRC's position that the apparent earthworks at the wellfields are flood control levies.

The NRC welcomes your input and comment on the findings of its inventory and evaluation effort and its preliminary determination of effect on the Scioto Township Works site. If you can provide information about site's importance to the United Remnant Band, the NRC will be able to consider this in development of the final Environmental Impact Statement.

We hope that this information will be helpful in explaining the project and NRC's evaluation of its potential effect on historic and cultural resources. The NRC requests a response from the tribe by January 16, 2006. Please feel free to respond in writing or to contact Matthew Blevins by phone at 301-415-7684 or by e-mail at [MXB6@nrc.gov](mailto:MXB6@nrc.gov). Mr. Blevins will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

*/RA/*

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

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Sincerely,

/RA/

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

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DMartin	MBurrell, OE				

**ML053330041**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC	
<b>NAME</b>	MBlevins	BJDavis	LClark	
<b>DATE</b>	11/29/05	11/29/05	12/01/05	

OFFICIAL RECORD COPY

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The Barnes Home  
1832 Wakefield Mound Road  
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3706 McDermott Pond Creek  
McDermott, Ohio 45652

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Oak Ridge, TN 37831

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Southern Ohio Development Initiative  
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Columbus, OH 43202

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Regional Representative  
Governor's Office  
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Ms. Joyce Leeth  
Pike County Recorder  
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Mr. Dwight Massie  
c/o The First National Bank  
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Waverly, OH 45690-0147

Mr. Marvin Jones  
President and CEO  
Chillicothe Chamber of Commerce  
165 South Paint Street  
Chillicothe, OH 45601

December 19, 2005

Ms. Kathleen Mitchell  
Tribal Historic Preservation Officer  
Seneca Nation Tribal Historic Preservation  
467 Center Street  
Salamanca, NY 14779

**SUBJECT: CONTINUATION OF THE NATIONAL HISTORIC PRESERVATION ACT  
SECTION 106 CONSULTATION PROCESS FOR THE PROPOSED AMERICAN  
CENTRIFUGE PLANT, PIKE COUNTY, OHIO: NEW INFORMATION  
REGARDING THE U.S. DEPARTMENT OF ENERGY WELL FIELD**

Dear Ms. Mitchell:

The U.S. Nuclear Regulatory Commission (NRC) is providing additional information relevant to the ongoing Section 106 consultation for USEC Inc.'s proposed American Centrifuge Plant (ACP). We have previously transmitted the draft environmental impact statement (DEIS) for the proposed ACP in September and requested your comments on our findings.

As you may be aware, one of the consulting parties, Mr. Geoffrey Sea, has indicated concerns about what appeared to be prehistoric earthworks at one of the well fields that will supply water for the proposed ACP. The DEIS presents a discussion of impacts from the well field in question on page 4-7 and the NRC's findings that there would be no effect on these apparent earthworks.

Subsequent to publication of the DEIS, the NRC received a statement from Mr. Blaine Bleekman (enclosure), a local resident, who described construction of three levies along the Scioto River after a 1959 flood, including the levy that Mr. Sea is concerned about. While it appears most likely that these structures are recently constructed flood control levies, it is still the NRC's position that there will be no effect on these structures from continued pumping at the U.S. Department of Energy (DOE) well field .

At this point Mr. Sea has provided several objections to our findings in the DEIS. In addition to his concerns about the DOE well field, Mr. Sea has also expressed concerns for historic properties bordering the DOE reservation as well as the NRC's compliance with the National Historic Preservation Act Section 106 compliance. We have previously received comments from the Ohio Historic Preservation Office (OHPO) (enclosure) and are working to incorporate their comments, however, we note that the OHPO has stated their agreement that the proposed ACP would not adversely affect historic properties.

K. Mitchell

- 2 -

If you have any questions about this new information or wish to provide any other additional information please feel free to respond in writing or to contact Matthew Blevins by phone at 301-415-7684 or by e-mail at [MXB6@nrc.gov](mailto:MXB6@nrc.gov). Mr. Blevins will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

**/RA/**

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

K. Mitchell

- 2 -

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Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

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DMartin	MBurrell, OE				

**ML053490035**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC	
<b>NAME</b>	MBlevins	BJDavis	LClark	
<b>DATE</b>	12/16/05	12/19/05	12/13/05	

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**USEC Service List**

cc:

**William Szymanski**  
U.S. Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585

**Michael Marriotte**  
Nuclear Information and Resource Service  
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Washington, DC 20410

**The Honorable Bob Taft**  
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**Mr. Geoffrey Sea**  
The Barnes Home  
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**Ms. Vina K. Colley, President PRESS**  
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Chillicothe Chamber of Commerce  
165 South Paint Street  
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December 19, 2005

Mr. Kenneth Daughtery, Tribal Secretary  
Absentee-Shawnee Tribe of Oklahoma  
Attn: Ms. Karen Kaniatobe  
2025 S. Gordon Cooper Drive  
Shawnee, OK 74801-9381

**SUBJECT: CONTINUATION OF THE NATIONAL HISTORIC PRESERVATION ACT  
SECTION 106 CONSULTATION PROCESS FOR THE PROPOSED AMERICAN  
CENTRIFUGE PLANT, PIKE COUNTY, OHIO: NEW INFORMATION  
REGARDING THE U.S. DEPARTMENT OF ENERGY WELL FIELD**

Dear Mr. Daughtery:

The U.S. Nuclear Regulatory Commission (NRC) is providing additional information relevant to the ongoing Section 106 consultation for USEC Inc.'s proposed American Centrifuge Plant (ACP). We have previously transmitted the draft environmental impact statement (DEIS) for the proposed ACP in September and requested your comments on our findings.

As you may be aware, one of the consulting parties, Mr. Geoffrey Sea, has indicated concerns about what appeared to be prehistoric earthworks at one of the well fields that will supply water for the proposed ACP. The DEIS presents a discussion of impacts from the well field in question on page 4-7 and the NRC's findings that there would be no effect on these apparent earthworks.

Subsequent to publication of the DEIS, the NRC received a statement from Mr. Blaine Bleekman (enclosure), a local resident, who described construction of three levies along the Scioto River after a 1959 flood, including the levy that Mr. Sea is concerned about. While it appears most likely that these structures are recently constructed flood control levies, it is still the NRC's position that there will be no effect on these structures from continued pumping at the U. S. Department of Energy (DOE) well field .

At this point Mr. Sea has provided several objections to our findings in the DEIS. In addition to his concerns about the DOE well field, Mr. Sea has also expressed concerns for historic properties bordering the DOE reservation as well as the NRC's compliance with the National Historic Preservation Act Section 106 compliance. We have previously received comments from the Ohio Historic Preservation Office (OHPO) (enclosure) and are working to incorporate their comments, however, we note that the OHPO has stated their agreement that the proposed ACP would not adversely affect historic properties.

K. Daughtery

- 2 -

If you have any questions about this new information or wish to provide any other additional information please feel free to respond in writing or to contact Matthew Blevins by phone at 301-415-7684 or by e-mail at [MXB6@nrc.gov](mailto:MXB6@nrc.gov). Mr. Blevins will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

*/RA/*

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

K. Daughtery

- 2 -

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*/RAJ*

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and Environmental Protection  
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Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

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**ML053490005**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC	
<b>NAME</b>	MBlevins	BJDavis	LClark	
<b>DATE</b>	12/16/05	12/19/05	12/13/05	

OFFICIAL RECORD COPY

USEC Service List

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P.O. Box 147  
Waverly, OH 45690-0147

Mr. Marvin Jones  
President and CEO  
Chillicothe Chamber of Commerce  
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**From:** "Gail Thomson" <gail.thompson@sni.org>  
**To:** <MXB6@nrc.gov>  
**Date:** 1/10/06 2:13PM  
**Subject:** RE: American Centrifuge Plant, Pike Co., Ohio

RE: American Centrifuge Plant, Pike Co., Ohio

Dear Mr. Blevins,

Thank you for the recent update regarding the above referenced project. Our office has concluded that we have no further concerns with the project as long as the project/construction does not disturb the levee/earthwork. We do, of course, expect immediate notification in the event of an inadvertent discovery made over the course of the project's construction phase.

Respectfully,

Kathleen Mitchell

*Tribal Historic Preservation Officer*

Seneca Nation of Indians

Salamanca, NY 14779

716-945-9427

**Mail Envelope Properties (43C4074E.E5A : 10 : 61018)**

**Subject:** RE: American Centrifuge Plant, Pike Co., Ohio  
**Creation Date:** 1/10/06 2:12PM  
**From:** "Gail Thomspson" <gail.thompson@sni.org>

**Created By:** gail.thompson@sni.org

**Recipients**

nrc.gov  
twf4\_po.TWFN\_DO  
MXB6 (Matthew Blevins)

**Post Office**  
twf4\_po.TWFN\_DO

**Route**  
nrc.gov

Files	Size	Date & Time
MESSAGE	580	01/10/06 02:12PM
Mime.822	1656	

**Options**

**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard



**B.3 COMMUNICATIONS TO/FROM CONSULTING PARTIES AND  
INTERESTED MEMBERS OF THE PUBLIC**

**[This page intentionally left blank]**

From: <GeoffreySeaNYC@aol.com>  
To: <nrcprep@nrc.gov>, <yhf@nrc.gov>  
Date: Wed, Feb 2, 2005 6:04 AM  
Subject: Scoping Comments on ACP, Docket 70-7004

Scoping comments attached.

My contact information is:

Geoffrey Sea  
340 Haven Ave., Apt. 3C  
New York NY 10033  
Tel: 212-568-9729  
E-mail: \_GeoffreySeaNYC@aol.com\_ (mailto:GeoffreySeaNYC@aol.com)

*RDS received  
2/5/05*

*10/15/04*

*69FR 61268*

*(2)*

*STSP Review Complete*

*Template = ADM-D13*

*E-RDS = ADM-03  
Call = M. Plevins (MX106)  
Y. F919Z (YHF)*

**Mail Envelope Properties (4200B3A8.A60 : 5 : 64096)**

**Subject:** Scoping Comments on ACP, Docket 70-7004  
**Creation Date:** Wed, Feb 2, 2005 6:03 AM  
**From:** <GeoffreySeaNYC@aol.com>

**Created By:** GeoffreySeaNYC@aol.com

**Recipients**

nrc.gov  
twf2\_po.TWFN\_DO  
NRCREP

nrc.gov  
twf4\_po.TWFN\_DO  
YHF (Yawar Faraz)

**Post Office**  
twf2\_po.TWFN\_DO  
twf4\_po.TWFN\_DO

**Route**  
nrc.gov  
nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	200	Wednesday, February 2, 2005 6:03 AM
TEXT.htm	1211	
Statement of Geoffrey Sea 2.doc		3494400
Mime.822	4791642	

**Options**

**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

## Statement of Geoffrey Sea

Presented in conjunction with the Environmental Scoping Hearing  
for USEC's American Centrifuge Plant

Piketon, Ohio, January 18 2005

Submitted to the US Nuclear Regulatory Commission, Rules and Directives Branch,  
Division of Administrative Services, Docket #70-7004

I'm not for the centrifuge plant. I'm not against the centrifuge plant. I do believe that the plant will never open. That it was never intended to open. That from the start of the project more than twenty-five years ago, the real intention was to stuff private pockets at public expense, to create a bureaucratic security apparatus to protect this massive expropriation of taxpayer funds, to set aside the Piketon atomic reservation as a national sacrifice zone for radioactive and toxic waste, and to extend this destructive charade with the false promise of future production, for as long as eyes are blindered to it.

I believe that that the scales are about to fall.

### 1. "Action Alternatives"

Twenty years ago I worked for the Oil, Chemical and Atomic Workers in Piketon. At that time, the Department of Energy began to build the Gas Centrifuge Enrichment Plant, all the while lying to the local community with the suggestion that the gaseous diffusion plant would remain open, even when GCEP had come online.

We at the union were not fooled. We knew that only one facility would operate, and we started a project called the Atomic Reclamation and Conversion Project to plan for the cleanup and conversion to alternate use of whichever facility had to close. Our project later evolved into the Southern Ohio Diversification Initiative.

In 1985, Congress cut the funding for GCEP, and so we asked DOE to enter into negotiations about alternative use for those buildings. Uses that would produce jobs for union members. But DOE did not want any new domain in which they might actually be answerable to the community for cleanup standards and economic planning, with the need to reveal the full extent of the legacy of toxic and radioactive dumping onsite. DOE managers knew that much of the dumping onsite had never been documented, and would become known to its full extent only if parts of the site were released from its control. And so, even after funding had been cut, DOE ran a test run of uranium through the GCEP centrifuges, just to set the buildings off-limits for community use.

The reign of spitefulness, crass stupidity and arrogance has continued for twenty years since, at the site. And now we see that the sad history repeats itself in a cycle. In USEC's environmental report, the only "alternative actions" considered are no action, or construction of the ACP at some other site. No mention is made of potential alternative uses of those GCEP buildings, even though such uses have been contemplated and planned for over twenty years.

Since the buildings already exist and are publicly owned, reasonable alternatives for those buildings include the full range of private leasing possibilities as well as other

governmental uses. SODI, the Southern Ohio Diversification Initiative, once located a private truck manufacturing company that expressed a desire to lease one of those buildings for a plant that would employ about 800 people. That option was rejected by DOE because of its special legislated commitment to USEC. But as part of NRC's environmental and cultural resource review process, that option must be revived and explored as a reasonable alternative use.

One pernicious aspect of the centrifuge proposal is that it is a relatively small operation that will nonetheless commandeer the entire site, primarily because of the security regime that must accompany it. In practice, DOE has prohibited discussion of community use of any part of the main site, so that an unbroken "security zone" can be maintained for USEC's ACP. Therefore, the "reasonable alternatives" scenario must encompass not just a single other use for those centrifuge buildings, but a multiplicity of other uses for various parts of the very large site.

For example, what will happen to the old process buildings of the gaseous diffusion site? If the American Centrifuge Plant is built, the northern half of the site—the old diffusion plant—will wind up being cordoned off and left to decay, an enormous eyesore and environmental atrocity. That is clearly the intent of DOE and USEC, since they have built a new administrative office building on the south side of the site, intended to replace the old office building that will be fenced off with the diffusion plant, and perhaps demolished or entombed.

Another scenario is possible. In my essay, "A Pigeon in Piketon,"<sup>1</sup> I suggested that the X-326 building, the upper end of the Cascade, be entombed as a National Monument. Such a monument, with an environmental education center in a clean building, could become a major draw for tourists and students—entirely consistent with a manufacturing company leasing the GCEP buildings. Under that scenario, much of the surrounding forested land could be turned over to the National Park Service and added to Wayne National Forest, which borders in the east.

We wouldn't have to stop there. Since the site will be a location of ongoing environmental cleanup, employing cutting edge cleanup technologies, why not move that part of Oak Ridge National Laboratory that does research on environmental cleanup to Piketon? Piketon suffered under control from Oak Ridge for decades. Why can't Piketon benefit from new federal spending on research and development? It's already federal land, of immense historical and archaeological value. Why waste that? A multiplicity of new public and private uses all with an environmental theme must be considered as a "reasonable alternative" to the construction of one iffy and dirty centrifuge plant.

When NRC considers the full range of potential "reasonable alternatives," it must also consider that once the centrifuge facility is equipped and operated, that space will be irrevocably tainted, even if the project soon fails. That would be a repeat of the horror of 1985. And so NRC must act to stop the Lead Cascade from operating before the full project is licensed and funded.

## 2. Cultural Resources

We might say that the tragic history here has all been part of the American system, but it hasn't. Much of what has transpired at Piketon has been illegal, and would have been stopped if not for the abuse of the national security system, for the purpose of hiding corruption and

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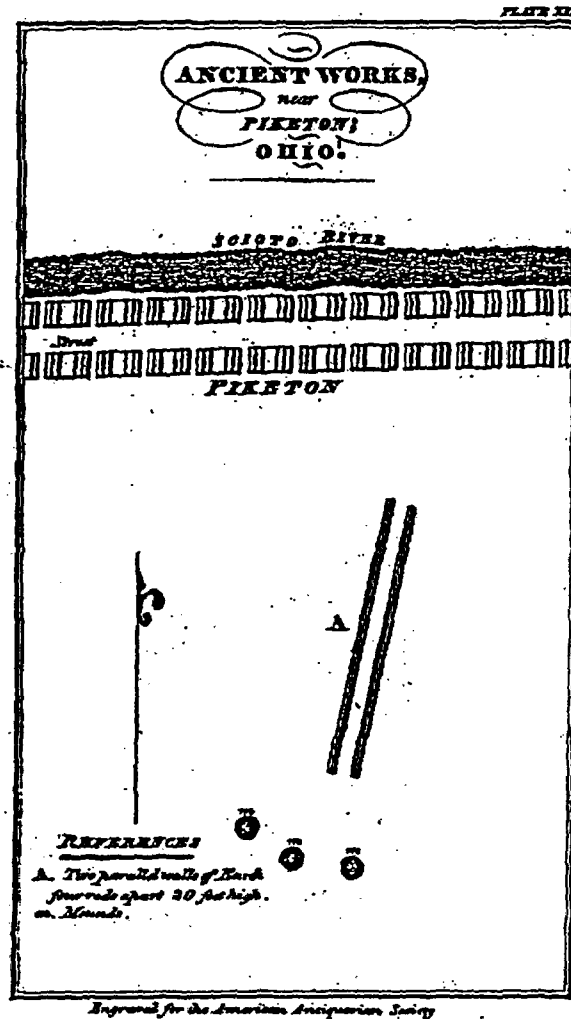
<sup>1</sup> Geoffrey Sea, "A Pigeon in Piketon," *The American Scholar*, Winter 2004, Volume 73, Number 1, pages 57-84.

greed.

One area of clear illegality has been the abject failure of DOE to comply with provisions of the National Historic Protection Act. NHPA was established to protect historic and prehistoric resources from adverse impacts of federal action. Section 106 of NHPA requires a complete cultural resource review when any action is contemplated that "may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register [of Historic Places] in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association." (Section 800.5(a)(1)) Section 110 of NHPA requires a comprehensive stewardship program for any such properties that extend onto federal land.

Not only has DOE never implemented either a 106 or 110 review at Picketon, it has not even attempted to identify qualifying properties on or near its land. There is no evidence that anyone at DOE or USEC (or NRC for that matter) has ever logged onto the National Register website, to see what sites in Pike County might qualify for protection. Were they to do so, they would discover that of Pike County's two prehistoric sites, one is on DOE's property, and the other extends onto it. A third property that borders on the proposed centrifuge site and that once included the land underneath the proposed centrifuge buildings, the Barnes Home, is now under consideration for Register listing, which qualifies it for full protection.

In 1820, Caleb Atwater surveyed "parallel walls of earth" along the Scioto River, and included a drawing of them in his treatise called *Description of the Antiquities Discovered in the State of Ohio and other Western States* (Plate XI):

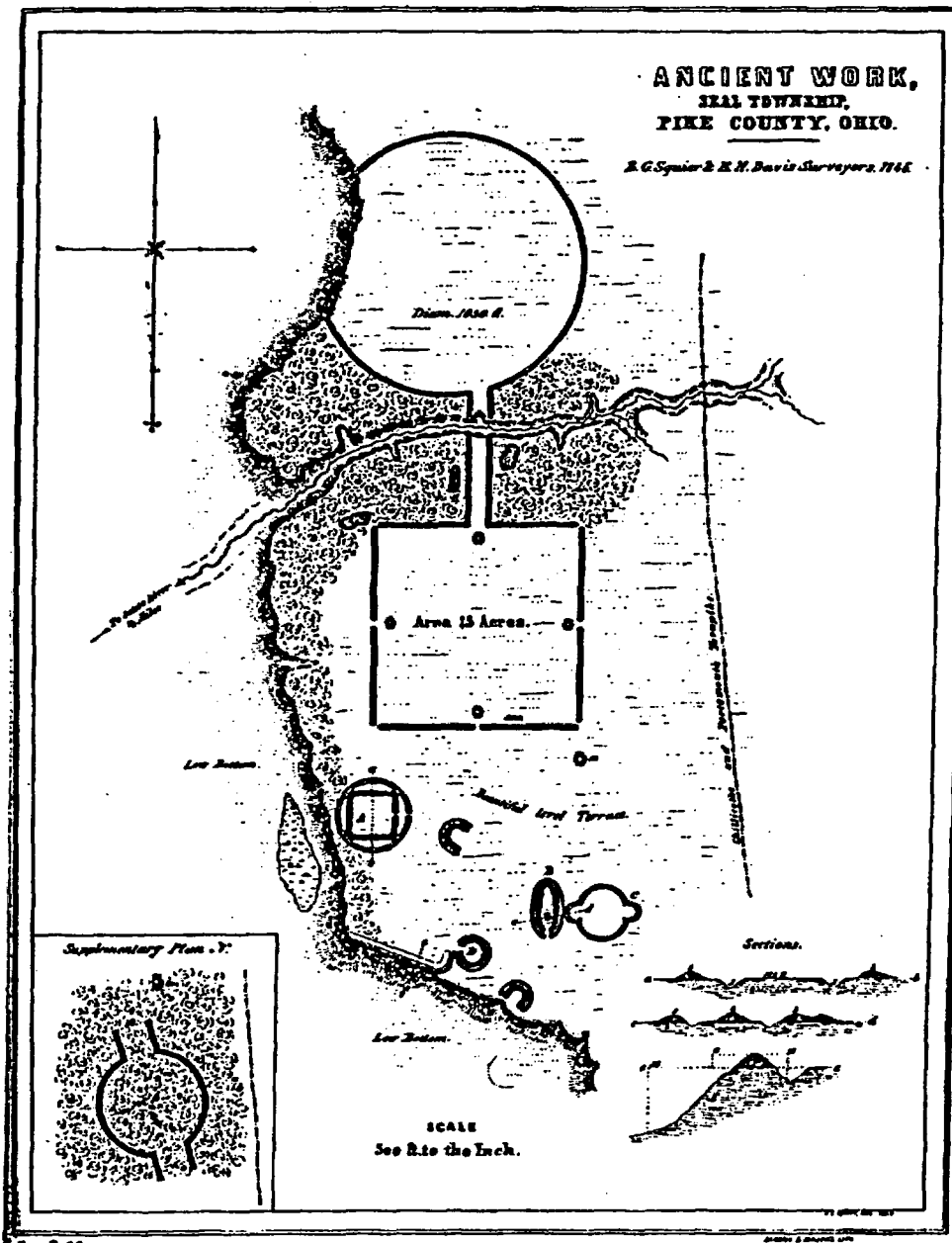


This engraving has been misunderstood because of the careless label of the "street" between what look like modern road markings. In fact, as ground exploration and careful reading of the text make clear, those segmented walls are the primary earthworks. Between them, an ancient roadway once traversed, which survived so well for two millennia that white settlers built their first wagon road along the same trail. Later these were named the Piketon Works, now listed on the National Register (site 74001599). In the 1960s, the Department of Energy seized this property by eminent domain for its proximity to the river, apparently oblivious to the famous earthworks located there. DOE now uses the earthen embankments to shield its water wells, which provide all water to the atomic site. Pumping declined drastically with closure of the gaseous diffusion plant, but would resume with operation of the American Centrifuge. The possible effect of this water pumping on the earthworks above has never been studied.



In 1846, Isaac Newton Barnes invited the famous archaeologists Ephraim Squier and Edwin Davis onto his land, to survey the astounding Hopewell circle and square—each covering twenty acres—that he could see from his bedroom window, about a mile south of the Picketon Works. Squier and Davis dubbed these the Seal Township Works, and featured them prominently in their 1848 masterpiece, *Ancient Monuments of the Mississippi Valley* (Plate XXV). Following is the plate, on which certain inaccuracies should be noted. The square was larger and the circle smaller, so that they actually covered an approximately equal area. The connecting passage angled differently. And many features, both large and small, were missed due to overgrowth and absence of aerial perspective.

XXIV.

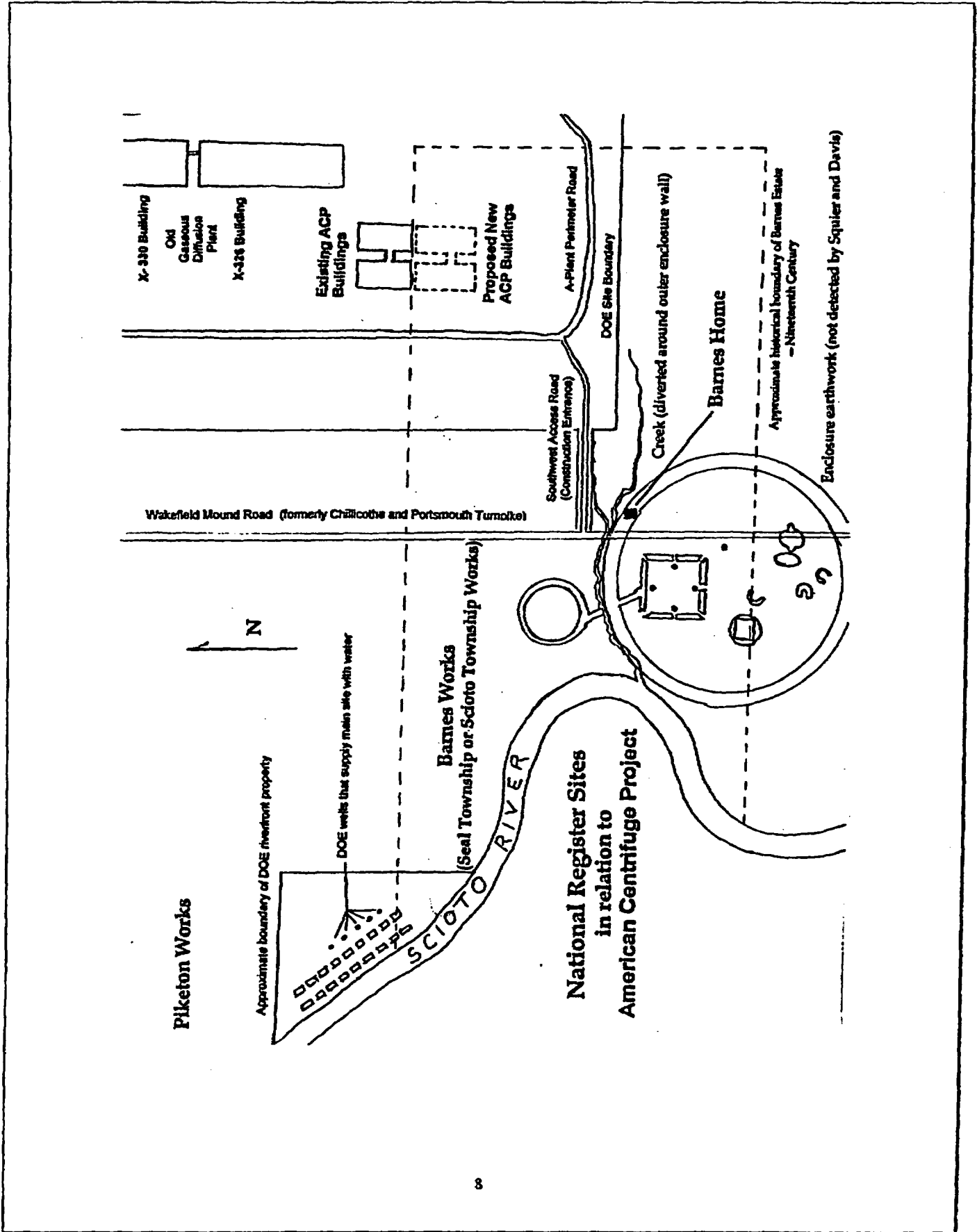


These works were surveyed again in the 1880s, and included in the 1889 Smithsonian study by Cyrus Thomas called *The Circular, Square, and Octagonal Earthworks of Ohio*. They were featured also in Gerard Fowke's *Archaeological History of Ohio* of 1902—Fowke called them the Barnes Works. More recently, William Morgan's *Prehistoric Architecture in the Eastern United States* of 1980 discussed the works as an exemplar of ancient geometric landscape art.

Called either the Barnes Works or the Scioto Township Works (since Scioto broke away from Seal) the small circle was largely destroyed by the modernization of Route 23 to accommodate increased traffic for the enrichment plant in 1952. The square and many of the smaller structures were partially destroyed around that same time by a gravel quarry, which included an asphalt plant that produced pavement for the atomic site. The Scioto Township Works are also now listed on the National Register (site 74001600), though little remains of what was apparent in the 19<sup>th</sup> century.

Because of this destruction wrought by the A-Plant and associated highways and gravel quarries, people forgot about these earthworks. No recent survey has been conducted. This is truly unfortunate because the nineteenth century surveyors lacked an essential tool for assessing the extent of the works—aerial photography. Today, if you examine an aerial photograph of the area from 1951—the year before the A-plant was built—you can see the circle and square quite clearly, but also something else, a much larger circle whose edge passed precisely between the smaller circle and the square. This larger circle, which has also not been professionally surveyed, passes right by the A-plant's southwest access road and right through the area that USEC might want to pave over to connect that road to Route 23. This large circular enclosure is more than twice the size of the largest Hopewell enclosure previously known, at Chillicothe.

To give a sense of the relation of the earthworks to the proposed American Centrifuge Plant, I have constructed a map that is admittedly anachronistic. It depicts the full extent of the earthworks as they existed prior to modern destruction, compiled on the basis of nineteenth century surveys as can be corrected by twentieth century aerial photographs. Alongside these ancient works I locate the main A-Plant buildings as USEC would like to build them in the future. I have attempted to represent the comparative scales and positions of different structures with approximate accuracy (though the widths of roads and earthworks are not correct):



A few things immediately become clear upon perusal of this map. Both the Hopewell mound-builders and the monument builders of the Atomic Energy Commission oriented their rectangular structures to the cardinal directions. For the Hopewell this was essential to the sacred purpose of tracking the movements of the sun; the atomic engineers probably had no commensurate rationale. And though the AEC often boasted of building the largest structure in the world in terms of ground cover at Piketon, the adjacent ancient earthwork enclosure, much of which still stands, actually extends over more acreage. The latter has lasted about two thousand years; the former only fifty. Which structure is most likely to endure a hundred years from now?

It's immediately clear that the Hopewell were engaged in an elaborate meditation on the forms of circle and square—a small circle encompassed a tangent square, and the juxtaposed circle and square may have been of equal area (impossible to tell with precision since the circle was destroyed). Ratios also suggest mathematical sophistication—the main square had a side exactly one quarter the diameter of the large enclosure circle that contained it. That these mathematicians were non-literate adds substantially to the wonder of these works. Hopewell Ohio emerges as the full and long-sought North American equivalent of ancient Mesoamerica and Peru. What secrets do they have yet to reveal?

Mapping the Piketon Works and the Barnes Works together clarifies the former's purpose. Undoubtedly, the roadway once connected to the ceremonial center just south of it—the rare straight section of the river has worked to preserve this one segment alone. Probably, this once extended all the way along the river to Chillicothe, and then on to Newark, where surviving road remnants have been dubbed "The Great Hopewell Road." The Piketon Works may be the last vestige of the whole middle part of the pathway that may have gone southward to Portsmouth, where substantial road segments also once were found (but have been destroyed).

When I asked Bill Murphee, DOE field manager with jurisdiction over Piketon, what was being done to protect this treasure, he said, "Nothing, it's not on our land." After a subordinate corrected him, he changed his story and said, "We protect it by keeping people away." Authors of section 110 of NHPA, which requires stewardship of cultural resources on federal land, did have a bit more in mind than that.

These works help explain one purpose of the large enclosures, in that the creek that now flows along the A-Plant's southwest access road, was originally diverted from its course to follow the outer circular wall of the great enclosure. The Hopewell then were engaging in large-scale terrestrial engineering, of the type not previously thought to have been practiced north of the Mayan Yucatan. This is stuff of big-time importance. DOE has a Babylon, a Teotihuacán, a Field of Nazca in its front yard.

The most astounding lesson of this map is just how close and interrelated the Hopewell Works and the A-Plant really are. How could these earthworks have been forgotten? Or have they been?

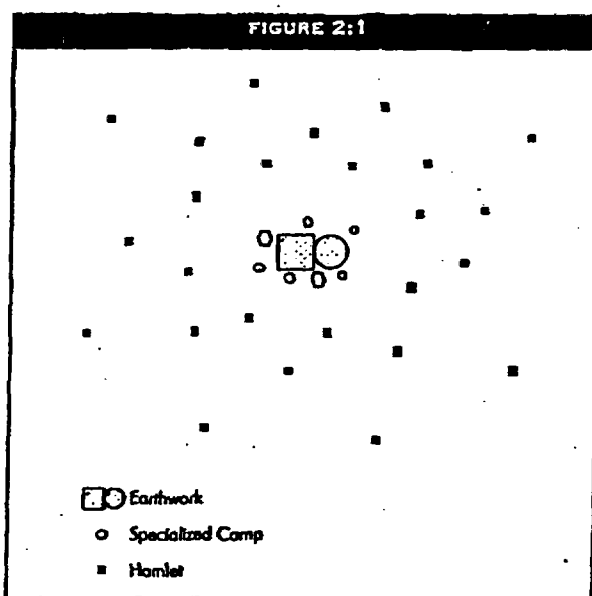
When the central portion of the A-Plant site was leveled by bulldozers in 1952, at least one ancient burial mound was encountered and destroyed. Other indigenous remains and artifacts found on the site since then have always been identified as Adena, as if to suggest that they are part of isolated and insignificant ancient burials. (The Adena did not build large ceremonial and cosmopolitan centers as did the Hopewell.) When asked to produce evidence that the artifacts found onsite are Adena, DOE cannot. (Nor does there appear to be a record of the 1952 excavations, except in local newspapers.)

In fact DOE has kept secret an archaeological survey conducted in 1996 and

referenced vaguely in the USEC environmental report for the ACP. I tried to obtain a copy of this survey report, or even determine when it would be released: no dice. It appears to be a perpetual "working draft," withheld from release under the Freedom of Information Act. DOE officials have suggested that the report cannot be released because it might contain unreliable or unanalyzed information. And yet they provided a copy to USEC, which uses vague references to it as support for its contention that no important cultural resources survive on the site. This is a flim-flam game. DOE claims the report as a working draft, unready for release, yet USEC cites the phantom report's authority to justify a license. (Obviously, the report must now be released so that the public can evaluate its contents.)

It's pretty clear what's really going on here. The "secret" contained in that report, or in its omissions, is that most artifacts on the A-Plant site are Hopewell, not Adena. Look at the map again. The Hopewell did not build isolated ceremonial sites. The giant earthworks were the public spaces at the centers of large residential and occupational complexes. The Barnes Works includes the largest Hopewell enclosure found to date. That means that Piketon may have been the largest cosmopolis in North America, two thousand years ago.

We must say "cosmopolis" and not "city" because the Hopewell did not live in ways familiar to our concept of civilization. Experts have dubbed their pattern the "Vacant Center Model." A large geometric earthwork—typically patterned around a large circle and square—would serve as ceremonial and economic center for a dispersed network of village sites, each with its own farmland, burial plot and local administration. Close to the central earthwork would be "specialized camps" for collective occupational pursuits like the manufacture of tools. Paul Pacheco has given us a generalized schematic for this mode of settlement<sup>2</sup>:



Generalized model of an Ohio Hopewell Community.

<sup>2</sup> Paul Pacheco, "Ohio Hopewell Regional Settlement Patterns," *A View From the Core: A Synthesis of Ohio Hopewell Archaeology*, Ohio Archaeological Council, 1996, page 22

Now look again at my map and try to swallow the DOE claim that artifacts found on the A-Plant site are mostly or exclusively Adena.

Why hasn't any of this been revealed before? For one thing, most Hopewell habitation sites have been discovered during the process of modern urban development, in cities like Chillicothe, Newark and Marietta. In rural Pike County, there hasn't been a lot of big earthmoving that would chance upon habitation sites, most of which must await discovery. Except of course for the earthmoving on the A-Plant site, and that's the other thing.

Construction at the A-Plant site very likely has run into all manner of archaeological treasure, in 1952 and since. But atomic secrecy has served as the perfect cover for sweeping it all under the rug and into that great dust heap called History. Who knows what we have not been told, and why has federal preservation law never been applied at Piketon?

There is no evidence that either DOE or USEC has ever taken its obligations under NHPA seriously. Both the Piketon Works and the Barnes Works were added to the National Register of Historic Places in 1974. That should have triggered an automatic review under the National Historic Preservation Act, which had been passed in 1966. It didn't happen.

In the recent Risk-Based End-State document for the Piketon site, the Department of Energy included a map that showed known "archaeological sites" on the atomic reservation. But the map did not include the known Indian mounds that were destroyed during plant construction in 1952, nor did it include any of the famous Hopewell earthworks that are just offsite, even though they are listed on the National Register and even though they are close enough to appear on the map. Nor did it include DOE's riverfront property, separated from the main site, where the Piketon Works are located. These obvious and illegal omissions have allowed DOE to avoid its obligation of conducting thorough cultural resource impact assessments, to match its elaborate environmental impact assessments.

Though I understood the motive, the question of how DOE managed to evade its legal responsibility so thoroughly did mystify me. So I looked into it, and I can now give a summary of that sad story.

When NHPA passed in 1966, most of the DOE (then AEC) complex was already in place, and because of the massive disruption involved in building facilities like the Gaseous Diffusion Plant (GDP) at Piketon, it was assumed that all or most of the preexisting historic value on these sites had been obliterated, so effectively no compliance measures were undertaken throughout the complex.

Jump to the 1990s. As the early Manhattan Project sites at Chicago, Oak Ridge, Los Alamos and Hanford reached their fifty-year anniversaries, it was realized that the buildings themselves had historic value as part of the nation's nuclear legacy. Therefore, DOE field offices began to initiate NHPA compliance programs at various sites in order of age. The Oak Ridge Operations Office, which had jurisdiction over all three uranium enrichment plants at Oak Ridge, Paducah and Piketon, initiated action-specific 106 reviews for new major projects in Oak Ridge that included solicitation letters to historic Indian tribes from the area. (No tribes expressed interest in a proposed new synfuels plant on the Clinch River.) Then they instituted a programmatic cultural resource compliance agreement for the Paducah site, the second oldest GDP.

Preparations were made to do the same for the youngest plant, Piketon, when it would turn fifty, in 2004, but before that could happen, the site was removed from Oak Ridge jurisdiction and put under the new Lexington KY field office. Lexington had enough on its hands and let the 2004 anniversary pass with no concerted action on 106 or 110 compliance.

Despite some unguarded claims to have consulted with Native American tribes, no tribal governments with historic connections to the Piketon site have ever been contacted. My attempts over two months to identify an official responsible for cultural resource issues at Piketon has yet to yield a result. I've spoken to over twenty DOE employees at Piketon, Lexington, Oak Ridge, and at headquarters in Washington DC. Always, the response is that "someone must have" fulfilled the agency's responsibility under federal preservation law. But no one can tell me who that individual was or is. I've heard every cockamamie cover story in the book—ranging from "we assign that responsibility to contractors" (illegal) to "we haven't undertaken any major federal action that would incur the act" (ahem—building a new uranium enrichment plant kinda qualifies).

The few tentative contacts that the plant has had with the State Historic Protection Office were mainly directed toward identifying DOE buildings that should be granted landmark status—like the X-326 building where bomb-grade and naval-propulsion-grade uranium was produced. Imagine if the Egyptian government failed to enact a preservation plan for the Great Pyramid, because the Rolex watches of the resident archaeologist had not yet qualified as antique.

### 3. The Shell Game

Now, no one quite understands how this process of a federal agency licensing a quasi-private company to operate on another federal agency's land is supposed to work. And no one even pretends to fathom what kind of creature USEC really is. So everybody is making stuff up as they go.

DOE is attempting to roll all of its preservation responsibility over to NRC—clearly inadequate since DOE will continue to own the site and equipment throughout ACP's operation. USEC can claim that as a non-governmental entity (at least of late), it has no direct responsibility to comply with federal preservation law. NRC has admirably initiated a Section 106 review process, but if that review isolates the licensing action as the only federal action in question, the mounds will have been missed for one molehill.

And all of the parties—DOE, USEC and NRC—seem to be claiming that responsibility for adverse impact extends only as far as the footprints of the proposed centrifuge buildings. Thus, in the two pages out of four hundred devoted to cultural resources in USEC's environmental report, reference is made to the "archaeological surveys" that DOE commissioned in the surface soil of the immediate area of the proposed ACP project. These surveys (though not publicly released) purportedly concluded that the topsoil there had already been "disturbed."

Now that's really brilliant. The entire area inside the perimeter road was bulldozed flat in 1952.

These rollovers and evasions are impermissible under law. Let's be clear. Both DOE and NRC, as separate federal agencies, have three separate responsibilities:

- 1) To assess the broad range of potential impacts on cultural resources of major federal actions as part of environmental impact assessment under the National Environmental Policy Act
- 2) To assess and mitigate adverse impacts of major federal actions on sites that qualify for the National Register of Historic Places under Section 106 of the National Historic Preservation Act



3) To protect (steward) any historic or prehistoric resources on federal land under Section 110 of the National Historic Preservation Act.

NRC has a lot of work to do to untangle this mess. First, it must greatly expand the scope of cultural resource impact as part of its EIS process. Second, it must conduct its 106 review in compliance with NHPA. It cannot now roll this into its NEPA process, because the option to do so was forfeited by DOE. Section 800 of the regulations establishing the Advisory Council on Historic Preservation (36 CFR) lays out the rules for combining an NHPA review with a NEPA review. Since this was never done, it can't be initiated now.

Third, NRC must assess whether the DOE-USEC agreement may be illegal and invalid. DOE officials have maintained that they are legally bound to lease facilities to USEC by the legislation that mandated enrichment privatization. However, that legislation did not exempt DOE from the requirements of NHPA, any more than it did from the requirements of NEPA. NRC must therefore consider that DOE made certain fatal errors in turning over the facilities for USEC use, without proper legal compliance, just as if DOE had failed to comply with NEPA. In other words, NRC must not only conduct its own Section 106 review process, but must also consider that in failing to conduct its 106 review properly, DOE may have undermined the legal basis of its agreement with USEC.

And that gets back, in a circular way, to the issue of action alternatives. USEC has managed to paint itself into a number of different corners simultaneously. In its environmental report, USEC specifies the main action alternative as siting ACP at Paducah instead of Piketon. Since impacts will be "the same," USEC argues, they might as well go ahead and build at Piketon, where two buildings that can accommodate ACP centrifuges stand at the ready.

Now we know that impacts would not be the same. The Piketon site has incomparable cultural value, with potential adverse impacts that have not begun to be studied. That ought to trigger two alternative considerations—moving ACP to Paducah as USEC itself has suggested, and opening part of the Piketon site as a cultural resource park with restoration of earthworks as has been done under the auspices of the National Park Service at Chillicothe.

Pike County's real potential future is in tourism, education and openness, not in a continuation of the national insecurity lock-down that has prevailed for fifty years.

But who's kidding whom? USEC can't pick up and move to Paducah, as they say they can, because without the taxpayer subsidies inherent in use of the Piketon site, USEC would crumble into fairy dust in a flash. The Paducah option is a shill—suggested to exact more fealty and loot from Ohio. But now they've suggested it, and they should be taken at their word.

At the site of what may be the largest prehistoric circle in the world, there is now a highway sign that points the way to "Centrifuge Circle." Some people might call this progress. But consider that in the nineteenth century, the Hopewell circles were considered wonders of the world, signs of the perennial character of human civilization. Abraham Lincoln stayed at the Barnes Home in 1848, in a bedroom from which he could admire the Barnes Works, at the same time that Squier and Davis were making those wonders world-famous. And Ralph Waldo Emerson said, in 1841:

"All inquiry into antiquity—all curiosity respecting the Pyramids, the excavated cities, Stonehenge, the Ohio Circles, Mexico, Memphis—is the desire to do away this wild, savage, and preposterous There and Then, and introduce in its place the Here and Now."

More than a century and a half later, amnesia seems to have set in, and USEC, that quasi-nonentity of a public-private corporation, is able to say in a submission to the government of the United States:

"There are no wetlands, critical habitat, cultural, historical or visual resources that will be adversely affected by the refurbishment, construction or operation of the ACP at the DOE reservation in Piketon, Ohio."

This is progress?

**From:** Matthew Blevins  
**To:** GeoffreySeaNYC@aol.com  
**Date:** 2/14/05 8:04AM  
**Subject:** Re: testimony and questions

Geoffrey,

The comments have already been entered into the record. However, for the 106 process it would be helpful to have a correct location for the property; so please provide the correct location (email, fax to 301-415-5398, or mail to my attention, MS T7J8, US NRC, Washington DC 20555-001).

I'll also forward your request to Yawar as he has been handling that aspect.  
Matt

Matthew Blevins  
Senior Project Manager  
Division of Waste Management and  
Environmental Protection  
U.S. Nuclear Regulatory Commission  
(301) 415-7684  
>>> <GeoffreySeaNYC@aol.com> 02/14/05 06:41 AM >>>  
Hello, Matt--a couple of questions.

First, would there be an opportunity to give you a corrected version of my scoping testimony before it is published or added to the record? Trying to make the deadline, a few typos crept in that irritate me. I also have learned that I made one material error related to the identification of one location. I'm faultless in this (I reproduced an error made by many past scholars), and it does not affect my argument, but I'd like the chance to correct myself if possible.

Second, if you are making hard copies of the USEC filings available to potential interveners, please add me to that list. I intended to request this at the scoping hearing but somehow neglected to hand over the request form.

Thanks much,

Geoffrey Sea  
340 Haven Ave., Apt. 3C  
New York NY 10033  
Tel: (212) 568-9729

CC: YHF@nrc.gov

**Mail Envelope Properties (4210A1F8.D19 : 12 : 23037)**

**Subject:** Re: testimony and questions  
**Creation Date:** 2/14/05 8:04AM  
**From:** Matthew Blevins

**Created By:** mx6@nrc.gov

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nrc.gov twf4_po.TWFN_DO MXB6 BC (Matthew Blevins) YHF CC (Yawar Faraz)	Delivered Opened Opened	02/14/05 08:04AM 02/15/05 06:29AM 02/14/05 08:05AM
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**Return Notification:**  
 Send Mail Receipt when Undeliverable

**Concealed Subject:** No  
**Security:** Standard

**To Be Delivered:** Immediate  
**Status Tracking:** Delivered & Opened

From: <GeoffreySeaNYC@aol.com>  
To: <mxb6@nrc.gov>  
Date: 2/14/05 8:47AM  
Subject: Piketon Works

Matt Blevins, NRC

Dear Matt,

The locations I provided are all correct as near as the accuracy of my mapmaking ability allows.

The "mistake" I made was in reproducing a historic confusion about The Piketon Works. These "parallel walls of earth" were classically described by Atwater in 1820 and then again by Squier and Davis in 1848. Starting with Squier and Davis and including everyone who has written about these works since, there has been the assumption that they were describing the same site.

I have now determined, backed by expert opinion, that they were actually describing different sites. The confusion has been magnified by the fact that the one site is on DOE land, hence "off limits," while the other location is recognized but not disclosed by the State Historic Protection Office. In other words, there are two different sets of "parallel walls of earth"--the one described by Atwater that is on the DOE riverfront property as I described it, and the other set which is north of the A-Plant site that was described by Squier and Davis. Again, I'm the first to clarify the distinction, and I have written up a short paper for publication.

Technically, only the Squier and Davis site is listed on the National Register. However, because these two sites were historically confused, it could be argued that the term "Piketon Works" applies to both. In any case, the Atwater site certainly "qualifies" for listing on the register, under the meaning of the National Historic Protection Act, even though the SHPO has not yet officially designated it. (I have not even had a chance to inform the SHPO about this yet.)

One factor that generated the confusion is that Atwater's Plate XI, which I reproduce in my testimony, had its compass marker way off. The top of the plate, rather than representing north, is actually southwest. This threw off just about everyone who went looking for those walls.

When I told Bill Murphee of DOE about those walls, he offered to go look at them with me. I think that what needs to happen, given that this site has not been documented since 1820, is that Mr. Murphy from DOE, Dave Snyder from the SHPO, you or some representative of NRC, someone representing USEC, a Hopewell archaeologist or two, and I take a little field trip down there, so all parties know exactly what is there.

Please keep me informed about your implementation of the 106 review.

Sincerely,

Geoffrey Sea  
340 Haven Ave., Apt. 3C  
New York NY 10033  
Tel: (212) 568-9729

**Mail Envelope Properties (4210ABFB.D4D : 17 : 56653)**

**Subject:** Piketon Works  
**Creation Date:** 2/14/05 8:47AM  
**From:** <GeoffreySeaNYC@aol.com>

**Created By:** GeoffreySeaNYC@aol.com

**Recipients**

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MXB6 (Matthew Blevins)

**Post Office**  
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**Route**  
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**Priority:** Standard  
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**Security:** Standard

**From:** <GeoffreySeaNYC@aol.com>  
**To:** <mxb6@nrc.gov>  
**Date:** 2/14/05 11:42AM  
**Subject:** Piketon Works again

Matt,

Can you tear up that last e-mail I sent?

I'm honestly trying to grapple with Atwater's Plate XI from 1820, which included no scale and has been confusing everyone for 185 years. The classic interpretations of it were wrong, but now it's been pointed out that my interpretation of it is also wrong.

There really are segmented parallel walls along the river on DOE's property. Apparently they are not the walls that Atwater tried to describe. Whether they are Hopewell, as I suspect, or not, will require further investigation that should be part of the 106 review.

Thanks again,

Geoffrey Sea

**Mail Envelope Properties (4210D4D8.7CA : 23 : 63434)**

**Subject:** Piketon Works again  
**Creation Date:** 2/14/05 11:41AM  
**From:** <GeoffreySeaNYC@aol.com>

**Created By:** GeoffreySeaNYC@aol.com

**Recipients**

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MXB6 (Matthew Blevins)

**Post Office**

twf4\_po.TWFN\_DO

**Route**

nrc.gov

**Files**

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02/14/05 11:41AM

**Options**

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**Reply Requested:**

No

**Return Notification:**

None

**Concealed Subject:**

No

**Security:**

Standard



**From:** Marian Zobler  
**To:** Geoffrey Sea; SargentsPigeon@aol.com  
**Date:** Tue, Aug 9, 2005 2:29 PM  
**Subject:** Follow-up on Phone Call

Mr. Sea,

During our phone call on Thursday, August 3, I agreed to provide you with additional information concerning the NRC Staff's activities pursuant to the National Historic Preservation Act. You specifically asked for a list of letters the Staff sent to various parties as part of the Section 106 consultation process. A list of the letters with their ADAMS accession numbers is attached to this e-mail. Additional information concerning the Staff's 106 consultations can be found in ADAMS under docket number 07007004. Using the search term "106" may help narrow the search.

You also mentioned an e-mail you had sent to Matt Blevins, Senior Project Manager for the environmental review, concerning being kept informed of the implementation of the consultation process. It is my understanding that you have been added to the distribution list for documents related to the consultation process.

Finally, you asked how the NRC will investigate and study the potential earthworks on the DOE reservation at Piketon. Please be advised that the NRC's investigation and evaluation of the impact of the proposed ACP on cultural and historic resources will be documented in the draft environmental impact statement (DEIS) associated with the ACP. The DEIS will be available shortly for public review and comment.

Marian Zobler  
Counsel for NRC Staff

**CC:** dsilverman@morganlewis.com; Matthew Blevins; Melissa Duffy; Yawar Faraz

**Mail Envelope Properties (42F8F5F8.6FB : 3 : 8714)**

**Subject:** Follow-up on Phone Call  
**Creation Date:** Tue, Aug 9, 2005 2:29 PM  
**From:** Marian Zobler

**Created By:** MLZ@nrc.gov

**Recipients**

aol.com  
geoffreyseanyc (Geoffrey Sea)  
SargentsPigeon (SargentsPigeon@aol.com)

morganlewis.com  
dsilverman CC (dsilverman@morganlewis.com)

nrc.gov  
OWGWPO01.HQGWDO01  
MLD5 CC (Melissa Duffy)

nrc.gov  
twf4\_po.TWFN\_DO  
MXB6 CC (Matthew Blevins)  
YHF CC (Yawar Faraz)

**Post Office**

**Route**

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Monday, August 8, 2005 4:05 PM

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**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

ACHP, Office of Federal Agency Programs  
Attn: Don Klima, Director  
1100 Pennsylvania Avenue NW, Suite 809  
Washington, DC 20004  
May 20, 2005  
ML050970073

Mr. Mark Epstein, Department Head  
Ohio Historic Preservation Office  
Resource Protection and Review  
567 East Hudson Street  
Columbus, OH 43211-1030  
December 28, 2004  
ML043550032

Mr. Ron Sparkman  
Shawnee Tribe  
P.O. Box 189  
Miami, OK 74355  
March 18, 2005  
ML050750405

Mr. Rey Kitchkumme  
Prairie Band of Potawatomi Nation  
16277 Q Road  
Mayetta, KS 66509-8970  
March 18, 2005  
ML050750405

Mr. James Leaffe, Chief  
Cayuga Nation  
P.O. Box 11  
Versailles, NY 14168  
March 14, 2005  
Attn: Mr. Halftown, THPO Representative  
ML050660146

Cherokee Nation of Oklahoma  
P.O. Box 948  
Ada, OK 74820  
March 14, 2005  
ML050660146

Turtle Mountain Band  
of Chippewa Indians  
Attn: Mr. Kade M. Ferris, Tribal Historic  
Preservation Officer  
Office of Archaeology  
and Historic Preservation  
P.O. Box 900  
Belcourt, ND 58316  
March 14, 2005  
ML050660146

Mr. Bruce Gonzales, President  
Delaware Tribe of Western Oklahoma  
P.O. Box 825  
Anardarko, OK 73005  
Attn: Ms. Tamara Francis  
Delaware Nation NAGPRA Office  
March 14, 2005  
ML050660146

Mr. John Pryor, Executive Officer  
Miami Tribe of Oklahoma  
P.O. Box 1326  
202 South Eight Tribes Trail  
Miami, OK 74355  
Attn: Ms. Julie Olds, THPO  
March 14, 2005  
ML050660146

Mr. Charles Todd, Chief  
Ottawa Tribe of Oklahoma  
P.O. Box 110  
Miami, OK 74355  
Attn: Mr. Roy Ross  
March 14, 2005  
ML050660146

Mr. John P. Froman, Chief  
Peoria Tribe of Oklahoma  
P.O. Box 1527  
118 S. Eight Tribes Trail  
Miami, OK 74355  
Attn: Mr. Bud Ellis, Repatriation  
Committee Chairman  
March 14, 2005  
ML050660146

Mr. Harold Frank, Chairperson  
Forest County Potawtomi  
P.O. Box 340  
Community of Wisconsin Potawtomi  
Crandon, WI 54520  
Attn: Ms. Clarice M. Werle,  
NAGPRA Contact  
March 14, 2005  
ML050660146

Mr. John A. Barret, Jr., Chairperson  
Citizen Potawatomi Nation  
1601 S. Gordon Cooper Drive  
Shawnee, OK 74801  
Attn: Mr. Jeremy Finch  
March 14, 2005  
ML050660146

Mr. Calvin John, President  
Seneca Nation of Indians  
P.O. Box 231  
Salamanca, NY 14779  
Attn: Ms. Kathlenn Mitchell, THPO  
March 16, 2005  
ML050660146

Mr. Jerry Dilliner, Chief  
Seneca-Cayuga Tribe of Oklahoma  
P.O. Box 1283  
R2301 E. Steve Owens Blvd.  
Miami, OK 74355  
Attn: Mr. Paul Barton  
March 14, 2005  
ML050660146

Mr. Charles D. Enyart, Chief  
Eastern Shawnee Tribe of Oklahoma  
P.O. Box 350  
Seneca, MO 644865  
Attn: R.C. Kisse  
March 14, 2005  
ML050660146

Mr. Kenneth Daughtery, Tribal Secretary  
Absentee Shawnee Tribe of Oklahoma  
2025 S. Gordon Cooper Drive  
Shawnee, OK 74801-9381  
Attn: Ms. Karen Kaniatobe  
March 14, 2005  
ML050660146

Mr. James Brushart  
President, Pike County Commissioners  
230 Waverly Plaza, Suite 1000  
Waverly, OH 45690  
March 14, 2005  
ML050660146

Mr. Leaford Bearskin, Chief  
Wyandotte Nation  
P.O. Box 250  
Wyandotte, OK 74370  
Attn: Ms. Sherri Clemons  
March 14, 2005  
ML050660146

Mr. James Squirrel  
Loyal Shawnee Tribe  
Route 4, Box 30  
Jay, OK 74346  
March 14, 2005  
ML050660146

**From:** <SargentsPigeon@aol.com>  
**To:** <MLZ@nrc.gov>  
**Date:** Tue, Aug 9, 2005 3:34 PM  
**Subject:** Re: Follow-up on Phone Call

Ms. Zabler,

Thank you for your follow-up letter, but you did not reply to the principal questions.

First, who is contact person for NRC's Section 106 review? Who's in charge? This is an absurdly simple question. I contacted Matt Blevins about it in February, and heard nothing from him for six months, so he seems to not be the person. I contacted the Federal Preservation Officer for NRC, and he was absolutely clueless about the whole endeavor--my call to him resulted in a call back from you. You, however, told me that you are not the official in charge of the process. So who is? Please provide a name, address, e-mail and telephone number.

Second, I did not ask why I was not put on the distribution list, I asked why I have not been made a consulting party and was not sent a letter of consultation. The Commission has itself ruled that I am entitled to standing to intervene in the licensing proceeding on the basis of my ownership and residence interests in a historic property on the boundary of the proposed project. I believe I am the only individual in that category. Lest there be doubt, I do wish to be a consulting party in the Commission's 106 review. I have concerns that I have elaborated to the Commission at great length. Please explain to me why I was not put on the list of consulting parties at the beginning, and whether I am being added to the list of consulting parties now.

Please also forward to me all of the correspondence that has been shared with consulting parties since the beginning of the process.

Now some new questions. I am inferring that Commission staff is having some difficulty figuring out how it should communicate with a consulting party in a 106 review who is also an intervener or potential intervener in the licensing process. Please clarify how the Commission staff views the relationship between the 106 review process and the licensing proceeding.

In reviewing the list of parties to whom consultation letters were sent, there are two categories strikingly absent. No owners of historic homes are included on the list. (In my petition to intervene, I identified three historic homes in close proximity to the plant site--The Barnes Home, The Sargent Home and the Rittenour Home. I also conveyed the wish of Charles Beegle, owner of the Rittenour Home, to be a consulting party in the 106 review, and I included a letter from Mr. Beegle complaining about the lack of NHPA compliance.)

Also, no historic Indian tribes from the local area have been included. These are the principal tribes that have knowledge and interest in the proposed USEC site and in the ACP project. If the reason for their non-inclusion is that they are not federally recognized, I draw your attention to the fact that the Shawnee Tribe in Oklahoma also lacks federal recognition. Thus you included at least one tribe in Oklahoma that lacks recognition, but none of

the tribes in or near Ohio that lack recognition.

For your information, the following area tribes are intensely interested in the proposed project, and would like to be granted consulting party status:

The Blue Creek Band of the Shawnee in Adams County, Ohio  
The Free Shawnee of Ohio  
The Piqua Sept of the Shawnee  
The Tallige Cherokee Nation in Scioto County, Ohio  
The United Remnant Band of the Shawnee in Ohio

I would happily provide contact information for these tribes, and other interested parties, but see question one--We are now in August and the NRC has yet to provide me with a contact name for its 106 review in the USEC proceeding. I would also like to forward the NRC contact name to the tribes and property owners who wish to be consulting parties.

Let me be clear, Ms. Zabler. You say that the NRC 106 review is nearly complete as part of the draft EIS. On the contrary, the 106 review required for this project has not yet started, because you have neither consulted the parties who have expressed the most concern about the project, nor have you provided those parties with a contact by which we can express our concerns. The 106 process is designed to be consultative, not adversarial. Let's start the consultation.

Thank you,

Geoffrey Sea

**Mail Envelope Properties (42F90526.FC8 : 14 : 53192)**

**Subject:** Re: Follow-up on Phone Call  
**Creation Date:** Tue, Aug 9, 2005 3:33 PM  
**From:** <SargentsPigeon@aol.com>

**Created By:** SargentsPigeon@aol.com

**Recipients**

nrc.gov  
owf5\_po.OWFN\_DO  
MLZ (Marian Zobler)

**Post Office**  
owf5\_po.OWFN\_DO

**Route**  
nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	4336	Tuesday, August 9, 2005 3:33 PM
TEXT.htm	5690	
Mime.822	11517	

**Options**

**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

September 6, 2005

Mr. Kenneth Daughtery, Tribal Secretary  
Absentee-Shawnee Tribe of Oklahoma  
Attn: Ms. Karen Kaniatobe  
2025 S. Gordon Cooper Drive  
Shawnee, OK 74801-9381

SUBJECT: CONTINUATION OF THE NATIONAL HISTORIC PRESERVATION ACT  
SECTION 106 CONSULTATION PROCESS FOR THE PROPOSED AMERICAN  
CENTRIFUGE PLANT, PIKE COUNTY, OHIO: REQUEST FOR COMMENT ON  
PROPOSED FINDINGS AND DETERMINATIONS OF EFFECT

Dear Mr. Daughtery:

Following transmittal of our letter of March 14, 2005, initiating consultation for the proposed American Centrifuge Commercial Plant, the U. S. Nuclear Regulatory Commission (NRC) became aware of a letter from Ms. Karen Kaniatobe, dated February 24, 2005. The letter indicates that the tribe wishes to be included as a consulting party in the Section 106 process. It mentions concerns about the Barnes Works in Scioto Township and states that surveys should be conducted to find other sites that may be present. Ms. Kaniatobe's letter indicates that the Absentee Shawnee Tribe, collectively with the Algonquian tribes of the Ohio/Great Lakes Region, considers itself to be descended from the people of the Fort Ancient culture who, in turn, were descendants of the people of the Hopewell Culture who built the Barnes Works.

As required under Section 106, the NRC has undertaken the steps of identifying and evaluating historic properties that may be affected by construction and operation of the proposed American Centrifuge Plant. The NRC found that there have been surveys conducted previously to find archaeological and historic sites in the area of the proposed project.

Enclosed is the "Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment." Section 3.3, "Historic and Cultural Resources," provides a description of the identification and evaluation process. Section 4.2.2 "Historic and Cultural Resource Impacts," presents the NRC's preliminary findings related to this undertaking, including a description of the "area of potential effects" and preliminary determinations of project effect.

As indicated in these sections, the site referred to by Ms. Kaniatobe as the Barnes Works in Scioto Township is known as the Scioto Township Works and is listed on the National Register of Historic places under Criterion D, for sites "that have yielded or may be likely to yield information important in history or prehistory."

These sections also indicate that the Scioto Township Works site has cultural importance to the Absentee Shawnee tribe. NRC would welcome information about the site attributes that contribute to its importance to the Absentee Shawnee tribe. In the absence of that information NRC has assumed that the site may have importance related to Criterion A of the National



K. Daughtery

- 2 -

Register of Historic Places, for sites that "are associated with events that have made a significant contribution to the broad patterns of our history."

As indicated in Section 3.3.3 "Results of Document Review," the Scioto Township Works site lies about 250 m (820 ft) from the boundary of the Department of Energy Reservation, and about one kilometer (3250 ft) from the closest construction effort associated with the proposed American Centrifuge Plant. Based on this distance, the NRC has made a determination of no effect on the information values that make the site eligible for listing on the National Register under Criterion D. Additionally, because the activities associated with construction and operation will not change the present setting and feel of the Scioto Township Works site, NRC has made a preliminary determination of no effect on these values (i.e., Criterion A) that may be of importance to the Absentee Shawnee Tribe.

The NRC welcomes your input and comment on the findings of its inventory and evaluation effort and its preliminary determination of effect on the Scioto Township Works site. If the tribe can provide information about site attributes other than those included under Criterion A that contribute to the site's importance to the Absentee Shawnee, the NRC will be able to consider these in applying the criteria of adverse effect.

The NRC requests a response from the tribe by October 24, 2005. Please feel free to respond in writing or to contact Ron Linton by phone at 301-415-7777 or by e-mail at RCL1@nrc.gov. Mr. Linton will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

*/RA/*

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o attachment, see attached list

Register of Historic Places, for sites that "are associated with events that have made a significant contribution to the broad patterns of our history."

As indicated in Section 3.3.3 "Results of Document Review," the Scioto Township Works site lies about 250 m (820 ft) from the boundary of the Department of Energy Reservation, and about one kilometer (3250 ft) from the closest construction effort associated with the proposed American Centrifuge Plant. Based on this distance, the NRC has made a determination of no effect on the information values that make the site eligible for listing on the National Register under Criterion D. Additionally, because the activities associated with construction and operation will not change the present setting and feel of the Scioto Township Works site, NRC has made a preliminary determination of no effect on these values (i.e., Criterion A) that may be of importance to the Absentee Shawnee Tribe.

The NRC welcomes your input and comment on the findings of its inventory and evaluation effort and its preliminary determination of effect on the Scioto Township Works site. If the tribe can provide information about site attributes other than those included under Criterion A that contribute to the site's importance to the Absentee Shawnee, the NRC will be able to consider these in applying the criteria of adverse effect.

The NRC requests a response from the tribe by October 24, 2005. Please feel free to respond in writing or to contact Ron Linton by phone at 301-415-7777 or by e-mail at RCL1@nrc.gov. Mr. Linton will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

*/RA/*

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o attachment, see attached list

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JClifford	DMartin	MBurrell, OE			

**ML052440393**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC	
<b>NAME</b>	MBlevins	BJDavis	MZobler	
<b>DATE</b>	8/30/05	9/06 /05	8/31/05	

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Robert Huff, President and CEO  
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P.O. Box 509  
Portsmouth, OH 45662

**From:** Ron Linton  
**To:** Sargentspigeon@aol.com  
**Date:** 10/24/05 1:24PM  
**Subject:** Answers: USEC DEIS comments

Mr. Sea:

This e-mail is in response to your questions over the phone earlier today in reference to comments on the USEC DEIS.

**Q1. Does NRC have a size limitation on how many photographs may be sent electronically?**

**A1.** I'm not certain, but I don't think so. I recommend submitting the pictures a few at a time if there are problems. If there are continued problems sending the photos electronically, notify us of the problem immediately, and send them in the mail.

**Q2. Is the DEIS comment deadline 5:00 pm. or midnight?**

**A2.** Midnight.

**Q3. How firm is the deadline for commenting on the DEIS?**

**A3.** Since you have contacted us in advance and indicated a hardship with filing comments for the DEIS and completing a filing for the ASLB, which are on the same day, we can give you an additional 48 hours to complete and submit your DEIS comments.

If you have any additional questions, please contact Matt Blevins at 301-415-7684 or me at 301-415-7777.

Ron C. Linton  
Project Manager  
U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety and Safeguards  
Mail Stop T7 J08  
Washington, DC 20555-0001  
301-415-7777 phone  
301-415-5397 fax  
rcl1@nrc.gov

**CC:** Jennifer Davis; Matthew Blevins

**Mail Envelope Properties (435D18C9.C97 : 8 : 1314)**

**Subject:** Answers: USEC DEIS comments  
**Creation Date:** 10/24/05 1:24PM  
**From:** Ron Linton

**Created By:** RCL1@nrc.gov

<b>Recipients</b>	<b>Action</b>	<b>Date &amp; Time</b>
aol.com Sargentspigeon (Sargentspigeon@aol.com)	Transferred	10/24/05 1:25 PM

nrc.gov twf4_po.TWFN_DO BJD1 CC (Jennifer Davis) MXB6 CC (Matthew Blevins)	Delivered	10/24/05 1:24 PM
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<b>Post Office</b> twf4_po.TWFN_DO	<b>Delivered</b> 10/24/05 1:24 PM	<b>Route</b> aol.com nrc.gov
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<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	2251	10/24/05 01:24PM

**Options**  
**Auto Delete:** No  
**Expiration Date:** None  
**Notify Recipients:** Yes  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:**  
 Send Notification when Opened

**Concealed Subject:** No  
**Security:** Standard

**To Be Delivered:** Immediate  
**Status Tracking:** Delivered & Opened

September 6, 2005

Mr. Geoffrey Sea  
1832 Wakefield Mound Road  
Piketon OH 45661

**SUBJECT: TRANSMITTAL OF DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED AMERICAN CENTRIFUGE PLANT, PIKE COUNTY, OHIO AND REQUEST FOR CONSULTING PARTY COMMENTS**

Dear Mr. Sea,

The Nuclear Regulatory Commission (NRC) has completed its initial National Environmental Policy Act (NEPA) review of USEC Inc.'s proposed American Centrifuge Plant. As you are aware, the NRC has previously indicated that we are using the NRC's National Environmental Policy Act review process for Section 106 purposes as described in 36 CFR 800.8. Additionally, the NRC has reviewed your August 9, 2005 request for consulting party status and in consultation with the Ohio Historic Preservation Office have determined that you meet the consulting party requirements of 36 CFR 800.2(c)(5).

As required under Section 106, the NRC has undertaken the steps of identifying and evaluating historic properties that may be affected by construction and operation of the proposed American Centrifuge Plant. The NRC found that there have been surveys conducted previously to find archaeological and historic sites in the area of the proposed project. In addition to these surveys, the NRC staff considered the information you provided in your NEPA scoping comments provided on February 2, 2005 and pleadings before the Atomic Safety and Licensing Board Panel on February 28, 2005; April 1, 2005; July 18, 2005; and August 10, 2005; as well as the various emails you have submitted.

Enclosed is the "Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment." Section 3.3, "Historic and Cultural Resources," provides a description of the identification and evaluation process. Section 4.2.2 "Historic and Cultural Resource Impacts," presents the NRC's preliminary findings related to this undertaking, including a description of the "area of potential effects" and preliminary determinations of project effect.

In accordance with 36 CFR 800.8(c)(2) we are providing copies of the draft Environmental Impact Statement to the State Historic Preservation Officer, Advisory Council on Historic Preservation, interested Indian tribes, consulting parties, and members of the public.

The NRC welcomes your input and comment on the findings of the inventory and evaluation effort and the preliminary determinations of effect on the identified historic properties. The NRC requests a response by October 24, 2005. Please feel free to respond in writing or to contact

G. Sea

- 2 -

Ron Linton by phone at 301-415-7777 or e-mail at RCL1@nrc.gov. Mr. Linton will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

**/RAJ**

**B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards**

Docket No.: 70-7004

Enclosures: As stated

cc: w/o attachment, see attached list



G. Sea

- 2 -

Ron Linton by phone at 301-415-7777 or e-mail at RCL1@nrc.gov. Mr. Linton will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

*IRA*

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o attachment, see attached list

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ML052440425

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC	
<b>NAME</b>	MBlevins	BJDavis	MZobler	
<b>DATE</b>	8/30/05	9/06/05	8/31/05	

OFFICIAL RECORD COPY

**USEC Service List**

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Randall Devault, Regulatory Oversight  
Manager  
Department of Energy - Oak Ridge  
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Dan Minter  
Southern Ohio Development Initiative  
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1400 L Street, NW  
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Radiological Branch  
Ohio Emergency Management Agency  
2855 West Dublin-Granville Road  
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Rod Krich, Vice President  
Licensing Projects  
Exelon Generation Co.  
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Lindsay A. Lovejoy, Jr.  
NIRS  
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P.O. Box 509  
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Donald J. Silverman  
Morgan, Lewis & Bockius  
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Washington, DC 20004

PIKE COUNTY  
CHAMBER OF COMMERCE  
P.O. BOX 107 • 12455 STATE ROUTE 104  
WAVERLY, OHIO 45690  
740-947-7715 • FAX 740-947-7716  
www.pikechamber.org

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HAYES

September 30, 2005

9/8/05  
70FR 53396

2

United States Nuclear  
Regulatory Commission  
Matthew Blevins, Project manager  
Mail Stop: T7J-8  
Washington, DC 20555-0001

Dear Matt,

I am enclosing a copy of the report the Chamber submitted to the Department of Energy and USEC. As we told Brian Smith yesterday, part of the dilemma we have experienced this summer has been deciding who should receive the information.

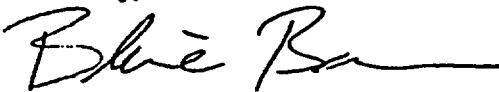
There are a couple of points that I want to emphasize. First, none of the people who contributed information received any monetary rewards. This was strictly a case where a number of people wanted to make the history of events clear.

Second, in Jeffery Sea's testimony last night he referred to an earthwork on the Rittenour property. That earthworks is referred to in the report as the Nier property levy. This was designed after the 1959 flood by the soil conservation service.

Should you desire, we would be happy to submit statements from the Pike Countians who knew about or who participated.

I appreciate your interest in this matter.

Sincerely,



Blaine Beekman  
Executive Director

SESP Review Complete

Template = ADM-013

E-REDS = ADM-03  
Adm = M. Blevins (MXB6)

PIKE COUNTY  
**CHAMBER OF COMMERCE**  
P.O. BOX 107 • 12455 STATE ROUTE 104  
WAVERLY, OHIO 45690  
740-947-7715 • FAX 740-947-7716  
www.pikechamber.org

September 28, 2005

United States Nuclear  
Regulatory Commission  
Matthew Blevins, Project Manager  
Mail Stop T7J-8  
Washington, DC 20555-0001

Dear Mr. Blevins,

In response to our conversation, I am submitting a brief report on the origin of a series of levies along the Scioto River in southern Pike County. There are three separate levies. The northernmost is on the Nier property at the U.S. Route 23 entrance to Piketon Department of Energy facility. The middle levy is partially located on a Department of Energy well field located next to the Scioto River on the old Billy Cutlip farm. The third levy extends across 10 farms beginning at the Barnes property and extending south along the river to the Will Acord farm.

The confusion about the origins of these levies was surprising to the Scioto Township residents with whom I spoke. All three were manmade, constructed within the past half-century. No levies had previously existed on the properties. Many of the people involved in the projects are still available to share the record of their experiences. The levy on the Nier property and the levy covering the 10 lower properties were built in direct response to a catastrophic 1959 flood. The third levy near the DOE well field was in response to an economic need rather than a need for flood control.

Each of the levies is located on the east side of the Scioto River. To the west of the river, south of Piketon, the terrain is hilly. To the east, the land rises in a terraced manner from the river bottoms. The lowest level is only a few feet above the Scioto River water level. The second level is about 50 feet higher in elevation and occurs from a few feet to a quarter mile from the river's edge. Flooding along the Scioto River has never reached the top of this second level. Much of the area in question also has a third terrace level, again rising a few feet above the second level.

Historically, the land at river level has been utilized for farming. Late winter flooding on a periodic basis made the construction of residences at this level impractical. Floods on the Scioto River in 1913 and 1937 were considered major, but farmers in our target area either lacked the means or did not feel the need to construct levies to protect their properties.

The 1959 flood had a disastrous effect on the lowest level of land. The current was so strong that it devastated the soil. Art Nelson a farm employee of Layton and Everett Hammond, saw areas where several feet of topsoil had literally washed away, leaving the slate underlay exposed. A mile to the south, deposits of sand left by the flood, measured as much as 25 feet in depth.

Everett and Layton Hammond decided they needed to build a levy. They contacted the Pike Soil and Water Conservation District for assistance. Vince Scott and Jim Steiner were employees of the Federal Soil Conservation Service on loan to the Pike SWCD. Vince and Jim provided technical assistance to the Hammond brothers, recommending that the levy be built perpendicular to the river to protect against current damage should another flood of the magnitude of the 1959 flood occur again. Paul "Bunk" Adams, a skilled bulldozer operator who completed a hundred projects for the Soil Conservation Service, completed the work under the supervision of Vince Scott and Jim Steiner. This is the levy on the Nier farm.

Everett and Layton Hammond also were instrumental in organizing the levy along the 10 farms further south. Several hundred acres of land at river level had basically been made unillable by the sand deposits. The final plan included reducing the sand piles by mixing them with soil to farm the levies. There was still plenty of sand left after the levy was completed. Art Nelson remembered that Bill Trusty, a Wakefield businessman hauled sand from one of the largest deposits. Teddy West, a local farmer, learned that much of the sand was sold to the Goodyear Atomic Corporation for use as backfill on a sewer project. Steve Acord, whose family farm was one of those involved in the levy project, stated that it took years to return to land to farm production.

The levy on the Cutlip farm was an entirely different situation. In 1968, Billy Cutlip sold his 390 acre farm to the Standard Slag Company of Youngstown. Standard Slag developed a sand and gravel quarry that eventually covered two-thirds of the property. In the early 1980s the Department of Energy built a series of wells at the river's edge of the Standard Slag property to furnish surface water for the centrifuge process being developed by Goodyear Atomic Corporation at the Piketon DOE facility. Teddy West farmed the lowest and second levels of the Standard Slag property from the 1970s to the early 1990s. He was farming the land when the DOE wells were being drilled. According to Bob Childers who was in charge of operations at the steam plant, the line was a 36" line which ran all the way from the river to the DOE facility. The project was engineered and the contracts were handled by DOE at Oak Ridge so there was not a lot of local DOE contact. Teddy West remembered that the line was not stable at its base. Ralph Beabout an employee at the plant's water system learned that pressure on the line at its source was too great for the concrete anchors designed to hold the line in place. Modifications included more concrete and ground cover. The result is a levy-like appearance.

The second factor was the need for Standard Slag to find a place to put a sizeable amount of overburden when it expanded its quarry operation. One solution, according to Don Nelson, the manager of the Standard Slag operation until 1992, was to take the overburden down to the river

and build a levy, essentially hooking it to the DOE well site. The dirt was placed between the wells and the river because Standard Slag hoped to begin quarrying at the level next to the river. However, when the company ran extensive tests near the river, Don discovered the overburden was too deep and the water table was too high to make quarrying of that area economically feasible.

At first, the levy was kept mowed and it was possible to drive on it. When the quarrying idea was discarded, the levy was left pretty much to itself.

I hope this will answer some of the questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Blaine Beekman", followed by a horizontal line extending to the right.

Blaine Beekman  
Executive Director

From: <TFKing106@aol.com>  
To: <NRCREP@nrc.gov>  
Date: Mon, Oct 24, 2005 12:15 PM  
Subject: Comments on Draft EIS, American Centrifuge Plant, Piketon, OH, NUREG-1834

7

Thomas F. King, PhD  
P.O. Box 14515, Silver Spring MD 20911, USA  
Telephone (240) 475-0595 Facsimile (240) 465-1179 E-mail  
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9/8/05  
70 FR 53394

Consultation, training, and textbooks in cultural resource management

Date: October 24, 2005

To: Chief, Rules Review and Directives Branch  
U.S. Nuclear Regulatory Commission  
Mail Stop T6-D59  
Washington DC 20555-0001

RECEIVED

2005 OCT 24 PM 12: 31

RULES AND DIRECTIVES  
BRANCH  
U.S. NRC

Via email to \_NRCREP@nrc.gov\_ (mailto:NRCREP@nrc.gov)

I write to comment on your draft Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, NUREG-1834, published in August 2005 (hereinafter, DEIS). These comments are transmitted electronically to the NRC at its specified email address on October 24, 2005, within the comment period specified in the DEIS. My comments will be restricted to the manner in which the DEIS addresses "cultural resources." My qualifications for offering the comments I do are outlined in the attached resume.

Qualifications of EIS analyst:

The list of preparers given on pages 10-1 through 10-3 identifies only one individual as responsible for the analysis of impacts on "historic and cultural resources." That individual, Dr. Polly McW. Quick, is to my knowledge a specialist in the prehistoric archaeology of central California, who according to promotional literature from her employer, ICF Consulting, has in the last 30 years worked primarily on environmental remediation programs and development projects in Iceland, Brazil, Costa Rica, and California. Please explain the basis upon which she is regarded as qualified to analyze the impacts of the American Centrifuge Plant on prehistoric and historic "cultural resources" in Ohio.

Section 3.3:

This section begins with a definition of the term "cultural resources." This is an important definition, since it limits the range of phenomena upon which impacts are analyzed. Please explain the basis for this definition, whose source is not cited and which I do not believe is based on any United States or international guidance. Please note the concerns expressed and recommendations provided by UNESCO in its Convention for the Safeguarding of the Intangible Cultural Heritage -- 2003.

Near the bottom of page 3-5 the review process under Section 106 of the National Historic Preservation Act is inaccurately characterized as a process "done in consultation with the State Historic Preservation Officer;" later, passing reference is made to "provid(ing) Indian tribes the opportunity to

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Call = M. Blavin's (AIRBL)

SISP Review Complete

Template = ADM-013



identify concerns." In fact, the Section 106 regulations (36 CFR 800) make it abundantly clear that the process is done in consultation with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officers, Indian tribes, and other interested parties. The NRC staff seems to have difficulty understanding that the regulations require actually communicating with, listening to, and discussing the concerns of interested parties; the failure to engage in such consultation is at the heart of the DEIS' inadequacies. Please re-read the Section 106 regulations and relevant guidance from the Advisory Council on Historic Preservation and the Secretary of the Interior, and recast your discussion to accurately reflect their direction.

On page 3-6, the DEIS discusses an "area of potential effects" (APE) defined by the NRC staff for the project. This APE appears to be based solely on the potential for direct and selected indirect physical effects. I see no evidence that direct or indirect visual, auditory, olfactory, or other non-physical effects were given any consideration, nor do I see any evidence that cumulative effects on "cultural resources" of any kind were considered, in defining the APE. Please reconsider your APE with reference to all types of potential effects.

The discussion of historic properties that takes up the remainder of this section is overwhelmingly weighted toward specific archaeological sites and historic structures. Particularly given the proximity of the project site to the Scioto Township Works, and the extensive cultural landscape modifications represented by such earthworks, it seems strange that so little consideration seems to have been given to cultural landscapes, and to relict landforms that may reflect such landscapes amid the damage caused to the area in the past by the DOE Reservation. Please consider attempting a more coherent, landscape-based approach to analysis of the area's historic properties.

On page 3-9 we are told that unidentified "(i)nvestigat0rs" determined that 22 of the 36 previously unidentified archaeological sites "did not meet National register eligibility criteria." Upon what basis or bases were these determinations made, and how were the "investigators" qualified to make them? How were Indian tribes and other interested parties consulted in the course of these evaluations? The same questions pertain to the evaluation discussed in the final paragraph on this page.

Please explain how NRC has completed its responsibilities under the Archaeological and Historic Preservation Act of 1974 (16 USC 469-469c-2) with respect to the individual archaeological sites discussed in this section, and with respect to the prehistoric cultural landscape of which they are arguably parts.

How were interested parties consulted during the evaluation of the Gaseous Diffusion Plant discussed on page 3-10?

Section 3.3.4 on page 3-10 mentions in passing that the Barnes House, adjacent to the project area, is associated with the location where the last passenger pigeon was reportedly killed. This suggests that this representative of a famous species that figured significantly in American conservation history may have been killed within or near the project area, but I see no evidence that this possibility was in any way considered in your analysis. Clearly, the landscape within which the last passenger pigeon was killed would very likely be eligible for inclusion in the National Register of Historic Places. Please address this possibility, and the possible impacts of the project on this landscape.

The discussion of the Barnes House is confusing. If it is adjacent to the boundary of the reservation, it would seem that it must be subject to at least possible visual, auditory, or other non-physical effects, and impacts on its use, if not long-term physical impacts. Please explain why NRC has not evaluated its eligibility for the National Register, and considered possible effects on it. What is the relevance of the SHPO's recommendation to the property owner regarding nomination to the National Register?

Section 3.3.5 indicates that the Absentee Shawnee Tribe has indicated a concern about the Scioto Township Works and perhaps other earthworks in the area, but I see no evidence that the Tribe has been consulted about this concern. There are copies of letters to various tribes appended to the DEIS (Appendix B), but these do not represent consultation; they merely inquire about whether the tribes have "specific knowledge of any sites that you believe have traditional religious and cultural significance." Please review pertinent guidance from the Advisory Council on Historic Preservation, the National Register of Historic Places, and the U.S. Environmental Protection Agency's Interagency Native American Environmental Justice Task Force, and explain your consultation with with potentially concerned Indian tribes with reference to such guidance.

The purpose of Section 3.3.6 is unclear. Please explain what information this section, as opposed to those preceding it, is supposed to convey. Please explain what you mean by a "potential historic property." What property is NOT "potentially" historic?

Section 4.2.3:

The highlighted text at the top of page 4-5 further describes the APE as NRC has defined it, but provides no justification for it, and like the previous description appears to deny the possibility of any kind of other-than-physical impact. Please reconsider your APE definition with reference to contemporary best practice.

Section 4.2.2.1 first suggests that various activities could have effects on historic properties by destroying or altering contributing elements of the Gaseous Diffusion Plant, but then vaguely implies that such effects will be "properly controlled" and hence will have "no effect." This is not a possible determination under the Section 106 regulations. The regulations permit "conditional" determinations of "no adverse effect," but not conditional determinations of "no effect" (strictly speaking, determinations of "no historic properties subject to effect"). IF you have actual procedures to put in place, developed in consultation with the SHPO and other interested parties, by which to "properly control" damage or destruction of historic properties and their elements, then perhaps you can determine that there will be no adverse effect, but not no effect. Please re-read 36 CFR 800.5 and reconsider this section.

The next paragraph is even vaguer about NRC's determination with respect to the archaeological sites, and continues to express total ignorance of any cultural landscape values or traditional cultural values that may be ascribed to the landscape by Indian tribes or others. Again, please review pertinent regulations and guidance and reconsider this paragraph.

At the top of page 4-6 the NRC staff concludes that there will be no effect

on the Scioto Township Works, but it does so (a) without any clear definition of the actual boundaries of the Works or their possible relationship to other cultural landscape features, and (b) without any consultation with the Absentee Shawnee or other tribes that may (and in the case of the Absentee Shawnee, say they do) ascribe cultural significance to the Works and other landscape features in the area. As requested above, please review pertinent Advisory Council, National Register, and EPA guidance and reconsider this casual dismissal of effects on the site.

The next paragraph, on the Barnes House, is equally peculiar. Here we have NRC confidently asserting that the Barnes House may be eligible for the National Register only under National Register Criteria A and C, and casually assuring the reader that the project cannot affect the attributes that may make it eligible under these criteria, when it has provided no evidence that it has performed any sort of analysis of the Barnes House's eligibility -- suggesting instead that it is the property owner's responsibility to nominate the place to the National Register. As far as I can tell, you have developed no basis whatever to say anything about the eligibility of the Barnes House, the elements that may contribute to that eligibility, or the effects of the project (direct, indirect, or cumulative) on such elements. Please develop such a basis, in consultation with interested parties and in a manner consistent with pertinent guidance, and try again.

Section 4.2.2.2 seems to be predicated on the assumption that the only possible "indirect" effects of facility operation would be vandalism by workers within the facility boundaries. Please explain the rationale for this assumption. Will there be no other long-term indirect or cumulative effects on the local environment that might alter historic properties? Why should vandal workers stay within the fence? Why does NRC staff consider only the "information values" of the Scioto Township Works, considering that the Absentee Shawnee Tribe, at least, has indicated concerns that may well go beyond information values?

Throughout this section, potential impacts are referred to as "SMALL." What does this mean with reference to (a) the significance of impacts under NEPA and (b) the criteria of adverse effect found in 36 CFR 800?

Section 4.2.9:

This section, on environmental justice, gives no consideration whatever to disproportionate adverse environmental impacts on the cultural interests of such minority (and probably low-income) groups as the Absentee Shawnee and other tribes. Please review pertinent EPA guidance and address these impacts.

Section 4.3:

This section, on cumulative impacts, is notable for its utter lack of treatment of effects on historic properties or any other kinds of "cultural resources." This is particularly striking considering that the reservation on which the project is proposed has clearly had very serious impacts on the cultural landscape of which the Scioto Township Works are a part. A cumulative impact analysis is supposed to consider the effects (even the "SMALL" effects) of the project under review in the context of other past, present, and reasonably foreseeable future actions. Serious impacts on the cultural character of the area that includes the project APE (however defined) have obviously taken place in the past; they may be going on in the present, and what the future

holds remains to be analyzed. Please address the cumulative impacts of the project on cultural resources of all kinds, notably including historic properties.

#### Appendices

Appendix B contains several form letters to Indian tribes asking them about "specific knowledge of any sites" that they believe "have traditional religious and cultural significance." The text indicates that the Absentee Shawnee reported knowledge of such a site -- the Scioto Township Works -- though the documentation expressing this concern, supposed to be in Appendix B, is not there. In any event, the letters do not reflect any sort of real consultation with the tribes; they are mere formletters that do not seem to have been followed up in any way. Please review the findings of the Tenth Circuit Court of Appeals in *Pueblo of Sandia v. United States*, 50 F.3d 856 (10th Cir. 1995), as well as pertinent Advisory Council, National Register, and EPA guidance, and initiate real consultation with tribes.

Appendix B also includes correspondence with the SHPO in which the SHPO suggests a variety of representations, studies and consultations that NRC should undertake. It is not clear what, if anything, NRC has done in response to these suggestions.

Appendix B also contains a letter to the Advisory Council on Historic Preservation in which NRC mentions, rather in passing, that it intends to "use the NRC's NEPA review processes for Section 106 purposes," and later indicates that the former will be used "in lieu of" the latter. This suggests an attempt by NRC to comply with 36 CFR 800.8(c) and substitute its NEPA compliance for completion of standard Section 106 review, but NRC has done virtually none of the things that 36 CFR 800.8(c) requires in order to effect such a substitution. It has notified the Advisory Council of its attempt to substitute, but I see no evidence that it has similarly notified the SHPO. The notification to the Advisory Council came only very late in the NEPA process, and in such a stealthy way (a short, vague paragraph buried in the middle of a longer missive) that it is easy to imagine the Council misunderstanding its intent. More importantly, NRC has engaged in virtually none of the consultation with interested parties required by 36 CFR 800.8(c), and there are, as indicated above, many questions about the quality of its efforts to identify and address historic preservation issues. I strongly suggest that you abandon your attempt to substitute your NEPA compliance for standard Section 106 review, and initiate proper consultation with all concerned parties in accordance with 36 CFR 800.4.

Beyond properly complying with Section 106 of the National Historic Preservation Act, I suggest your attention to Section 110(d) of the same statute, to the requirements of the Archaeological and Historic Preservation Act of 1974, the American Indian Religious Freedom Act, the Native American Graves Protection and Repatriation Act and its implementing regulations (43 CFR 10), Executive Order 13175, and Executive Order 13352, and to the requirement of 40 CFR 1508.27(b)(3) and (8) that effects on cultural resources -- NOT only National Register eligible historic properties -- be considered in determining the significance of environmental impacts.

The overwhelming impression conveyed by the DEIS with respect to "cultural resources" is one of ignorant dismissal. It appears that the NRC staff and the DEIS authors have convinced themselves that there will be no impact on

anything of importance, and has then written the DEIS to demonstrate that this is the case. The demonstration, however, is a perfectly amateurish one. I devoutly hope that the DEIS is not similarly flawed with respect to other kinds of environmental impacts; if it is, it would speak very poorly for NRC's attention to its responsibilities toward the public and the environment.

Thank you for the opportunity to comment; I look forward to your responses.

Sincerely,

Thomas F. King, PhD

cc: OH SHPO  
ACHP  
National Trust for Historic Preservation  
Geoffrey Sea

CC: <tmcculloch@achp.gov>, <Betsy\_Merritt@nthp.org>, <dsnyder@ohiohistory.org>, <SargentsPigeon@aol.com>

**Mail Envelope Properties (435D0881.9CE : 16 : 47566)**

**Subject:** Comments on Draft EIS, American Centrifuge Plant, Piketon, OH, NUREG-1834  
**Creation Date:** Mon, Oct 24, 2005 12:14 PM  
**From:** <TFKing106@aol.com>  
**Created By:** TFKing106@aol.com

**Recipients**

nrc.gov  
twf2\_po.TWFN\_DO  
NRCREP

aol.com  
SargentsPigeon CC

ohiohistory.org  
dsnyder CC

nthp.org  
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**Options**

**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:**  
**Security:**

**No**  
**Standard**

**Thomas F. King, PhD**

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**Cultural Resource Impact Assessment and Negotiation, Writing, Training**

**Employment**

*Presently:* Private consultant, educator, writer, facilitator in cultural resource management and environmental review; Trainer/Consultant, SWCA Environmental Consultants; Archeologist, The International Group for Historic Aircraft Recovery Amelia Earhart Project. Member, Sussex Archaeological Executive, advising the Government of Great Britain regarding archaeological recovery of HMS *Sussex* off Gibraltar.

*Formerly:* Senior Instructional Consultant, National Preservation Institute. Expert consultant to U.S. General Services Administration, program director for Advisory Council on Historic Preservation, Consultant to the High Commissioner, Trust Territory of the Pacific Islands, Archeologist with the National Park Service, consulting archeologist, head of archeological surveys at San Francisco State University, UCLA, University of California Riverside.

**Education**

*PhD*, University of California, Riverside, Anthropology, 1976.  
*BA*, San Francisco State University (then College), Anthropology, 1968.  
*Certificate: Mediator*, Bowie State University Center for Alternative Dispute Resolution, 1997.

**Recent and current Clients**

*Government Agencies:* Bureau of Land Management California State Office; Bakersfield Field Office; USDA Forest Service. USDA Farm Service Agency, U.S. Fish and Wildlife Service. U.S. Navy, U.S. Air Force, U.S. Army, Federal Aviation Administration. Grand Canyon Monitoring and Research Center. City of Newport News, Virginia.

*Indian Tribes and Organizations:* Klamath River Intertribal Fish and Water Commission; Mole Lake Sokaogon Community of Lake Superior Chippewa Indians; Bad River and Red Cliff Bands of Lake Superior Tribe of Chippewa Indians. Hualapai Tribe. Quechan Indian Nation. Round Valley Indian Tribes. Penobscot Tribe.

*Private Sector:* Blythe Energy Corp., Cingular Wireless. Odyssey Marine Exploration.

*Non-profit organizations:* National Preservation Institute.



## **Thomas F. King: Courses Taught**

Short courses for SWCA Environmental Consultants, National Preservation Institute, University of Nevada, Reno, General Services Administration, Advisory Council on Historic Preservation, Environmental Protection Agency, National Park Service, and Department of Defense in cultural resource law and policy, Section 106 review, National Environmental Policy Act implementation, identification and protection of traditional cultural properties, Native American consultation, environmental justice, conflict resolution, and related subjects.

## **Thomas F. King: Publications (Selected)**

### ***Books and Monographs***

- *Doing Archaeology: a Cultural Resource Management Perspective.* Left Coast Press 2005.
- *Cultural Resource Laws and Practice: An Introductory Guide.* AltaMira Press 2004 (First edition 1998)
- *Amelia Earhart's Shoes.* With R. Jacobson, K. Burns, and K. Spading. AltaMira Press, 2004 (First edition 2001).
- *Places that Count: Traditional Cultural Properties in Cultural Resource Management.* AltaMira Press 2003
- *Thinking About Cultural Resource Management: Essays From the Edge.* AltaMira Press 2002.
- *Federal Projects and Historic Places: the Section 106 Process.* AltaMira Press, 2000
- *Piseken N66mw N66n Tonaachaw: Archeology in the Tonaachaw Historic District, Moen Island, Truk.* With P.L. Parker, Southern Illinois University, Carbondale and Micronesian Archeological Survey, Saipan 1984.
- *Anthropology in Historic Preservation.* With P.P. Hickman and G. Berg, Academic Press, New York 1977.
- *The Archeological Survey: Methods and Uses.* Interagency Archeological Services, Heritage Conservation and Recreation Service (National Park Service), Department of the Interior, Washington DC 1977 (Republished 2003 by California Division of Forestry).

### ***Articles***

- Considering the Cultural Importance of Natural Landscapes in NEPA Review: The *Mushgigamongsebe* Example. *Environmental Practice* 5:4, Oxford University Press, 2003
- "I Learned Archaeology From Amelia Earhart: Using a Famous Mystery to Teach Scientific Methods." In *Strategies for Teaching Anthropology*, 3<sup>rd</sup> Edition, Patricia Rice and David McCurdy, eds., Prentice Hall, New York; 2003..
- "Cultural Resources in an Environmental Assessment Under NEPA." *Environmental Practice* 4(3):137-144, National Association of Environmental Professionals, September 2002.

- "Historic Preservation Laws" in *Encyclopedia of Life Support Systems*. EOLSS Publishers for UNESCO, 2002.

*Articles (continued)*

- "What Should Be the 'Cultural Resources' Element of an Environmental Impact Assessment?" *Environmental Impact Assessment Review* 20(2000):5-30, 2000.
- "Archaeology in the Search for Amelia Earhart." With Richard Gillespie. In *Lessons from the Past: An Introductory Reader in Archaeology*, Kenneth L. Felder, ed., Mayview Press, Mountain View CA, 1999
- "How the Archeologists Stole Culture: a Gap in American Environmental Impact Assessment and What to Do About It." *Environmental Impact Assessment Review*, January 1998.
- "The Nature and Scope of the Pothunting Problem." In *Protecting the Past: Readings in Archaeological Resource Management*. J.E. Ehrenhard and G.S. Smith, eds., The Telford Press, Caldwell NJ 1991.
- "AIRFA and Section 106: Pragmatic Relationships." In *Preservation on the Reservation*, A. Klesert and A. Downer, eds., Navajo Nation Publications in Anthropology 26, Window Rock 1991.
- "Prehistory and Beyond: The Place of Archeology" In *The American Mosaic: Preserving a Nation's Heritage*. R.E. Stipe and A.J. Lee, eds., US/ICOMOS, Washington DC, 1987.
- "Intercultural Mediation at Truk International Airport." With P.L. Parker. In *Anthropological Praxis: Translating Knowledge Into Action*. R.W. Wulff and S.J. Fiske, eds., Washington Association of Professional Anthropologists, Westview Press, Boulder 1987.
- "The Once and Future Drought." *American Archeology* 5:3:224-8, Ridgefield, CT 1985
- "Professional Responsibility in Public Archeology." *Annual Review of Anthropology* 12, Palo Alto 1983.
- "Recent and Current Archeological Research on Moen Island, Truk." With P.L. Parker. *Asian Perspectives* xxiv(1):11-26, Honolulu 1981.
- "The NART: A Plan to Direct Archeology Toward More Relevant Goals in Modern Life." *Early Man*, Evanston, winter 1981.
- "Don't That Beat the Band? Nonegalitarian Political Organization in Prehistoric Central California." In *Social Archeology*, C. Redman, Editor, Academic press, New York 1978.
- "The Evolution of Complex Political Organization on San Francisco Bay". In *'Antap: California Indian Political and Economic Organization*. L.J. Bean and T.F. King, eds., Ballena Press, Ramona, CA 1974.

**Government Guidelines and Regulations**

- Regulations, guidelines, and plain-language brochures on environmental and cultural resource management, NEPA review, Section 106, and related topics, for Department of Agriculture Farm Service Agency (FSA) (unattributed, with FSA NEPA and Cultural Resource staff). FSA, 2004.

***Government Guidelines and Regulations (Continued)***

- **Orders, Guidelines, and Fact Sheets: Cultural Resource Management, Floodplain Impact Management, Wetlands Impact Management, Federal Real Property Disposal, Archeological Collections Management, Indian Sacred Sites Management, Historic Document and Artifact Management, Environmental Justice, and Social Impact Assessment** (unattributed, with GSA NEPA Call-In Staff). General Services Administration, Washington DC, 1998.
- **NEPA Desk Guide** and related orders (unattributed, with L.E. Wildesen and GSA Environmental Quality Working Group). General Services Administration, Public Buildings Service, Washington DC, 1997.
- **Guidelines for Evaluating and Documenting Traditional Cultural Properties.** With P.L. Parker. National Register Bulletin 38, National Register of Historic Places; National Park Service, Washington DC, 1990
- **Preparing Agreement Documents.** Advisory Council on Historic Preservation, Washington DC, 1989.
- **Public Participation in Section 106 Review: a Guide for Agency Officials.** Advisory Council on Historic Preservation, Washington DC 1989.
- **Identification of Historic Properties: a Decisionmaking Guide for Managers.** Advisory Council on Historic Preservation and National Park Service, Washington DC 1988.
- **The Section 110 Guidelines: Guidelines for Federal Agency Responsibilities Under Section 110 of the National Historic Preservation Act.** With S.M. Sheffield. 53 FR 4727-46, National Park Service, Washington DC 1988
- **Regulations for the Consideration and Use of Historic and Cultural Properties** (Unattributed). Commonwealth of the Northern Mariana Islands Historic Preservation Office, 1983
- **Treatment of Archeological Properties: a Handbook.** Advisory Council on Historic Preservation, 1980.

***Popular***

- "Archaeology and the Fate of Amelia Earhart." *About.com*, June 2005. [http://archaeology.about.com/od/pacificislands/a/king\\_ae.htm](http://archaeology.about.com/od/pacificislands/a/king_ae.htm)
- "Amelia Earhart: Archaeology Joins the Search." *Discovering Archaeology* 1:1:40-47, El Paso; January-February 1999
- "Sea Changes: 14th Century Micronesia." *Glimpses of Micronesia and the Western Pacific* 25:1, Honolulu 1985.
- "Tonaachaw: a Truk Village Rediscovered its Past." With P. Parker. *Glimpses of Micronesia and the Western Pacific* 21:4, Honolulu 1982.
- "How You Can Help the Archeologists." *Boys Life*, Boy Scouts of America, 1971.

***Other***

- Videotapes on "historic contexts" and "traditional cultural properties," for National Park Service
- "E-Book" environmental review software, for General Services Administration
- "NEPA for Historic Preservationists and Cultural Resource Managers," worldwide web pages for National Preservation Institute.

From: <SargentsPigeon@aol.com>  
To: <mx66@nrc.gov>, <nrcprep@nrc.gov>  
Date: Thu, Oct 27, 2005 9:58 AM  
Subject: USEC DEIS Comments

09/08/05

70FR53396

Matthew Blevins  
Nuclear Regulatory Commission

Dear Mr. Blevins,

Attached are the attachments to my comments on DEIS NUREG-1834.

13

I've had two problems. One is getting the file to transmit given the large file size. I've been trying to send most of the night but as I have a dial-up connection only, it's very difficult and keeps quitting. Please be understanding.

Second, I have two other imposing deadlines this week....the appeal of the ASLB ruling in the USEC case was due Monday and new contentions as per the ASLB ruling are due very shortly. I did call on Monday and received an extension but am afraid it will take another day to get my full comments in. Attached are the attachments only, not the text. If for some reason you cannot accept the text, I still wish the attachments submitted...they are self explanatory as they contain mainly letters from others pertaining to historic and cultural resource issues.

I will send the text ASAP.

You will note that the first item is a DEIS comment from Professor Robert Proctor at Stanford. Unfortunately, Dr. Proctor made the mistake on Monday of e-mailing his comment to me instead of to NRC, and I did not realize it until Tuesday, when he was already on a plane to Germany. Therefore please accept his testimony as timely. His e-mail address is included. Other contact info. can be provided if necessary.

Thanks for your consideration,

Geoffrey Sea  
The Barnes Home  
P.O. Box 161  
Piketon, OH 45661  
Tel: 740-289-2473  
Cell: 740-835-1508  
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Call = M. Blevins (MX66)

**Mail Envelope Properties (4360DD02.3F3 : 16 : 58355)**

**Subject:** USEC DEIS Comments  
**Creation Date:** Thu, Oct 27, 2005 9:57 AM  
**From:** <SargentsPigeon@aol.com>

**Created By:** SargentsPigeon@aol.com

**Recipients**

nrc.gov  
twf2\_po.TWFN\_DO  
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MXB6 (Matthew Blevins)

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**Route**

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**Files**

Files	Size
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TEXT.htm	4494
Attachments to NRC DEIS Comments.doc	
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**Date & Time**

Thursday, October 27, 2005 9:57 AM

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**Options**

**Expiration Date:** None  
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**Reply Requested:** No  
**Return Notification:** None

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**Security:** Standard

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consultant, author of four books on federal preservation including *Federal Planning and Historic Places: the 106 Process*, dated March 30, 2005.

12. Exhibit W. Letter from Chief Hawk Pope, Shawnee Nation, United Remnant Band, undated, received March 29, 2005.

13. Declaration by John Hancock, Frank L. Cowan, and Cathryn Long Regarding August 5, 2005 Visit to GCEP Water Field

14. Photographs in order: 1. The Barnes Home close-up, 2. The Barnes Home landscape 3. Surviving remnant of the Barnes Works, 4. View of the Scioto River at the point where the creek of the Barnes Works joins it, which USEC and NRC say "is not a scenic river" 5. The kill-site of the Sargents Pigeon (remnants of the home where Press Clay Southworth lived in 1900)

15. Photograph of ACP Buildings across fence-line of Barnes Home property (previously provided.)

**Comment on the Draft Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio**

**By Robert N. Proctor, PhD.**

**Submitted Oct. 24, 2005**

I am Professor of the History of Science at Stanford University, and a tenured member of the faculty of the History Department at that University. I hold a doctoral degree in the History of Science from Harvard University and am the author of four books on the history of science, dozens of articles in peer-reviewed academic journals, including historical, scientific, and medical journals. I have won several prizes for my academic scholarship, including the Viseltear Prize from the American Public Health Association and the American Anthropological Association. I have held fellowships from the Guggenheim Foundation, the National Science Foundation, the National Institutes of Health, the Holocaust Memorial Museum in Washington, D.C., the Max Planck-Institute for the History of Science in Berlin, the National Library of Medicine, the Howard Foundation, the Hamburg Institute for Social Research in Germany, the National Center for Human Genome Research, the National Endowment for the Humanities, the Center for Advanced Study in the Behavioral Sciences at Stanford, the American Council of Learned Societies, the Andrew Mellon Foundation, the Woodrow Wilson Foundation (Charlotte W. Newcome Fellow), and the Shelby Cullom Davis Center for Historical Studies at Princeton University. I am also an elected Fellow of the American Academy of Arts and Sciences, the oldest scientific academy in the U.S., founded in 1780 by John Adams, John Hancock, and other American scholar-patriots.

I have visited the Piketon facility and am familiar with the historic and cultural value of the overall site, and the history of the uranium enrichment processes that have been operated there since the 1950s. I am also familiar with the work and writings of Mr. Geoffrey Sea, resident in the Barnes Home in Sargents, Ohio. I have reviewed the "Historic and Cultural Resources" section and the corresponding "impacts" and "alternatives" sections of the Draft Environmental Impact Statement for the facility.

I want to briefly note here my disappointment with the NRC assessment of the potential historical and cultural impacts of the proposed centrifuge facility. The report repeatedly states that the expected impacts to historical and cultural resources of the proposed facility are "small," "insignificant," negligible," etc., when in fact we can expect the impact to be very significant.

Historians in recent years have become increasingly aware of the importance of preserving the integrity of historic and prehistoric sites, this includes protection of such sites in their landscape settings from noise, visual insults, traffic, access obstacles, commercial development, intrusion from physical and electronic security, threats to the safety of visiting members of the public, "aesthetic" or psychological impacts that might discourage tourism, and many other factors, and these concerns have been reflected in strengthened federal legislation and regulation starting with the 1966 National Historic Preservation Act. Sites such as Gettysburg and other parks valued for their historical significance have resisted efforts to compromise such values, and here, in Piketon, we have an instance where there is a threat of significantly



compromising unique historical and cultural values by going ahead with construction, operation and eventual decommissioning of the centrifuge facility.

In his published writing, with a rather unique literary style, Geoffrey Sea exemplifies a certain model of history that sees historical persons and events as interwoven over long spans of time. The locale of what used to be called Sargents, Ohio, has become a model for his analysis, and an ideal one, for the various individual locations in close proximity in Sargents weave together in that seamless fabric we call history.

Historians will be troubled by the shallow and cavalier treatment offered by NRC Staff's assessment of the impact of this proposed plant on historical and cultural resources. The site of the last passenger pigeon slaying and the Barnes family experience and homestead, together with the important earthworks, and the recently-closed Gaseous Diffusion Plant could be part of an important public historical site with both educational and recreational value. The integrity of this site must be protected for future generations; indeed it is precisely the kind of site our preservation laws are designed to protect.

The Barnes Home is at the center of this matrix, for the Barnes family brought to world attention the enormous prehistoric earthwork complex to the west of the house, which became known as the Barnes Works. South of the home is the kill-site of the last known wild passenger pigeon, which was mounted in the home. North is the Sargent Home, which was occupied by a family that married into the Barnes clan and brought Abraham Lincoln in to view the earthworks. East of the home is the centrifuge plant, close to the excavated site of a burial mound that became a waste pit for the Department of Energy; and the X-326 building, which has historic value as America's only dedicated facility for the production of bomb-grade uranium.

It makes no sense to analyze these locations individually, as is done in the DEIS, neglecting some of them entirely, at each step blind to the historic panorama that links and surrounds. That's an approach that intends to be dismissive of discovered impacts, and dismiss them it does, cutting the historical matrix into little segregated insignificant bits.

For example, the earthwork discovered at the Well Field site is considered separately from discussion of the Scioto Township Works (Barnes Works), even though a glance at the map and a consideration of known Hopewell patterns of construction leads to a reasonable conclusion that these once were connected. (Eminent historian Roger Kennedy has in fact suggested that they were connected and that the Great Hopewell Road extended through the Barnes Works in his book, *Hidden Cities: The Discovery and Loss of Ancient North American Civilization*, Free Press, 1994.)

Too, there is no suggestion from the DEIS that the Barnes Home and the Barnes Works have any connection whatsoever, as absurd as this segregation is on its face. The DEIS enforces this segregation by using the term "Scioto Township Works" – though "Barnes Works" was the name used in the last extensive survey and description by Gerard Fowke in *The Archaeological History of Ohio*. The name "Barnes Works" is also least confusing since the historical name, "Seal Township Works," no longer corresponds to the township jurisdiction.

NRC apparently would not like to acknowledge that the building where bomb-grade uranium was produced and the extinction of the passenger pigeon might have any connection. But they are connected, and that connection served as the basis for Geoffrey Sea's long meditation on extinction and survival published in the *American Scholar*, "A Pigeon in Piketon." At the end of that piece, which was published before USEC chose Piketon as site for its centrifuge plant, Mr. Sea proposed that the X-326 building, now awaiting decommissioning, be

dedicated as a monument to the passenger pigeon.

This is a serious proposal for a number of reasons. First, there is no national memorial to the passenger pigeon, though the species was the most abundant vertebrate species on the continent and its passing is considered to be the exemplar of man-made extinction. The famous ecologist Aldo Leopold erected an extraordinary monument at the site of the last passenger pigeon kill in Wisconsin. A national monument rightfully should be located at or near the last kill site of all, in Sargents. Arguably it has not happened only because that location was not precisely known. But now Mr. Sea has found it, within a mile or two of X-326 and the Barnes Home, and that is of paramount importance to environmental history.

Second, there are no current plans for the X-326 building, which may not be easily demolished owing to the high degree of radioactive contamination inside. Entombment of the building might be the only technically viable and cost-effective solution, and if safe entombment can serve the larger purpose of a national monument, as a structure to spur reflection upon the folly and avarice of Man, so much the better. That is the essence of Mr. Sea's proposal, as was perhaps anticipated by Aldo Leopold when he wrote, in 1949, in *A Sand County Almanac*, of human superiority lying in our capacity to remember and mourn the passenger pigeon, "rather than...in Mr. Vannevar Bush's bombs."

Remembrance and memorial are at the vanguard of historical thinking and historical preservation at the moment. I have served as an advisor to the Holocaust Museum, which set the trend, and there is now an active program, sponsored in part by the Department of Energy, to memorialize the cold war and Manhattan Project sites around the nation. Mr. Sea's proposal should be analyzed in the context of this program.

Which obviously is inconsistent with licensing and completion of USEC's centrifuge plant. The USEC plant would sit in between the Barnes Home and the X-326 building, physically obstructing the possibility of connecting these locations as a memorial site and visitor attraction. How on earth can that be considered as minimal impact?

The potential for a historical landmark site that encompasses the kill-site of the Sargents Pigeon, the Barnes Works, the Sargent and Rittenour homes, and the X-326 building – with the Barnes Home at its center – is great. But only if there is no centrifuge plant at the middle of it, obstructing passage with security fences, scaring visitors away with the potential for catastrophic events and toxic releases, obviating the memorial message that we have learned our lesson to overcome folly and greed.

The building and operating of a uranium enrichment plant right over the fence-line from the Barnes Home will severely impact prospects for a public center to develop this as a place for education, tourism, and long term commemoration. Archaeologists here at Stanford and elsewhere are developing models for how this can be done at sites designated by UNESCO as being of historic significance.

Threats to this integrated set of sites from construction of the centrifuge plant are of several types, including (but not limited to): fences; roads; traffic; security surveillance (including security gates and closed access to some roads); restrictions on movement; diminishment of attractiveness to visitors; risk of terrorist attack (keeping people away); compromises from noise; diminishment of the aesthetics of the site, public worries (real or justified) to the dangers of uranium enrichment near such a site, just to name a few; vulnerability of buildings, land and people to catastrophic accidents, toxic emissions and potential damage from decontamination activities. The USEC report does not grapple with the potential impacts in

a way that is historically responsible.

There is no evidence from the DEIS that NRC actually studied these impacts on-site, only that lots of papers were shuffled to rule out impacts by fiat of definition. For example, did NRC staff visit the Barnes Home to see if the ACP site activities could be heard at night? (Mr. Sea reports they can.) Did NRC staff visit the Barnes Home at all, or the kill site of the Sargents Pigeon, or the Sargent Home? (Apparently not.) Did NRC consult any experts on the development of historic commemoration sites? (Apparently not.)

The DEIS contains another fundamental flaw in its approach to assessing impact in that it compares life with the centrifuge plant to life as it exists today. If this were a green-field site, that would be a proper approach, because, if the plant were not built, the green-field would continue on as is, as far as we know.

In this case, however, the massive Gaseous Diffusion Plant on the site has just shut down. The site is now maintained by DOE as a production site, with all the attendant apparatus of infrastructure and security, in anticipation of USEC's plant. Thus it is a tautology that the centrifuge plant will have little impact on a site already in preparation for a centrifuge plant.

But if the plant is not licensed and built, then the site will not be a DOE production site any longer. It would revert to cleanup, environmental restoration, and alternative use, as has occurred at other closed DOE production plants like Fernald and Rocky Flats. Site ownership would pass from DOE to the Department of Interior, and DOI would implement a mixed-use development plan for the site as it has done elsewhere. That near future must be the baseline for comparison in any impact assessment, under both NEPA and NHPA.

Substantial potential exists for the development of historical attractions, tourism, and sites of economically sustained commemoration at Sargents. It is not true, as NRC reports, that "the impacts to historic and cultural resources identified onsite and around the site's perimeter would be small" (p. 2-38). The combination of the three historic homes of the Barnes, Sargent and Rittenour families, the Scioto River history, unique geological features, the passenger pigeon history (centered on the Barnes home), and the long-standing Native American presence--including a number of significant prehistoric earthworks--make this a site of substantial historical importance. There is an integrity to these various historical and cultural aspects taken together that is not reflected in the DEIS; these sites have to be evaluated as a whole.

I have visited the Piketon site, and have some understanding of its history and integrity. I have consulted with Mr. Sea, and have confidence in his assessment of the potential historic value of this site, and the threats posed to it by the expansion of the USEC facility. Mr. Sea has lectured at Stanford University on his research into this topic, and there is strong interest here and elsewhere in the story he has to tell. I should say that I was surprised--astounded in fact--to find his name not even mentioned in the DEIS, despite the fact that he knows more about the cultural history of this area than anyone alive. Mr. Sea has done important work evaluating the history and significance of this site, and it is absolutely essential that he be consulted in any effort to assess the potential impact of the centrifuge construction.

In conclusion, this site must be considered as an integrated whole, and should not be looked at piecemeal. Our federal preservation laws require that sites under consideration be studied for potential impacts on historical and cultural value, and the draft EIS certainly does not do an adequate job in exploring that potential impact.

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**Robert N. Proctor**  
**Professor of the History of Science**  
**Stanford University**

**e-mail: [rproctor@stanford.edu](mailto:rproctor@stanford.edu)**

Map of Historic Sites in relation to American Centrifuge Project created by Geoffrey Sea. This map shows the historic sites as they once existed in conjunction with the current and proposed buildings of the ACP. It is intentionally anachronistic to give a sense of respective locations and distances. This map has been updated on the basis of new information as of 10/24/05.

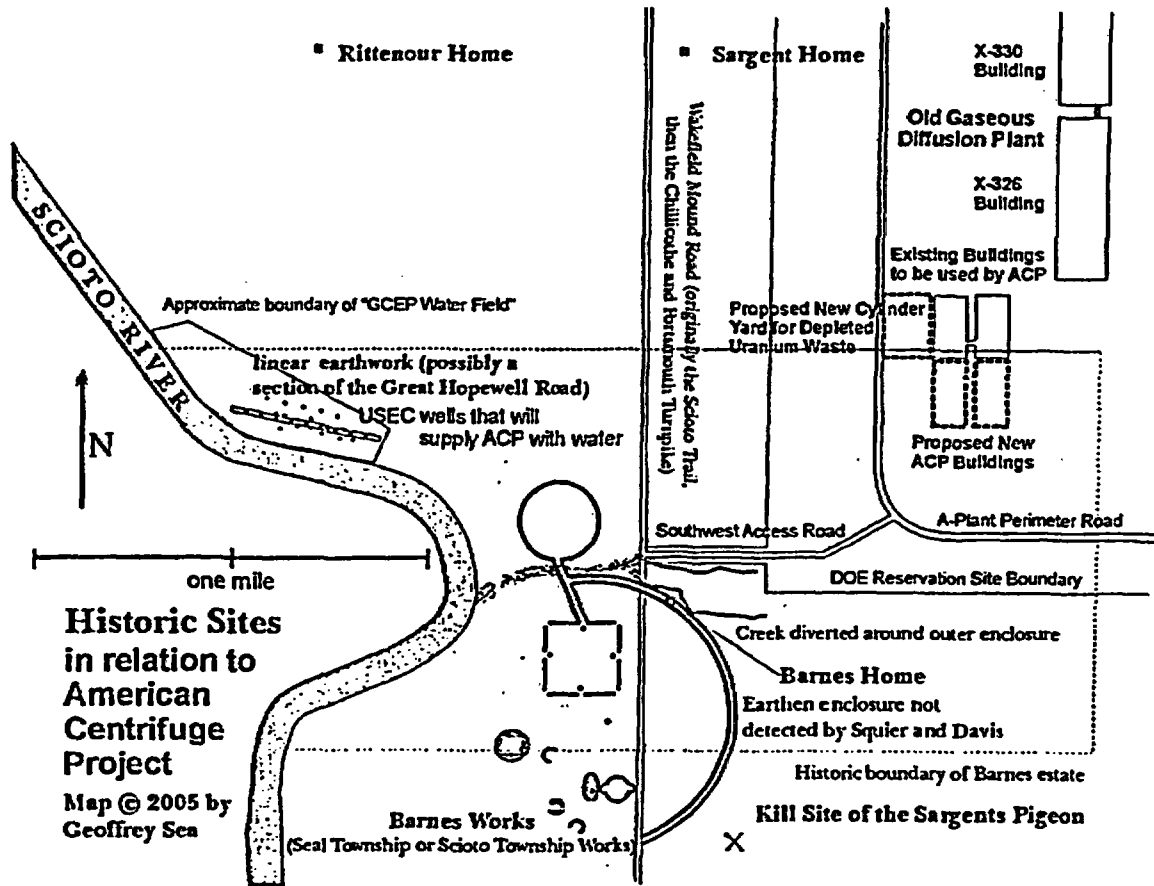


Exhibit B  
[hand-written original transmitted via facsimile]

Brookhill Farm  
2163 Scottsville Rd.  
Charlottesville, VA 22902  
27 February 2005

Nuclear Regulatory Commission

To Whom it may concern

Re: Piketon, Ohio Centrifuge Operation

As a neighboring landowner, I raise the following concerns about the expansions of the centrifuge operation at the Piketon, Ohio Plant.

1. I own the Scioto Trail Farm on State Route 23. Presently the farm is approximately 370 acres. The major portion is on the west side of State Route 23 and goes to the Scioto River.

2. The farm has been in my wife's family for generations. The Rittenours, Seargents, and Barnes were influential in the history of the Scioto Valley. From the oral history of the indian culture of the Scioto Valley, stories are told of the indian foot races along the lower portion of the farm. The historic nature of the property should qualify it for the National Historic Registry.

3. During 1966, the NHPA legislation was passed which mandated that government agencies had a moral and legal obligation to weigh the impact that projects have on historic surroundings. The government took 31.421 acres for a permanent easement in 1982. This was for a well field along the Scioto and for pipe lines and a road. Never was the NHPA legislation addressed.

4. At one time the farm was over five hundred acres. The DOE took a large portion of the farm during the early 1950s. There was a great projection on the financial benefits and jobs that would be gained with the nuclear energy project. The only thing that it did was ruin a once beautiful farming valley. There are few, if any, large landowner farmers remaining on their land. From my perspective, the plant has been a detriment and enlarging it will continue that degradation. In the process, it will destroy more Hopewell Indian relics and more of the early history of Ohio will be lost.

5. As an out of state land owner, I was not aware of the enlargement of the centrifuge plant. I would have objected earlier. This letter is written in support of Geoffrey Sea's intervention.

Sincerely,

---

Charles W. Beegle

Exhibit E. Statement of Jerome C. Tinianow, Executive Director of Audubon Ohio and Vice President of the National Audubon Society

Audubon Ohio  
692 North High Street, Suite 303  
Columbus, OH 43215-1585  
Tel: 614-224-3303  
Fax: 614-224-3305  
www. Audubon.org

February 24, 2005

Dear Friends,

I am the Executive Director of Audubon Ohio, a conservation and wildlife advocacy organization with over 14,000 members throughout the state, some of whom live in and around Pike County, Ohio. We currently have 18 past and present donors living in Piketon itself.

Audubon Ohio is the Ohio office of the National Audubon Society, a 100-year-old conservation organization with over 400,000 members nationwide. Our mission is to conserve and restore ecosystems, focusing on birds, other wildlife and their habitats, for the benefit of mankind and the Earth's biological diversity. Geoffrey Sea is one of our members.

In pursuit of our mission, Audubon Ohio and the National Audubon Society believe it is important to protect, preserve and commemorate sites that have a special place in the history of conservation and ecology. Two such sites are in Pike County, where the last passenger pigeon ever sighted in the wild was shot by Press Clay Southworth on March 22, 1900. Over the years, investigators have tried to locate the precise scene of the shooting, without success until Geoffrey Sea did find the former residence of the Southworths and the nearby Sargents Grain Mill along Wakefield Mound Road, approximately one mile south of the A-Plant southwest access road. An affiliated site is the Barnes Home at 1832 Wakefield Mound Road, where the bird was mounted and displayed between 1900 and 1915, when it was donated to the Ohio Historical Society. The specimen is now prominently displayed at the OHS Museum in Columbus.

The extinction of the passenger pigeon, once the most populous bird in the world, over the course of a single century, is generally regarded as the most important and most instructive of all extinctions made by man. That is one reason that preservation and commemoration of the Pike County sites are so crucial. The other reason is that this is the only place on earth where the slaying of the last-seen wild survivor of a species has been located. The sites should be preserved so that they can be properly marked and made available for public education. At the scene of the last passenger pigeon shooting in Wisconsin, the



great American ecologist Aldo Leopold erected a famous bronze statue. Pennsylvania also has its passenger pigeon memorial, erected by the Boy Scouts of America at Pigeon Hills. The proper place for a national memorial is in Pike County, Ohio, as proposed by Geoffrey Sea in his essay in *The American Scholar*.

John James Audubon himself was moved to conservation activism by his witness of pigeon hunts, and his description of them stands as one of the earliest and most compelling bits of ecological writing. Audubon described a raid on a nesting of passenger pigeons this way:

"The tyrant of the creation, man, interferes, disturbing the harmony of this peaceful scene. As the young birds grow up, their enemies, armed with axes, reach the spot, to seize and destroy all they can. The trees are felled, and made to fall in such a way that the cutting of one causes the overthrow of another, or shakes the neighbouring trees so much, that the young Pigeons, or squabs, as they are named, are violently hurried to the ground. In this manner also, immense quantities are destroyed." (John James Audubon, *Bird Biographies*, "The Passenger Pigeon.")

The proposed construction and operation of a uranium enrichment plant at the southwest corner of the Department of Energy reservation would impact these historic sites and potential future projects in a number of ways. The location of the new enrichment plant borders on the Barnes Home property, and some of the land was originally taken from the Barnes estate. Safety and environmental fears, along with the conspicuous security regime, if not crafted with sensitivity to the historic importance of the neighboring property, could certainly deter public visitation to and appreciation of the historic sites.

The National Historic Preservation Act provides mechanisms for averting and ameliorating such impact. Unfortunately, the Department of Energy has not complied with its obligation to implement the various provisions of the act, creating now a monumental challenge for how to bring the proposed project into accord with federal preservation law.

Audubon Ohio supports Geoffrey Sea's intervention in this case. There must be an advocate for preservation and ecological interests involved in the proceedings.

Sincerely,

Jerome C. Tinianow  
Vice President and Ohio Executive Director

Exhibit F. Statement of Roger G. Kennedy, former director of the National Park Service and Director Emeritus of the National Museum of American History, author of *Hidden Cities: The Discovery and Loss of Ancient American Civilization*

Subject: Intervention support  
Date: 2/24/2005 12:20:18 PM Eastern Standard Time  
From: roger@rkennedy.net  
To: GeoffreySeaNYC@aol.com

To the Commissioners, Secretary and Atomic Safety and Licensing Board of the US Nuclear Regulatory Commission and to Whom it May Concern.

I am traveling away from home and letterhead, lecturing at Stanford University and for a group of private foundations in San Francisco. However, I wish to use this electronic means to support the intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action.

Mr. Sea is entirely correct as to the importance of the Barnes works to American history and to our living cultures. It is among the half-dozen most important pre-Columbian sites in the Ohio Valley, and when more work is done on it by competent archaeologists it may turn out to be among the half dozen most important in the United States. If the people of Louisiana can save Poverty Point, and the people of East St. Louis can save Cahokia, surely the more affluent people of Ohio can rally to protect their heritage from desecration. The balance is hardly even between a mere adjustment for convenience of an atomic energy plant which can go anywhere within a hundred mile radius, and a precious place with no equals, no counterparts, and no chance of replication. This generation would be disgraced if further damage were done to an inheritance from the ages. The Barnes site must be saved.

For that to happen, it might be well for the site ultimately to be placed in responsible public hands, such as the National Park Service or the Ohio State Park System, or within the jurisdiction of the United States Forest Service.

I would be happy to verify the authenticity of this commendation by responding to an email sent the sending address.

Roger G. Kennedy

Director Emeritus, National Museum of American History

Former Director, the United States National Park Service

Exhibit H. Statement of John E. Hancock, Professor of Architecture and Associate Dean at the University of Cincinnati, Project Director of "EarthWorks: Virtual Explorations of the Ancient Ohio Valley"

University of Cincinnati  
College of Design, Architecture, Art, and Planning  
Office of the Dean  
P.O. Box 210016  
Cincinnati OH 45221-0016

Phone (513) 556-4933 / Fax (513) 556-3288  
Web <http://www.daap.uc.edu>

February 21, 2005

To: The Commissioners, Secretary and Atomic Safety and Licensing Board of  
the US Nuclear Regulatory Commission, and Whomever it May Concern

From: John E. Hancock, Professor of Architecture and Associate Dean  
Project Director "EarthWorks: Virtual Explorations of the Ancient Ohio Valley"

Re: Support of the Intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action.

One of North America's richest prehistoric legacies lies mostly buried or destroyed, and nearly invisible, beneath the modern landscapes of southern Ohio. The first settlers in this region stood in awe, amidst the largest concentration of monumental earthen architecture in the world. These included effigies like the Great Serpent Mound, and hilltop enclosures like Fort Ancient; but the most spectacular were the many embankments and enclosures formed into huge, perfect, geometric figures. Two centuries of archaeological research have shown that these were created by ancient Native cultures dating back as far as about 2000 years.

Apart from three of these figures at Newark, Ohio (two circles and an octagon), no others exist in complete, visible form, though several survive in ways still useful to archaeological research. The circle-and-square at Piketon, also known as the Barnes Works or the Seal Earthworks, despite its scant remains, is significant for several reasons:

- it is among the least known or investigated to date by archaeologists;

- its double-figure shape links it to two of the most culturally-revealing earthworks that have been investigated (Newark and High Bank), suggesting similarly-precise astronomical functions akin to those at Stonehenge;

- it is at the center of the thickest concentration of these works, between Portsmouth and Chillicothe, undoubtedly part of a culturally important series, and possibly linked by an extension of "The Great Hopewell Road";

- through its connections with the Barnes family it holds special significance in the history of the State of Ohio, its early links to Virginia, and the early importance of its earthworks in the birth of American archaeology and national identity;

- it may include as part of its design a heretofore unrecorded earthen circle, of a size unknown anywhere else in the world.

The preservation of this site has at least two major benefits:

- it will enable the continuing study of a unique asset from this ancient Ohio Valley culture, now beginning to make its way back into the public consciousness in our region and beyond.

- it will strengthen the resource base for the increasingly-lucrative cultural heritage tourism industry and its associated high-quality, non-intrusive economic development in southern Ohio.

The goal of our multimedia "EarthWorks Project" is make these hidden or vanished sites visible again, and offer them in new ways, to new audiences, in new electronic media such as museum exhibits, computer discs, and a Website. Three times funded in this work by the National Endowment for the Humanities, we have confirmed the national cultural and historical significance of this ancient culture and their spectacular architectural monuments. Numerous inquiries from Europe attest to the international significance of this unique Ohio heritage, and public awareness and interest here at home is also clearly increasing.

The opportunity to preserve a unique resource that sheds light on our predecessors in this valley should not be missed.

Yours sincerely,

John E. Hancock

**Exhibit N. Statement of Karen Kaniatobe, Tribal Historic  
Preservation Officer of the Absentee Shawnee Tribe of Oklahoma**

**Absentee Shawnee Tribe of Oklahoma  
Cultural/Historic Preservation Department  
2025 S. Gordon Cooper  
Shawnee, Oklahoma 74801-9381  
(405) 275-4030 Fax: 405-878-4533**

**February 24, 2005**

**RE: Support of Geoffrey Sea's intervention in the USEC  
American Centrifuge Plant Licensing Action**

**To the Commissioners, Secretary and Atomic Safety and  
Licensing Board of the US Nuclear Regulatory Commission and  
to Whom it May Concern:**

I am writing in support of the intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action. I am the Tribal Historic Preservation Officer for the Absentee Shawnee Tribe. Our interest in supporting Mr. Sea is based on the fact that Ohio is part of our ancestral homelands. Through historical research we have identified a number of village sites in the Ohio Valley. In fact, quite a few are located along the Scioto River. Furthermore, if you look at a map, you will notice that the names of towns, cities and counties reflect the Shawnee's historical presence within the state of Ohio.

We are part of the Algonquian family of Native American peoples, and the Algonquian tribes of the Ohio/Great Lakes region are collectively believed to be descended from the culture called Ft Ancient. In turn the Ft Ancient are considered descendants of the Hopewell culture. The people of the Hopewell Culture built the many astounding geometric earthworks, including those called the Barnes Works in Scioto Township.

All of the historic and prehistoric sites in the region of Scioto Township have great meaning and significance. The Barnes Works, being one of the largest and most beautiful prehistoric architectural works in North America, is a site that has already suffered desecration and destruction--but what remains can be saved.

Many more historic sites may exist in the area, remaining to be found for lack of extensive survey. Surveys to find such sites should be conducted as part of any 106 review for the ACP.

The American Centrifuge Project may impact all these sites

in many ways that have not been studied or considered. Physical destruction caused by new buildings is only one concern. We also need to consider potential destruction of earthworks along the river caused by additional water pumping, the impacts of herbicides used to defoliate a security zone around the DOE site perimeter, the impacts of keeping the area under national-security restriction, rather than opening the area to study and tourism, and the aesthetic impacts of marring a sacred area with security fences, more roads, and shipments of radioactive fuel and waste.

Our tribe has not been contacted by DOE about the American Centrifuge Project for consultation. We first learned about the American Centrifuge Project from Geoffrey Sea. Please note that we count on being included as a consulting party in future 106 and 110 reviews at the Piketon site.

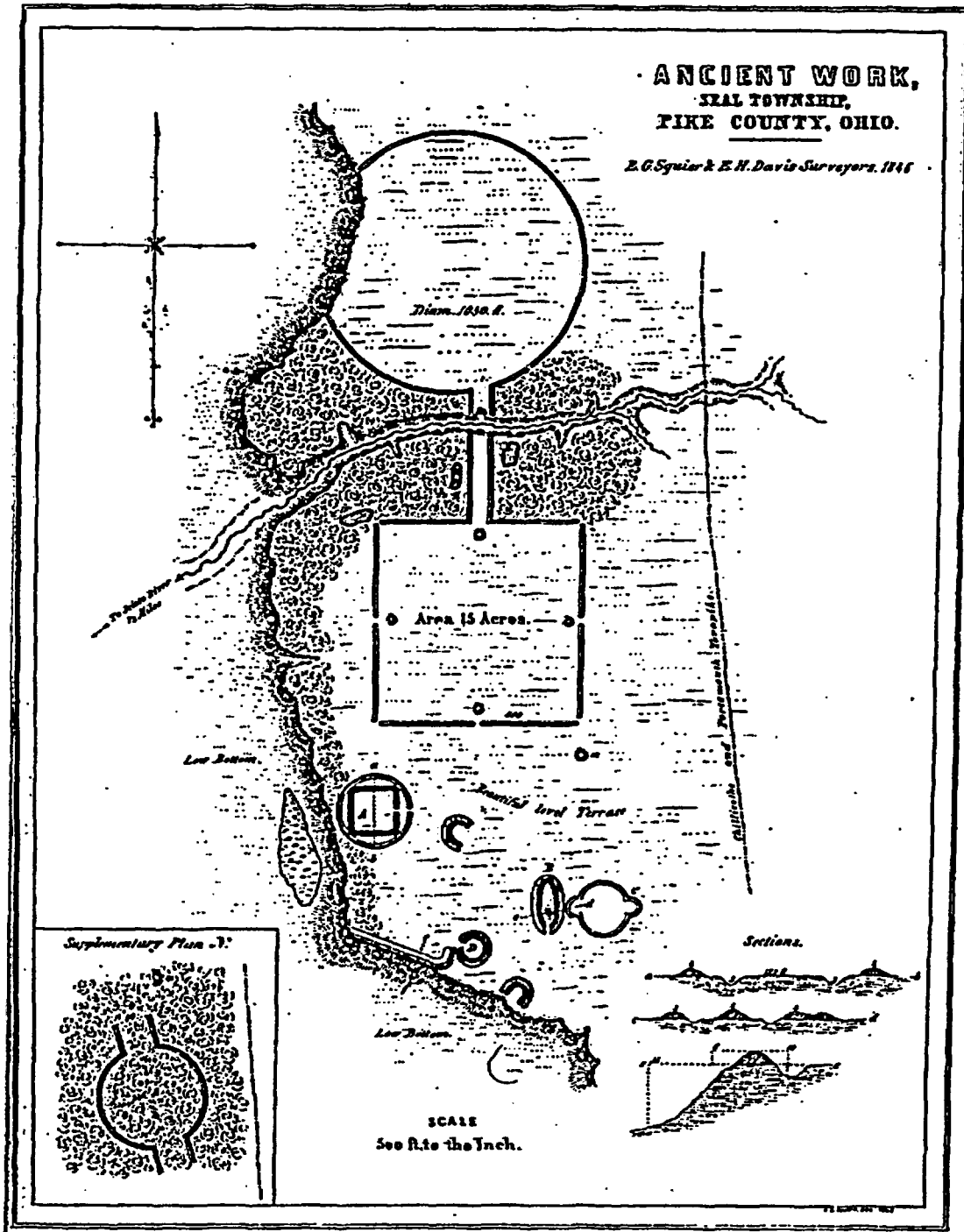
We understand that the NRC has initiated a section 106 review as part of its licensing process. That is good. However this is an important test for preservation law. If a major federal nuclear project involving two different federal agencies can proceed without any consideration of one of the largest sacred sites in North America next door, then it means that the provisions of the National Historic Preservation Act have become meaningless.

Many alternatives to the proposed action deserve full study and consideration. USEC's environmental report mentions the possible alternatives of moving ACP to the north side of the Piketon site or moving it from Piketon to Paducah, Kentucky. Since the current site at the southwest corner of the DOE reservation involves many potential impacts, those alternatives among others need careful review.

Respectfully,

Karen Kaniatobe  
Tribal Historic Preservation Officer

Exhibit O. The Seal Township Works, later called the Barnes Works or Scioto Township Works. Plate XXIV from Ephraim Squier and Edwin Davis, *Ancient Monuments of the Mississippi Valley*, 1848. (Note that the more accurate measurements given by Cyrus Thomas and Gerard Fowke half a century later are substantially different, making the areas of circle and square between 10% and 15% larger.)



Face P. 66.



Exhibit Q. Thomas F. King, preservation consultant, author of four books on federal preservation including *Federal Planning and Historic Places: the 106 Process*

Thomas F. King, PhD.

P.O. Box 14515 Silver Spring MD 20911, USA

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Cultural Resource Impact Assessment and Negotiation, Writing, Training

February 24, 2005

To: The Commissioners, Secretary and Atomic Safety and Licensing Board of  
the US Nuclear Regulatory Commission, and Whom it May Concern.

I am writing in support of the intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action. As a professional practitioner of archaeology and historic preservation in the United States, I am deeply concerned about the potential impacts of the proposed action on historic properties, and about the adequacy of NRC's and the Department of Energy's (DOE's) compliance with Section 106 and 110 of the National Historic Preservation Act and other federal environmental and cultural resource legal requirements.

A copy of my professional resume is attached. I hold a PhD in Anthropology from the University of California, Riverside, and have been practicing in historic preservation and environmental impact review for almost forty years, both within and outside the Federal government. I have some twenty years experience as a government official with the Advisory Council on Historic Preservation, the National Park Service, and the General Services Administration, and am currently self-employed as a consultant, writer, mediator, and trainer in historic preservation, tribal consultation, and environmental review. I am the author of four textbooks and numerous journal articles on these subjects, as well as a number of federal regulations and guidelines. My particular specialty lies in working with Section 106 of the National Historic Preservation Act, which requires Federal agencies to take into account the effects of their actions on places included in and eligible for the National Register of Historic Places.

It is because of my concern for the proper application of Section 106 and related authorities, and for the proper management of historic places, that I support Mr. Sea's intervention. Mr. Sea has, I believe, uncovered significant problems with NRC's and DOE's compliance with the historic preservation and environmental

laws, and identified significant potential impacts on places eligible for inclusion in the National Register. His intervention should be given your very close attention.

Respectfully,

Thomas F. King

EXHIBIT V

Thomas F. King, PhD  
P.O. Box 14515, Silver Spring MD 20911, USA  
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**Cultural Resource Impact Assessment and Negotiation, Writing, Training**

March 29, 2005

Geoffrey Sea  
340 Haven Ave., Apt. 3C  
New York NY 10033

Dear Geoffrey:

You've asked me for my observations on how the Nuclear Regulatory Commission (NRC) staff's positions on the scope of its responsibilities in the USEC matter, and on the tests that you must meet in order to intervene, relate to the purposes and requirements of the National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA). I provide these observations based on some 40 years of professional practice under both statutes, including participation in the development of amendments to the latter and federal regulations and guidelines implementing both.

Both NEPA and NHPA were enacted in order to protect the public interest in the human environment in general (in the case of NEPA) and historic resources in particular (NHPA). It follows that the interested public - made up of people like yourself - has a large role to play in implementation of these laws, and this is reflected in the regulations that agencies must follow in complying with them. Both the NEPA regulations (40 CFR 1500-1508) and the Section 106 NHPA regulations (36 CFR 800) provide for participation in review by interested parties and the general public. The Section 106 regulations are particularly directive in this regard, providing both for general public involvement and participation and for identifying particular "consulting parties" whose interests in the undertaking under review, or its effects, entitle them to ongoing active involvement in the negotiation of ways to resolve adverse effects on historic properties.

It appears that the NRC staff has a much, much more restrictive notion of public involvement than that underlying either NEPA or NHPA. I suspect that this reflects the fact that the staff's policies and procedures for environmental review spring from a different intellectual tradition than do those underlying laws like NEPA and NHPA. A thought-provoking

(though rather turgid) recent book that explores this sort of dichotomy is *Citizens, Experts, and the Environment: The Politics of Local Knowledge*, by Frank Fischer (Durham, Duke University Press, 2000). Fischer discusses the world-view that is common among environmental engineers and others involved in the sort of environmental review that is driven by the toxic, hazardous, and radiological substances laws, in which environmental impact analysis is construed to be a matter of rigorous, generally quantitative, scientific analysis. It is a matter for scientific experts to concern themselves with, and is viewed as far too complicated for ordinary citizens to understand. In this world-view, public involvement is a troublesome requirement imposed by the political system, which should be kept to a minimum so the experts can get on with their work. Fischer documents that this sort of thinking is widespread in the environmental specialist community from which agencies like NRC draw their staffs, and from which their personnel derive their intellectual direction. He also documents how thoroughly wrongheaded it is, but that's another matter. My point is simply that the NRC staff's thinking on how people like you should be involved and issues like yours should be considered in its decision making has much more to do with the philosophical biases of its members than it does with any actual legal requirements.

The NRC staff seeks to limit your access to its decision making process in a variety of ways - for example by insisting that to be recognized as having "presumptive standing" you not only be "injured," but be a resident of the surrounding vicinity, and at the same time insisting that your "injury" must be of a particular kind. Let's look at the last of these first.

The staff asserts that "(i)n Commission proceedings, the injury must fall within the zone of interests sought to be protected by the AEA or the National Environmental Policy Act ("NEPA")." It is not clear to me why only these two laws are pertinent and not, for instance, NHPA, but for the moment let's assume the staff is correct; your "injury" must relate to the "zone of interests sought to be protected" by the AEA and NEPA. I claim no expertise in the AEA, but I do know about NEPA, and it appears to me manifestly obvious that your "injury" falls well within the sphere of NEPA's "protected interests."

NEPA directs agencies to consider the impacts of their actions on "the quality of the human environment." At 40 CFR 1508.27(b) the NEPA regulations of the Council on Environmental Quality (CEQ) list a range of factors to be considered in judging the significance of impacts on the quality of that environment. It is a long and varied list, and it repeatedly refers to "cultural" and "historic"

resources. It surely follows that "interests" in such resources are "protected" to the extent NEPA affords protection to anything. Thus your interests in protecting the historic character of the area subject to effect by NRC's permit action are entirely within NEPA's "sphere of protection."

Why does the NRC staff not understand this? I suspect that - based on the intellectual tradition from which they come - the staff's experts honestly believe that the quality of the human environment is not affected by anything that fails to irradiate someone to a hazardous degree. It follows from that line of reasoning that your interests in the historic character of the area are irrelevant to the potential for environmental impacts.

It also follows, of course, that only actual residents of the vicinity can be "injured," because only residents are likely to suffer a high enough dosage of something emanating from the proposed facility to affect their health and safety. Therefore, it is logical within the staff's likely framework of assumptions, that only nearby residents should be recognized as having presumptive standing. But NEPA isn't about only health and safety. The great bulk of NEPA cases that have been litigated have been brought by parties whose injuries involved damage to places and things they enjoyed and thought important - forests, mountains, animals, bodies of water, beautiful vistas, wilderness, fish, sacred sites, historic places, archaeological sites. Courts routinely grant standing to plaintiffs under NEPA on such grounds; can the staff be seriously proposing that the Commission adhere to a more exclusive standard?

It is also difficult to understand why, if an "injury" within NEPA's "zone of protected interests" is a legitimate topic for NRC consideration, an "injury" within NHPA's "zone" is not equally legitimate. Both laws were enacted by Congress; both apply to all federal agencies; both impose rather similar requirements. To the best of my knowledge, NRC has never been granted an exemption from NHPA's requirements. Your interests clearly fall within NHPA's "zone," since they concern historic properties and effects on them. Under the Section 106 regulations, your interests entitle you to consult about the significance of such properties and how to resolve adverse effects on them. Why does the NRC staff think the Commission can or should deprive you of this entitlement?

Here again, I suspect that the culprit is the world-view of NRC's staff experts. If one believes that environmental impacts are limited to things that scientific experts can quantify, and ordinary citizens have nothing useful to contribute to the discussion, then it follows that all NRC need do to address impacts on historic properties under NHPA

is to have expert surveys done and consult with the State's designated expert, the State Historic Preservation Officer. If further follows that the Commission's staff can and should keep the results of its expert studies secret, as it has in this case, and simply present the public with its conclusions.

Within this framework of assumptions, the fact that the Section 106 regulations call repeatedly for participation by interested parties and the public is irrelevant; such requirements are mere politico-regulatory hoops to be gotten through with as little effort as possible.

But this interpretation of NHPA's requirements is inconsistent not only with the letter of the regulations but with routine practice in Section 106 review and with the record of case law. Courts have generally been quite liberal in recognizing the standing of interested parties in Section 106 litigation, and certainly have never imposed anything like a residency requirement. In the recent *Bonnichsen et.al. v. US* (Civil No. 96-1481JE, District of Oregon), for example, the court found that a group of physical anthropologists, none of whom lived in the vicinity of the discovery, not only were sufficiently "injured" by the Corps of Engineers' treatment of a human skeleton found on the bank of the Columbia River to give them standing to sue, but that the Corps had violated the NHPA by failing to consult them under Section 106. Here again, NRC's staff seems to be establishing for the Commission a more exclusive standard than that imposed by courts of law; I have to wonder about the basis for this.

In summary then, what I think we see in the NRC staff's conclusions about your intervention is the expression of a world-view that is common among experts in toxic, hazardous, and radiological impact analysis, that may be sensible in some contexts but thoroughly warps the process of review under NEPA and NHPA. To narrowly limit the range of interests in the public with whom one will engage in environmental impact analysis, and then to insist that these interests themselves demonstrate the existence of impacts ("injuries"), stands the process of environmental review on its head. It is the responsibility of the Commission and its staff to ascertain what impacts its permit action may have on the quality of the human environment under NEPA, and on historic properties under Section 106; it is not your responsibility to do so for them.

I realize that the NRC staff would doubtless argue that all the above factors might give you "regular" standing but not "presumptive" standing - you might have standing, but it would not be automatic unless you actually lived adjacent to the facility. But this distinction still reflects the assumption that one cannot be really "injured" unless one is likely to be subjected to irradiation. Setting aside the question of whether, as a near-term prospective resident, you are not

likely to be subjected in the future to this kind of "injury," it seems to me that NHPA (among other laws) provides the basis for other standards for awarding "presumptive standing" that are as good as nearby residency; one merely needs to recognize that exposure to radiation is not the only way one can be "injured" by a project like USEC's. Surely the owner of a National Register or Register-eligible property that is subject to potential effect by the project, who appreciates the historic qualities of the property, must be presumed to be subject to injury by the project. Similarly, I would suggest, someone whose cultural identity is tied up in a property that might or might not be eligible for the National Register, or who has research interests in such a property, or who traditionally uses or enjoys such a property, must be presumed to be subject to injury, and hence should be recognized as having presumptive standing. People in all these categories and others are routinely included as consulting parties under the Section 106 regulations; why should the Commission, acting in the public interest, not do the same?

Although the NRC staff does not comment on it, I have to believe that its beliefs about the environmental review process are in line with those of USEC, which in its response to your petition summarily rejected the earlier letter I provided you. USEC wrote:

"(4) Finally, Petitioner cites a letter from Dr. Thomas F. King (Exhibit Q), which makes no reference to any specific aspect of the ACP application and therefor (sic) does not provide meaningful support for the contention."

My letter, of course, was intended simply to advise NRC that, in my fairly well-informed professional opinion, you had a point in your allegations, which I thought (and think) it appropriate for the Commission to consider further in its decision making. Under NHPA and NEPA it is not my job, or yours, to go out and conduct the studies necessary to identify and address the impacts of NRC's permit actions; it is NRC's job to do so, or to cause the applicant to do so, with our advice and assistance. You have provided substantive information indicating that NRC needs to take a further look at the historic preservation implications of its permit decision; I was advising NRC that I thought you had a good point, that I didn't think you were an eccentric who could safely be ignored. But because I did not refer to a "specific aspect" of the application, in the eyes of USEC my opinion - like yours - can be rejected out of hand. And of course, as you know, it was impossible for me (or anyone else trying to figure out how USEC had considered impacts on historic places) to address "a specific aspect of the ACP application" because neither the application nor the accompanying Environmental Report refer to the requirements of NHPA or to the National Register of Historic Places. The absence of specific evidence

in my statement merely reflects the absence of specifics in USEC's application. To judge from the available record, at least (such as it is), USEC has not thoroughly identified historic properties subject to possible effect by its actions - to say nothing of other kinds of cultural resources that ought to be considered under NEPA. This creates a flawed record for use by NRC in making its permit decision. I trust the Commission will understand this, and appreciate your efforts to provide it with a broader and more complete basis for its deliberations.

Good luck in your continuing efforts.

Sincerely,

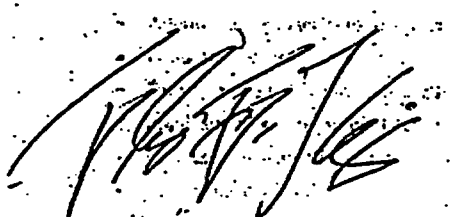
A handwritten signature in black ink, appearing to be "W. H. J. S.", written in a cursive style. The signature is somewhat faded and surrounded by a cloud of small black dots, likely from a photocopy or scanner.



EXHIBIT W

(original handwritten on letterhead)

SHAWNEE NATION, UNITED REMNANT BAND

TUKEMAS/HAWK POPE-PRINCIPLE CHIEF

ZANE SHAWNEE CAVERNS AND SOUTHWIND PARK  
SHAWNEE-WOODLAND NATIVE AMERICAN MUSEUM  
2911 ELMO PLACE, MIDDLETOWN, OHIO 45042

Nuclear Regulatory Commission and whomever it may concern,

Dear Sirs,

We were only recently informed of plans to further develop the nuclear project in Pike County, Ohio. I represent the Shawnee Nation, United Remnant Band. The U.R.B is recognized as a descendant group/Tribe of the historic Shawnee Nation in Ohio-SUB. AM. H.S.R.8-1980. Our people do have historic and cultural ties to the site in Pike County, near the Scioto river. We do consider the earth works and the other ceremonial and cultural features there to be sacred. We do, therefore object to the proposed project, for reasons of the project's incompatible and inappropriate use of the land. Any destruction of features on the site, further poisoning of the ground, or limits to access to the site would be very disturbing and considered by us, wrong.

We are regularly informed of sites for proposed transmission towers and pipe lines. We were not told of this project, similarly. In the future we want to be a consulting source. We await your response.

Chief Hawk Pope

P.S. We were informed by Jeffrey Sea, and we do support his intervention in this matter. In the Shawnee language Scioto means "Hair in the Water" as the river passes through so many burial sites and is so prone to flooding. Again, this place is sacred to Shawnee People.

Thank you for your time and consideration.

Chief Hawk Pope

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**ATOMIC SAFETY AND LICENSING BOARD**

**Before the Administrative Law Judges:  
Lawrence G. McDade, Chairman  
Paul B. Abramson  
Richard E. Wardwell**

_____ )	Filed August 15, 2005
In the Matter of )	
USEC Inc. )	
(American Centrifuge Plant) )	Docket No. 70-7004
_____ )	

**Declaration by John Hancock, Frank L. Cowan, and Cathryn Long Regarding  
August 5, 2005 Visit to GCEP Water Field**

Under penalty of perjury, we the undersigned do jointly declare as follows:

**Statement of Qualifications**

1. My name is John Hancock. I am Professor of Architecture and Project Director of the "EarthWorks Project" being produced by the Center for the Electronic Reconstruction of Historical and Archaeological Sites (CERHAS) at the University of Cincinnati. I am an expert in ancient architectural history and in particular the forms, and the problems of visualization, of these earthen structures. A copy of my curriculum vitae is attached.
2. My name is Frank L. Cowan. I am a consulting archaeologist with the company of F. Cowan & Associates. I am a leading expert in the study and excavation of Hopewell earthwork sites with twenty-five years experience in Hopewell archaeology, including nine years of Hopewell research in Ohio. A copy of my curriculum vitae is attached.
3. My name is Cathryn Long. I am a writer and researcher with the Center for the Electronic Reconstruction of Historical and Archaeological Sites (CERHAS) at the University of Cincinnati. My expertise derives from eight years interviewing experts on the Hopewell culture for CERHAS. A copy of my curriculum vitae is attached.

### Purpose of Declaration

5. The purpose of this declaration is to describe the results of our August 5, 2005, visit to a site near to but not contiguous with the Piketon atomic reservation known as the GCEP Water Field or the X-6609 Raw Water Wells. We went to the GCEP Water Field to examine and evaluate the potential historical significance of earthworks reported to be on the site. As discussed below, we identified a human-made earthwork on the site, whose origin is unknown but which appears to pre-date the U.S. Department of Energy ("DOE") water system which is also visible on the site. We believe that further investigation is warranted in order to determine the origin of the earthworks with confidence. (JH, FLC, CL)

### Description of Site Visit

6. The GCEP Water Field lies on the east bank of the Scioto River, due west of the main atomic reservation at Piketon. The Water Field is owned by the DOE and leased to USEC. It is our understanding that the DOE installed a water supply system on the Water Fields site in the early 1980s to supply a future centrifuge enrichment plant. The acronym GCEP stands for Gas Centrifuge Enrichment Plant, a project that later became known as ACP or American Centrifuge Plant. (JH, FLC, CL)

7. Though maps of the GCEP Water Field were requested, they were not provided, and we were not allowed to bring cameras or take pictures. Therefore, we are not able to provide a map or pictorial evidence of our observations and conclusions. Therefore, our observations and conclusions are described solely in narrative form. (JH, FLC, CL)

8. We were dropped off by a USEC van at the northern end of the Water Fields site, and walked towards the southern end, with well-heads evident all along the way. The site extends along the Scioto River, with a forested strip adjoining the river bank, and a cleared strip with a road adjoining that. We observed a DOE water supply system in the area, consisting of DOE well heads which appear as either single pipes coming vertically out of the ground, or groups of four larger pipes arranged in a cross-shape. Most of the well heads line the west side of the road, but many extend into the forested area at irregular intervals. (JH, FLC, CL)

9. The forested strip along the river contains a series of natural levee embankments that parallel the river. However, as we moved south about a half mile, the embankment closest to the road straightened out and became level on top. The further south we moved, the straighter and more level it became, with perfectly uniform width at the level top. The structure continues south as far as we could see. Because our escorts gave us no maps or clues about the site boundaries, and because we ran short of time, we could not investigate the southern terminus of the structure. (JH, FLC, CL)

10. From the top of this structure, looking in either direction, the structure was dead straight and regularly formed with a consistent width to the level upper surface, unlike

the natural levee formations closer to the river and possible remnants of this structure as it presently appears further north. Given the linearity, we all are of the opinion that this is an artificial structure. We cannot say if other earthworks might lie on parts of the site we could not get to. (JH, FLC, CL)

11. Though the structure is man-made, it is impossible to say upon partial visual inspection what this structure is, how old it is (though it is not very recent), or who built it. However, it is within the realm of possibility that the structure is an Indian earthwork of the Middle Woodland period (about 300 B.C. to A.D. 500). The Ohio Hopewell culture of that period built large scale geometric earthworks, including long straight earthen walls; and their constructions once lined the valley of the Scioto River. (JH, FLC, CL)

12. The southern end of the structure we observed at the GCEP Water Field is very close (within a quarter of a mile) of the northern end of the great Hopewell circle-square complex known as the Barnes Works (also called the Seal Township Works or Scioto Township Works). The Barnes Works is listed on the National Register of Historic Places and is one of the large earthworks along the Scioto recorded in 1848 by E.G. Squier and E.H. Davis (*Ancient Monuments of the Mississippi Valley*, Smithsonian). (JH, FLC, CL)

13. It is also possible that the structure is a 19<sup>th</sup> or 20<sup>th</sup> century construction, although we are not aware of any major structures that were built in the area during this time. It is unlikely to be a modern levee because there has been no development in this area worthy of such elaborate protection. It is unlikely to be a remnant of the Erie Canal system, because the canal went along the west side of the Scioto River and this structure lies along the east side. It is unlikely to be part of an early pioneer road or railroad because those were built on dry ground to the east, not in the flood zone. (JH, FLC)

14. We believe it is highly unlikely that this structure could have been made by DOE or USEC, because there are trees on either side of it. Neither USEC nor DOE has identified this structure as related to the water field, and it appears unrelated as the structure is most evident at the south end of the site, while the pipes leading to the pump house and road extend from the north end of the site. In addition, it appears that as the structure proceeds north, it actually crosses the well field, which would negate its usefulness as a protective levee. There is also a report from a former land-owner, Charles Beegle, that earthworks at the site predated DOE's acquisition of the land, and that his deceased wife's family, the Rittenauer family, recognized these earthworks as ancient. This letter from Charles Beegle is attached as Exhibit A. (JH, FLC)

15. A research protocol is needed to determine the identity and age of this structure. That protocol should begin with access to all previous reports of cultural resource investigations conducted at the Water Field property prior to the development of the Water Field, investigations that would have been required by Section 106 of the National Historic Preservation Act. Access will also be needed to the maps and survey

records for the Water Field Site in possession of the DOE and USEC. This should be accompanied by historical research to determine if any known engineering work took place in that area prior to the DOE land purchase, and if the structure was noted on any older survey maps or in any archeological works. If the historical research draws a blank, a cross-sectional excavation of the structure and/or a series of soil cores through the structure would reveal much about its age and identity. (JH, FLC, CL)

16. If the structure is determined to have historic significance, an evaluation should be made of the visual and physical impact of the American Centrifuge Project on that structure. DOE well-heads, by the dozen, line both sides of the structure and some are in the midst of it. Whether pumping of water from beneath the structure damages the structure is a question that should be evaluated by hydrology experts. Further surveys of the entire Water Field Site, with maps, cameras, survey equipment, and unrestricted time are also warranted. (JH, FLC, CL)

17. The GCEP Water Field site lies close enough to the Barnes Works to warrant a close examination of its historic significance. Any prehistoric earthworks that may be identified at that location deserve the utmost attention and protection. Therefore, we urge a program of research at that site as rapidly as possible, in compliance with federal preservation law. (JH, FLC, CL)

\_\_\_\_\_[signed]\_\_\_\_\_

John Hancock

\_\_\_\_\_[signed]\_\_\_\_\_

Frank L. Cowan

\_\_\_\_\_[signed]\_\_\_\_\_

Cathryn Long

August 11, 2005

**From:** Matthew Blevins  
**To:** SargentsPigeon@aol.com  
**Date:** 11/23/05 9:20AM  
**Subject:** Re: USEC DEIS and 106 Comments

Mr. Sea,  
In your October 27 email, you indicate that you had provided "attachments" to your comments and that the "text" of your comments would be forthcoming. We did not receive the additional text as you had indicated.

We are in the process of finalizing our Section 106 package for the Advisory Council on Historic Preservation and would like to verify whether you sent text/comments in addition to the "attachments" in the previously allotted scoping period (including the additional two days you were granted by Mr. Linton). If you had previously sent, can you please resend?

For your information, we are including your oral comments, and your pleadings from the adjudicatory process in the package we are preparing for the ACHP.

Matthew Blevins  
Senior Project Manager  
Division of Waste Management and  
Environmental Protection  
U.S. Nuclear Regulatory Commission  
(301) 415-7684

>>> <SargentsPigeon@aol.com> 10/27/05 9:57 AM >>>  
Matthew Blevins  
Nuclear Regulatory Commission

Dear Mr. Blevins,

Attached are the attachments to my comments on DEIS NUREG-1834.

I've had two problems. One is getting the file to transmit given the large file size. I've been trying to send most of the night but as I have a dial-up connection only, it's very difficult and keeps quitting. Please be understanding.

Second, I have two other imposing deadlines this week....the appeal of the ASLB ruling in the USEC case was due Monday and new contentions as per the ASLB ruling are due very shortly. I did call on Monday and received an extension but am afraid it will take another day to get my full comments in. Attached are the attachments only, not the text. If for some reason you cannot accept the text, I still wish the attachments submitted...they are self explanatory as they contain mainly letters from others pertaining to historic and cultural resource issues.

I will send the text ASAP.

You will note that the first item is a DEIS comment from Professor Robert Proctor at Stanford. Unfortunately, Dr. Proctor made the mistake on Monday of e-mailing his comment to me instead of to NRC, and I did not realize it until Tuesday, when he was already on a plane to Germany. Therefore please accept his testimony as timely. His e-mail address is included. Other contact info. can be provided if necessary.

Thanks for your consideration,

Geoffrey Sea  
The Barnes Home  
P.O. Box 161  
Piketon, OH 45661  
Tel: 740-289-2473  
Cell: 740-835-1508  
E-mail: [SargentsPigeon@aol.com](mailto:SargentsPigeon@aol.com)

**Mail Envelope Properties (43847AA0.C10 : 2 : 2492)**

**Subject:** Re: USEC DEIS and 106 Comments  
**Creation Date:** 11/23/05 9:20AM  
**From:** Matthew Blevins

**Created By:** MXB6@nrc.gov

<b>Recipients</b>	<b>Action</b>	<b>Date &amp; Time</b>
aol.com SargentsPigeon ( <u>SargentsPigeon@aol.com</u> )		
nrc.gov twf4_po.TWFN_DO MXB6 BC (Matthew Blevins)	Delivered Opened	11/23/05 9:20 AM 11/23/05 9:20 AM
<b>Post Office</b>  twf4_po.TWFN_DO	Delivered Pending 11/23/05 9:20 AM	Route aol.com nrc.gov
<b>Files</b> MESSAGE	<b>Size</b> 4934	<b>Date &amp; Time</b> 11/23/05 09:20AM

**Options**

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**Expiration Date:** None  
**Notify Recipients:** Yes  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

**To Be Delivered:** Immediate  
**Status Tracking:** Delivered & Opened



**From:** <SargentsPigeon@aol.com>  
**To:** <MXB6@nrc.gov>  
**Date:** 11/23/05 10:57AM  
**Subject:** Re: USEC DEIS and 106 Comments

Matthew Blevins  
Senior Project Manager  
Division of Waste Management and  
Environmental Protection  
U.S. Nuclear Regulatory Commission

Mr. Blevins,

I will be sending you my full comments on the DEIS and in regard to my status as consulting party on the Section 106 review on Monday, November 28, following the Thanksgiving holiday. These comments will be forwarded directly to the Advisory Council.

The communication I received from you today, the day before Thanksgiving, is the first communication I have received from you seeking my input as a consulting party on the 106 review. As you know, I first asked to be a consulting party in my comments on the scoping process in January of 2005 and in our face-to-face conversation that followed the scoping hearing in Piketon. However, you did not name me a consulting party, did not send me any of the consulting party correspondence, and did not notify me that the consultation process was underway, despite my requests. In fact, you stopped replying to my e-mails in February of 2005, without explanation. In the summer of 2005, I requested from NRC General Counsel and from the NRC Federal Preservation Officer the name of the official at NRC in charge of the 106 review, and it took weeks and many phone calls before I was even informed that you were the official in charge.

On September 29, at the public hearing on the DEIS, I asked you for the status of my request to be a consulting party, and in my oral comments I pointed out at some length the deficiencies in the NRC effort to identify consulting parties and obtain actual consultation. Among these deficiencies was the fact that no NRC staff had visited the threatened sites in question, nor had any of your staff requested site visits. I told you then that site visits are a mandatory part of assessment and I invited you to visit the Barnes Home and the other nearby threatened sites. No such effort has been made on the part of NRC.

No "package" for the ACHP can be completed until such site visits have been conducted, in real consultation with affected parties including myself.

At the Sept. 29 hearing you informed me that I had been made a consulting party some weeks earlier, and that I had been notified by a letter that you included with a copy of the DEIS. You know that you mailed me three different copies of the DEIS under separate cover. This now appears to have been an intentional deception in hopes that I would not inspect the contents of each package. If so, it worked. Your last-minute designation of me as a consulting party was in fact a secret one. You could have easily told me by e-mail of the decision, as you have communicated every other time (that I know). But you sent no e-mail, apparently for the express purpose of running the clock.

At this hearing you also engaged me in a conversation in which you attempted to impress me that you had "driven by" my house to look at it from the road. It boggles my mind that the federal official in charge of conducting an impact assessment of a historic property would think that he can accomplish this in a drive-by manner, without even informing the property owner, who supposedly has been identified as a consulting party.

Since you have not come to Sargents to assess the actual situation here at the threatened sites, and since you have not engaged in any real consultation with affected parties, you cannot know what the actual situation is here on the ground. Section 106 provides for taking account of new discoveries that are made during the process of review. It also requires that the agency fund studies of potential impacts on new cultural resources that are identified.

Discoveries related to the impacted historic properties in Sargents are ongoing, and NRC-funded studies of these resources are required. We here in Sargents are ready to show you these impacted properties, and we invite you to come. Among the properties about which you have no clue -- because you haven't come and you have not sought our consultation -- are the actual kill-site of the Sargents Pigeon (recently identified), the old Sargents graveyard, and the Sargents Train Station. It may interest you to know that we have had these, and other properties, assessed by an expert architectural historian. We just await the slightest expression of intent to begin the consultation process on your part.

In addition, it will be necessary to inform all of the other consulting parties of these developments. We note that some of their "sign off" letters were expressly conditional on no further information coming to light.

Will this require a substantial alteration of your plan to "wrap up" the Section 106 review? Yes.

Your attempt to now close the door on the day before Thanksgiving cannot succeed. You have real legal responsibilities under NHPA. Those responsibilities include real consultation, and real consultation means that you actually look at the affected properties, communicate with consulting parties in an open non-deceptive way, and actually fund studies where necessary. All of that is just beginning.

So that we can now get consultation off the ground, I require answers to a few questions, many of which I have asked before with no reply:

1. Please inform me of the full history of communication between NRC and DOE with regard to the centrifuge project's NHPA compliance. Is there any agreement between the agencies for joining the 106 responsibilities of the two agencies? If so, was documentation of this agreement filed with the SHPO and ACHP? If not, what does NRC know about DOE's 106 review? Please provide me with copies of all correspondence between NRC and DOE with regard to NHPA compliance for the centrifuge project.

2. For the purposes of NRC's 106 review, when does NRC consider that "major federal action" in regard to ACP was initiated? Whatever the answer to this question, please provide the justification for it. Specifically, why is the Gas Centrifuge Enrichment Plant program at Piketon not considered as a precursor to ACP and, hence, the initiation of the federal action now ongoing?

Relatedly, has NRC obtained from DOE the documentation of DOE's 106 review for the GCEP program? If not, why not (since it was a virtually identical program)? If so, please forward that documentation to me.

3. As a consulting party and as previously stated, I hereby object to the NRC decision to fold its Section 106 review into the NEPA EIS process. I do not believe that this was done legally or properly. This is a classic case of need for an independent Section 106 review that can proceed even after the EIS process has been concluded, in part to take account of ongoing discoveries. How does NRC intend to handle this objection?

Thank you for attention to these matters. Enjoy the holiday.

Sincerely,

Geoffrey Sea  
The Barnes Home  
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Sargents, OH 45661

Tel: 740-289-2473

E-mail: [\\_SargentsPigeon@aol.com](mailto:_SargentsPigeon@aol.com) (mailto:SargentsPigeon@aol.com)

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**Mail Envelope Properties (43849140.CEB : 22 : 23787)**

**Subject:** Re: USEC DEIS and 106 Comments  
**Creation Date:** 11/23/05 10:56AM  
**From:** <SargentsPigeon@aol.com>

**Created By:** SargentsPigeon@aol.com

**Recipients**

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MXB6 (Matthew Blevins)

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<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	7180	11/23/05 10:56AM
TEXT.htm	10738	
Mime.822	20083	

**Options**

**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

**From:** Matthew Blevins  
**To:** SargentsPigeon@aol.com  
**Date:** 12/7/05 1:56PM  
**Subject:** Re: USEC DEIS and 106 Comments

Mr. Sea,

In your November 23 email it was unclear to me whether you were going to provide the text of your comments to the NRC in addition to the ACHP or whether you were just going to provide your comments to the ACHP. If possible, we would appreciate a copy of your comments.

Also, I would like to provide several points of clarification. First, the reason I did not respond to your emails is that I have not received any emails from you between February 14 and November 23. I have kept you "informed of the NRC's implementation of the 106 process" as you requested in your February 14 email by adding you to the NRC's mailing list for all Section 106 correspondence. On August 9 you sent a list of questions to an NRC attorney. I was subsequently provided those questions and promptly replied (email dated August 23). Subsequently, the NRC sent you a letter dated September 9, accepting your request for consulting party status to which we did not receive a reply until October 27, after the DEIS comment period had ended. Finally, my email to you last week, dated November 23, was not intended to be deceptive, rather it was to verify whether you, a designated consulting party, had any additional comments before we provided our findings to the ACHP. (NOTE: all above dates were in 2005).

In terms of Section 106 compliance, we have previously defined an "area of potential effects" (APE) for both direct and indirect effects. The APE does not extend beyond the DOE reservation boundary. However, because you are adjacent to the DOE property we considered potential effects to your property as well as two other nearby properties that are listed on the National Register or the Ohio Historic Inventory. As explained in the DEIS, we assumed that your property would be Register-eligible under two criteria. As you are aware, the DEIS presented the NRC's finding of "no effect on these historic properties". This is fully explained in the DEIS (see page 4-4 to 4-7). The basic premise of this finding is that the existing DOE Gaseous Diffusion Plant is part of the cultural landscape and has been for over 50 years. The proposed ACP would not change that landscape or have other effects on qualities that contribute to the eligibility or potential eligibility of historic properties.

Finally, Section 106 does not require a site visit to each eligible property nor does it require the Federal agency to fund additional studies of eligible properties as you have indicated. Section 106 does require identification of historic properties and a good faith effort to carry out appropriate identification efforts which the NRC has completed. Of course, some of this identification has been provided in your various submittals.

In response to your three questions:

1. The NRC has had no communications with DOE regarding DOE's past actions related to Section 106 compliance. As you are aware, it is the NRC's position that DOE's past actions have no bearing on the NRC's compliance with Section 106.
2. The NRC staff considers that its major Federal action began with the filing of USEC Inc's license application on August 23, 2004. This is also consistent with the 106 regulations which define "undertaking." While the GCEP may be considered a precursor to the ACP the NRC was not involved in the GCEP project as no NRC license was necessary. Additionally, there is no legal requirement under 106 for NRC to consider effects of DOE's past actions on cultural resources nor must NRC consider DOE's Section 106 compliance history. Under Section 106, the "undertaking" before the NRC is whether or not to issue a license to USEC for the proposed ACP and to consider the associated effects on historic and cultural resources that exist today, not twenty years ago.
3. Your objection are noted and we will forward your objections to the ACHP as required by the 106 regulations.

Matthew Blevins  
Senior Project Manager  
Division of Waste Management and  
Environmental Protection  
U.S. Nuclear Regulatory Commission

>>> <SargentsPigeon@aol.com> 11/23/05 10:56 AM >>>

Matthew Blevins  
Senior Project Manager  
Division of Waste Management and  
Environmental Protection  
U.S. Nuclear Regulatory Commission

Mr. Blevins,

I will be sending you my full comments on the DEIS and in regard to my status as consulting party on the Section 106 review on Monday, November 28, following the Thanksgiving holiday. These comments will be forwarded directly to the Advisory Council.

The communication I received from you today, the day before Thanksgiving, is the first communication I have received from you seeking my input as a consulting party on the 106 review. As you know, I first asked to be a consulting party in my comments on the scoping process in January of 2005 and in our face-to-face conversation that followed the scoping hearing in Piketon. However, you did not name me a consulting party, did not send me any of the consulting party correspondence, and did not notify me that the consultation process was underway, despite my requests. In fact, you stopped replying to my e-mails in February of 2005, without explanation. In the summer of 2005, I requested from NRC General Counsel and from the NRC Federal Preservation Officer the name of the official at NRC in charge of the 106 review, and it took weeks and many phone calls before I was even informed that you were the official in charge.

On September 29, at the public hearing on the DEIS, I asked you for the status of my request to be a consulting party, and in my oral comments I pointed out at some length the deficiencies in the NRC effort to identify consulting parties and obtain actual consultation. Among these deficiencies was the fact that no NRC staff had visited the threatened sites in question, nor had any of your staff requested site visits. I told you then that site visits are a mandatory part of assessment and I invited you to visit the Barnes Home and the other nearby threatened sites. No such effort has been made on the part of NRC.

No "package" for the ACHP can be completed until such site visits have been conducted, in real consultation with affected parties including myself.

At the Sept. 29 hearing you informed me that I had been made a consulting party some weeks earlier, and that I had been notified by a letter that you included with a copy of the DEIS. You know that you mailed me three different copies of the DEIS under separate cover. This now appears to have been an intentional deception in hopes that I would not inspect the contents of each

package. If so, it worked. Your last-minute designation of me as a consulting party was in fact a secret one. You could have easily told me by e-mail of the decision, as you have communicated every other time (that I know). But you sent no e-mail, apparently for the express purpose of running the clock.

At this hearing you also engaged me in a conversation in which you attempted to impress me that you had "driven by" my house to look at it from the road. It boggles my mind that the federal official in charge of conducting an impact assessment of a historic property would think that he can accomplish this in a drive-by manner, without even informing the property owner, who supposedly has been identified as a consulting party.

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In addition, it will be necessary to inform all of the other consulting parties of these developments. We note that some of their "sign off" letters were expressly conditional on no further information coming to light.

Will this require a substantial alteration of your plan to "wrap up" the Section 106 review? Yes.

Your attempt to now close the door on the day before Thanksgiving cannot succeed. You have real legal responsibilities under NHPA. Those responsibilities include real consultation, and real consultation means that you actually look at the affected properties, communicate with consulting parties in an open non-deceptive way, and actually fund studies where necessary. All of that is just beginning.

So that we can now get consultation off the ground, I require answers to a few questions, many of which I have asked before with no reply:

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Thank you for attention to these matters. Enjoy the holiday.

Sincerely,

Geoffrey Sea  
The Barnes Home  
1832 Wakefield Mound Road  
Sargents, OH 45661

Tel: 740-289-2473

E-mail: [\\_SargentsPigeon@aol.com](mailto:_SargentsPigeon@aol.com) (mailto:SargentsPigeon@aol.com)



**Mail Envelope Properties (43973053.5C1 : 2 : 7356)**

**Subject:** Re: USEC DEIS and 106 Comments  
**Creation Date:** 12/7/05 1:56PM  
**From:** Matthew Blevins

**Created By:** mxb6@nrc.gov

<b>Recipients</b>	<b>Action</b>	<b>Date &amp; Time</b>
aol.com SargentsPigeon	Transferred	12/07/05 1:57 PM

nrc.gov twf4_po.TWFN_DO MXB6 BC (Matthew Blevins)	Delivered Opened	12/07/05 1:56 PM 12/13/05 4:40 PM
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<b>Post Office</b>	<b>Delivered</b>	<b>Route</b>
twf4_po.TWFN_DO	12/07/05 1:56 PM	aol.com nrc.gov

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<b>Status Tracking:</b>	Delivered & Opened

December 19, 2005

Mr. Geoffrey Sea  
The Barnes Home  
1832 Wakefield Mound Road  
Piketon OH 45661

**SUBJECT: CONTINUATION OF THE NATIONAL HISTORIC PRESERVATION ACT  
SECTION 106 CONSULTATION PROCESS FOR THE PROPOSED AMERICAN  
CENTRIFUGE PLANT, PIKE COUNTY, OHIO: NEW INFORMATION  
REGARDING THE U.S. DEPARTMENT OF ENERGY WELL FIELD**

Dear Mr. Sea:

The U.S. Nuclear Regulatory Commission (NRC) is providing additional information relevant to the ongoing Section 106 consultation for USEC Inc.'s proposed American Centrifuge Plant (ACP). In several of your previous submittals you had indicated concerns about what appeared to be prehistoric earthworks at one of the well fields that will supply water for the proposed ACP.

As you are aware the NRC has previously issued its draft environmental impact statement (DEIS) for the proposed ACP. The DEIS presents a discussion of impacts from the well field in question on page 4-7 and the NRC's findings that there would be no effect on these apparent earthworks. Subsequent to publication of the DEIS, the NRC received a statement from Mr. Blaine Bleekman (enclosure), a local resident, who described construction of three levies along the Scioto River after a 1959 flood, including the levy that you are concerned about. While it appears most likely that these structures are recently constructed flood control levies, it is still the NRC's position that there will be no effect on these structures from continued pumping at the subject well field.

At this point you have provided several objections to our findings in the DEIS. In addition to your concerns about the DOE well field, you have also expressed concerns for historic properties bordering the DOE reservation as well as the NRC's compliance with Section 106 of the National Historic Preservation Act. We have previously received comments from the Ohio Historic Preservation Office (OHPO) (enclosure) and are working to incorporate their comments, however, we note that the OHPO has stated their agreement that the proposed ACP would not adversely affect historic properties. We are in the process of forwarding your objections to the both the OHPO and the Advisory Council on Historic Preservation

G. Sea

- 2 -

If you have any questions about this information please feel free to respond in writing or to contact Matthew Blevins by phone at 301-415-7684 or by e-mail at [MXB6@nrc.gov](mailto:MXB6@nrc.gov). Mr. Blevins will be happy to set up a meeting or telephone conference to facilitate the consultation.

Sincerely,

*/RA/*

B. Jennifer Davis, Chief  
Environmental Review Section  
Division of Waste Management  
and Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

G. Sea

- 2 -

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/RA/

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Division of Waste Management  
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Office of Nuclear Material Safety  
and Safeguards

Docket No.: 70-7004

Enclosures: As stated

cc: w/o enclosures, see attached list

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**ML053490025**

<b>OFC</b>	DWMEP:PM	DWMEP:SC	OGC	
<b>NAME</b>	MBlevins	BJDavis	LClark	
<b>DATE</b>	12/16/05	12/19/05	12/13/05	

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Pike County Recorder  
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Waverly, OH 45690

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Waverly, OH 45690-0147

Mr. Marvin Jones  
President and CEO  
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165 South Paint Street  
Chillicothe, OH 45601

**APPENDIX C**  
**RADIOLOGICAL DOSE ANALYTICAL METHODOLOGY**





## APPENDIX C RADIOLOGICAL DOSE ANALYTICAL METHODOLOGY

This appendix discusses the following topics:

- The dose assessment analysis for site preparation and construction activities for the proposed ACP; and
- Environmental transport and calculation of dose and risk.

### C.1 Radiological Impacts from Site Preparation and Construction

Radiological impacts during site preparation and construction are primarily to the construction workers performing those activities. Exposures to off-site personnel are greatly below those of the construction workers themselves because of atmospheric dispersion of airborne material and distance from sources of external dose.

#### C.1.1 Dose to Construction Workers During Site Preparation and Construction

The primary modes of exposure for construction personnel are: (1) inhalation of radionuclides that are in the dust suspended by construction activities; (2) external exposure from radionuclides contained in the soil suspended in the air; (3) external exposure from radionuclides in the soil on the ground; and (4) external exposure from existing sources nearby on the site.

##### C.1.1.1 Construction Worker Exposure from Inhalation of Radionuclides in Air

The dose and risk calculation for inhalation is based on the methods of Federal Guidance Report 13 (EPA, 1999), which are themselves based on the models recommended by the International Commission on Radiological Protection. In this method, the computation of committed effective dose equivalent for a nuclide is arrived at by computing the intake quantity of the nuclide and multiplying that amount by a coefficient that converts intake quantity to committed effective dose equivalent.

The following linear exposure model will be used to calculate inhalation dose of the *i*th radionuclide from inhalation:

$$DSR_{inh,i} = \frac{B \times C_d \times DCF_i}{F_p} \quad (\text{Eq. 1})$$

where:

- B = the volume of air inhaled per hour (m<sup>3</sup>/hr)
- C<sub>d</sub> = the concentration of respirable dust in the air (g/m<sup>3</sup>)
- DCF<sub>i</sub> = the adult inhalation dose conversion factor of radionuclide *i* from Federal Guidance Report 13 (mrem/pCi)
- F<sub>p</sub> = the assigned protection factor for respirators from 10 CFR 20 Appendix A (NRC, 1991)

Dose Conversion Factors in Federal Guidance Report 13 are a function of not just the radionuclide, but also the inhalation Type. The Type classification scheme, introduced in International Commission on Radiation Protection Publication 66 (ICRP, 1994), replaced the inhalation Class nomenclature previously used in most inhalation dose modeling. Inhalation Type is one of three values, F, M, or S. The dose conversion factor selected for a nuclide in this analysis will be the default recommended Type listed in

Federal Guidance Report 13 if one exists. If a default recommended Type does not exist, then Type M will be used.

For a few elements, the Dose conversion factor is also a function of the chemical state. For example, the Dose conversion factor for tritium (H-3) in Federal Guidance Report 13 is not only a function of Type, but also a function of whether the tritium is bound as a particulate, water vapor, organic, or in an elemental state. The element of interest in this analysis is uranium, for which Federal Guidance Report 13 has dose factors for only the particulate state.

Federal Guidance Report 13 contains dose conversion factors as a function of age. This analysis uses the adult dose conversion factors since all workers are expected to be over the age of 18. Federal Guidance Report 13 also contains risk coefficients for both mortality and morbidity that are analogous to the Dose Conversion Factors. An inhalation mortality risk for each isotope can be calculated using the same equation, but replacing the Dose Conversion Factor for an isotope with an analogous mortality risk coefficient from Federal Guidance Report 13.

The total inhalation dose from all radionuclides can be estimated by summing all the inhalation doses from the individual radionuclides.

$$\text{Total Inhalation Dose} = E_d \sum (DSR_{inh,i} \times A_i) \quad (\text{Eq. 2})$$

where

- $A_i$  = the activity concentration of radionuclide  $i$  in dust (pCi/g)
- $E_d$  = the number of hours per year that the worker is exposed (hr/yr)

The inhalation analysis uses the following parameters, which provide for an analysis that should produce a high estimate of dose:

- 40 hours/week exposure, 48 weeks per year at job site (52 less 2 vacation and 2 weeks equivalent for holidays/sick time);
- No respiratory protection ( $F_p = 1$ );
- Breathing Rate is 1.4 cubic meters per hour from EPA Exposure Factors Handbook (EPA, 1997);
- The average uranium concentration in soil is 7.7 micrograms per gram soil from Table 3.3.2-1 in the ACP Environmental Report (USEC, 2004);
- On-site air contains 313 micrograms of soil per cubic meter (maximum hourly concentration from construction air modeling results);
- All the soil in the air comes from on-site soil with the average uranium concentrations; there is no contribution from off-site;
- The uranium in the soil is Type F for selecting inhalation dose conversion factors, technicium-99 is type S. These provide the maximum dose conversion factors;
- Technicium-99 activity in soil is one half of the maximum value in Table 3.3.2-1 of USEC, 2005; and
- All radioactive materials in the air exist in a fully respirable particle size.

The isotopic activity ratio for the site should average to approximately natural uranium. The mass fractions for the various isotopes of uranium are thus expected to be 0.9926 uranium-238, 0.0073 uranium-235, and 0.000054 uranium-234. The activity ratio is then the specific activity times the mass fraction as seen in Table C-1:

**Table C-1 Site Isotopic Activity Ratio**

Isotope	Mass Fraction	Specific Activity Ci/gram	Activity Ratio	Activity in Soil pCi/gram
U-234	$5.4 \times 10^{-05}$	$6.2 \times 10^{-03}$	$3.4 \times 10^{-07}$	2.59
U-235	$7.3 \times 10^{-03}$	$2.2 \times 10^{-06}$	$1.6 \times 10^{-08}$	0.12
U-238	$9.9 \times 10^{-01}$	$3.4 \times 10^{-07}$	$3.3 \times 10^{-07}$	2.57
Tc-99	--	--	--	6.3

Notes:

Ci = curie; pCi = picocurie.

Information on isotopic ratios of natural uranium and specific activity is from the Chart of the Nuclides, Twelfth Edition, General Electric Company, San Jose, CA, 1977.

The uranium activity concentration in soil is then calculated from

$$A_i = 10^{12} \times AR_i \times C \quad (\text{Eq. 3})$$

where:

- $A_i$  = the isotopic activity in soil in pCi/gram for isotope  $i$ ;
- $AR_i$  = the activity ratio for isotope  $i$  in Ci/gram of uranium;
- $C$  = the concentration of uranium in the soil in microgram U/gram soil;
- $10^{12}$  = a factor to convert Ci to pCi.

Table C-2 describes the resulting dose from inhalation by isotope:

**Table C-2 Inhalation Dose by Isotope**

Isotope	Type	Dose Conversion Factor (mrem/pCi)	Dose (mrem/yr)
U-234	F	$2.1 \times 10^{-03}$	$4.5 \times 10^{-03}$
U-235	F	$1.9 \times 10^{-03}$	$1.9 \times 10^{-04}$
U-238	F	$1.9 \times 10^{-03}$	$4.0 \times 10^{-03}$
Tc-99	S	$4.9 \times 10^{-05}$	$2.6 \times 10^{-04}$
<b>Total</b>			<b><math>9.0 \times 10^{-03}</math></b>

Notes:

mrem = millirem; pCi = picocurie; yr = year.

### C.1.1.2 Construction Worker Exposure from Submersion

Dose to construction workers will occur from external exposure to radiation emitted by radionuclides that are in soil where the construction activities are taking place. The dominant sub-pathways for exposure to these radionuclides include air submersion and direct soil exposure. These exposures can be calculated using a method similar to that used for inhalation:

$$DSR_{sub,i} = C_d \times DCF_{sub,i} \quad (\text{Eq. 4})$$

$DCF_{sub,i}$  is in units of millirem per Ci-yr per meter cubed.

With the DSR known, the submersion dose can then be calculated from:

$$\text{Total Dose from Submersion} = E_D \sum_i (DSR_{sub,i} \times A_i) \quad (\text{Eq. 5})$$

The dust concentrations and exposure times are the same as those used for inhalation. Table C-3 describes the dose to workers from submersion.

**Table C-3 Worker Dose from Dust Submersion**

Isotope	Dose Conversion Factor (mrem-m <sup>3</sup> /Ci-yr)	Submersion Dose (mrem/yr)
U-234	$7.2 \times 10^{+05}$	$4.1 \times 10^{-09}$
U-235	$7.6 \times 10^{+08}$	$2.0 \times 10^{-07}$
U-238	$2.9 \times 10^{+05}$	$1.7 \times 10^{-09}$
Tc-99	$3.4 \times 10^{+06}$	$4.6 \times 10^{-08}$
<b>Total</b>		<b><math>2.5 \times 10^{-07}</math></b>

Notes:

mrem-m<sup>3</sup> = millirem-cubic meter; Ci-yr = curie-year; mrem/yr = millirem per year.

### C.1.1.3 Construction Worker External Dose from Radionuclides in Soil

Workers will also be subject to exposure from exposure to radionuclides in the soil. Dose from this exposure is calculated using the equation:

$$DSR_{ext,i} = C_s \times DCF_{ext,i} \quad (\text{Eq. 6})$$

$DCF_{ext,i}$  is the Dose conversion factor for exposure to external radiation in soil, is in units of millirem per pCi-yr per gram.

The exposure time and soil concentrations used are identical to those used in the inhalation calculation. Again, with the DSR known the total external dose from radionuclides in soil can be calculated from:

$$\text{Total Dose from Radionuclides in Soil} = E_D \sum_i (DSR_{ext,i} \times A_i) \quad (\text{Eq. 7})$$

Table C-4 describes the total external dose to workers from radionuclides in soil.

**Table C-4 Total Worker External Dose from Soil**

Isotope	Dose Conversion Factor (mrem-g/pCi-yr)	External Dose (mrem/yr)
U-234	$3.4 \times 10^{-04}$	$2.0 \times 10^{-04}$
U-235	$6.6 \times 10^{-01}$	$1.7 \times 10^{-02}$
U-238	$8.0 \times 10^{-05}$	$4.5 \times 10^{-05}$
Tc-99	$1.1 \times 10^{-04}$	$1.5 \times 10^{-04}$
<b>Total</b>		<b><math>1.8 \times 10^{-02}</math></b>

Notes:

mrem-g = millirem per gram; pCi-yr = picocurie-year; mrem/yr = millirem per year.

#### C.1.1.4 Construction Worker External Dose from Existing Sources

DOE has maintained a set of thermoluminescent dosimeters both on and offsite to measure the direct radiation exposure at various locations from the totality of on-site sources, including the cylinder storage pads and other secondary sources. Thermoluminescent dosimeters provide the best estimate of the external radiation exposure rates at various locations around the site. Work related to the proposed ACP is expected to occur primarily at and around the existing X-3001 and X-3002 buildings, with some additional work being done to build the new X-745H cylinder storage pad approximately 200 yards north of the existing X-745G cylinder storage pad.

In 2003 the environmental exposure rate in the vicinity of the X-3001 and X-3002 buildings was approximately 20 millirem per quarter based on the thermoluminescent dosimeter in that region, TLD 1404A (DOE, 2004). Environmental thermoluminescent dosimeters record information around the clock, or about 2,190 hours per quarter. Assuming a 40 hour work week for a thirteen week quarter, a construction worker in the vicinity of the X-3001 or X-3002 buildings would receive a maximum external radiation dose of 0.5 millisieverts (5 millirem) per quarter or 0.20 millisieverts (20 millirem) per year.

The ambient dose rate in the vicinity of the X-745H cylinder storage pad is expected to be greater than that near the X-3001 and X-3002 buildings. Thermoluminescent dosimeters near the existing storage yards show wide variance in their measured exposure rates; for example, the three thermoluminescent dosimeters nearest the expected location of the X-745H pad record exposure rates at approximately 20 millirem per quarter, while others slightly farther away record higher values, with one thermoluminescent dosimeter reading a value as high as 1.87 millisieverts (187 millirem) per quarter (DOE, 2004). The variation is the result of a number of factors, including the distance and geometry of the thermoluminescent dosimeter relative to the existing storage yards, and any work that may have temporarily placed a source in the vicinity of the thermoluminescent dosimeter. Using a very conservative assumption that the exposure rate at the X-745H construction site is 1 millisievert (100 millirem) per quarter (4 millisieverts [400 millirem] per year), a construction worker working 40 hours per week for 48 weeks at that job site would receive a maximum external dose of approximately 88 millirem for the year, which is below the public dose limit of 1 millisievert (100 millirem) per year contained in 10 CFR 20.1301(a)(1). The most likely radiation dose to workers at the X-745H pad is expected to be much less, on the order of 0.20 millisieverts (20 millirem) per year, based on the readings from the nearby thermoluminescent dosimeters and the fact that the average annual dose for storage pad workers was 0.29 millisieverts (29 millirem) in 2003. A dose of 0.20 millisieverts (20 millirem), is on the same scale as the variations in individual dose caused by the fluctuation in natural background.

Background radiation dose in the United States averages approximately 3.6 millisieverts (360 millirem) per year (NRC, 2005).

The estimate for external dose from other sources is, for a number of reasons, likely to be significantly exaggerated relative to any actual dose received by a construction worker. First, construction of the pad is not expected to last a full calendar year even though the dose estimate assumes an annual exposure period. Second, the analysis implicitly assumes the same personnel are used in the higher dose rate area for the entire year regardless of the fact that the specific tasks may be changing (i.e. grading versus pouring concrete). Third, the analysis assumes that these personnel spend 100 percent of their work time in the higher dose rate region. The analysis is useful in demonstrating that even with these assumptions in place the maximum dose would still be below the applicable NRC public dose limit.

#### C.1.1.5 Total Potential Dose to Construction Workers

Total occupational exposures from all four pathways are expected to be less than 1 millisievert (100 millirem) per year, even for estimates combining the most conservative analytical assumptions. This dose presents a nearly negligible risk, representing a lifetime excess cancer risk of approximately  $5 \times 10^{-6}$  when using a risk coefficient of  $5 \times 10^{-4}$  risk per rem (EPA, 1994). Based on this assessment, the impact to workers, from radiological exposure during site preparation and construction is SMALL.

#### C.1.2 Dose to Off-Site Public from Site Preparation and Construction

Exposures to off-site personnel will be significantly smaller than that for construction workers, particularly since off-site personnel will not have any potential for measurable exposure from the depleted uranium storage pads. The off-site public will also not be exposed to dose from on-site soil containing concentrations of radionuclides above background concentrations.

Estimates of dose to the off-site public from site preparation and construction are limited to two of the pathways used in the analysis of dose to construction workers, inhalation and air submersion. The methodology used to calculate inhalation and submersion dose to the offsite public is the same as that used to calculate the doses to construction workers; only the concentration of dust in air and the exposure duration in hours per year are changed. The airborne dust concentration used in the off-site inhalation exposure is 22.7 micrograms per cubic meter, which represents the maximum fence-line one hour concentration. The exposure duration is considered to be 8,760 hours per year, or full time occupancy. Using these values in the previous models results in the following inhalation dose values in millirem per year of exposure (Table C-5):

**Table C-5 Dose to the Off-Site Public**

Isotope	Inhalation Dose (mSv/yr)	Submersion Dose (mSv/yr)
U-234	$4.5 \times 10^{-5}$	0
U-235	$1.9 \times 10^{-6}$	0
U-238	$4.0 \times 10^{-5}$	0
Tc-99	$2.6 \times 10^{-6}$	0
<b>Total</b>	<b><math>8.9 \times 10^{-5}</math></b>	<b>0</b>

Notes:

mSv/yr = millisievert per year.

To convert millisievert to millirem multiply by 100.

The maximum exposure to off-site personnel is estimated to be much less than 0.01 millisieverts (1millirem) per year, so the impact to off-site personnel from site preparation and construction is SMALL.

## C.2 Estimation of Dose and Risk

The purpose of this section is to present the mathematical models and equations used in CAP88-PC for environmental transport and estimation of dose and risk from air transport of radioactive material.

### C.2.1 Environmental Transport

CAP88-PC incorporates a modified version of the AIRDOS-EPA (Moore, 1979) program to calculate environmental transport. Relevant portions of this document are reproduced here, as referenced.

#### C.2.1.1 Plume Rise

CAP88-PC calculates plume rise in the subroutine CONCEN using either Rupp's equation (Ru48) for momentum dominated plume rise, or Briggs' equations (Br69) for hot buoyant plumes (Mo79). CAP88-PC also accepts user-supplied values for plume rise for each Pasquill stability class. The plume rise,  $\Delta h$ , is added to the actual physical stack height,  $h$ , to determine the effective stack height,  $H$ . The plume centerline is shifted from the physical height,  $h$ , to  $H$  as it moves downwind. The plume centerline remains at  $H$  unless gravitational settling of particulates produces a downward tilt, or until meteorological conditions change.

Rupp's equation for momentum dominated plumes is:

$$\Delta h = \frac{1.5vd}{\mu} \quad (\text{Eq. 1})$$

where:

- $\Delta h$  = plume rise
- $v$  = effluent stack gas velocity (m/sec)
- $d$  = inside stack diameter (m)
- $\mu$  = wind velocity (m/sec)

CAP88-PC models Briggs' buoyant plume rise for stability categories A, B, C, and D with:

$$\Delta h = \frac{1.6 F^{1/3} x^{2/3}}{\mu} \quad (\text{Eq. 2})$$

where:

- $\Delta h$  = plume rise
- $F$  =  $3.7 \times 10^{-5} Q_H$
- $Q_H$  = heat emission from stack gases (cal/sec)
- $x$  = downwind distance (m)
- $\mu$  = wind speed (m/sec)

This equation is valid until the downwind distance is approximately ten times the stack height, 10h, where the plume levels off. For downwind distances greater than 10h, the equation used is:

$$\Delta h = \frac{1.6 F^{1.3} x (10h)^{2.3}}{\mu} \quad (\text{Eq. 3})$$

Equation (2) is also used to a distance of  $X = 2.4 \mu S^{-1/3}$  for stable categories E, F, and G, beyond which the plume is assumed to level off. For higher values of x, the stability parameter, S, is used in the equation:

$$\Delta h = 2.9 (F/\mu S)^{1/3} \quad (\text{Eq. 4})$$

in which:

$$\begin{aligned} S &= (g/T_a)(dT_a/dz+G) & (\text{Eq. 5}) \\ g &= \text{gravitational acceleration (m/sec}^2\text{)} \\ T_a &= \text{air temperature (}^\circ\text{K)} \\ dT_a/dz &= \text{vertical temperature gradient (}^\circ\text{K/m)} \\ z &= \text{vertical distance above stack (m)} \\ G &= \text{adiabatic lapse rate of atmosphere (0.0098}^\circ\text{K/m)} \end{aligned}$$

The value of the vertical temperature gradient,  $dT_a/dz$ , is positive for stable categories. In CAP88-PC,  $dT_a/dz$  values are:

7.280E-02 °K/m for Pasquill category E  
 1.090E-01 °K/m for Pasquill category F  
 1.455E-01 °K/m for Pasquill category G

The true-average wind speed for each Pasquill stability category is used in CAP88-PC to estimate plume rise, as it is greater than the reciprocal-averaged wind speed, and produces a smaller, more conservative plume rise. This procedure does not risk underestimating the significant contribution of relatively calm periods to downwind nuclide concentrations which could result from direct use of a plume rise calculated for each separate wind-speed category. This procedure avoids calculating an infinite plume rise when wind speed is zero (during calms), since both momentum and buoyancy plume rise equations contain wind speed in the denominator (Moore, 1979).

CAP88-PC also accepts user-supplied plume rise values, for situations where actual measurements are available or the supplied equations are not appropriate. For example, plume rises of zero may be used to model local turbulence created by building wakes.

For this analysis, the plume rise was set to zero for each Pasquill category.

### C.2.1.2 Plume Dispersion

Plume dispersion is modeled with the Gaussian plume equation of Pasquill (Pasquill, 1961, and Moore, 1979), as modified by Gifford:

$$\chi = \frac{Q}{2\pi\sigma_y\sigma_z\mu} \cdot \exp[-1/2(y/\sigma_y)^2] \{ \exp[-1/2((z-H)/\sigma_z)^2] + \exp[-1/2((z+H)/\sigma_z)^2] \} \quad (\text{Eq. 6})$$



where:

$\chi$  = concentration in air (chi) at x meters downwind, y meters crosswind, and z meters above ground (Ci/m<sup>3</sup>)

Q = Release rate from stack (Ci/sec)

$\mu$  = wind speed (m/sec)

$\sigma_y$  = horizontal dispersion coefficient (m)

$\sigma_z$  = vertical dispersion coefficient (m)

H = effective stack height (m)

y = crosswind distance (m)

z = vertical distance (m)

The downwind distance x comes into Equation (6) through  $\sigma_y$  and  $\sigma_z$ , which are functions of x as well as the Pasquill atmospheric stability category applicable during emission from the stack. CAP88-PC converts  $\chi$  in Equation (6) and other plume dispersion equations from units of curies per cubic meter to units of picocuries per cubic centimeter.

Annual-average meteorological data sets usually include frequencies for several wind-speed categories for each wind direction and Pasquill atmospheric stability category. CAP88-PC uses reciprocal-averaged wind speeds in the atmospheric dispersion equations, which permit a single calculation for each wind-speed category. Equation (6) is applied to ground-level concentrations in air at the plume centerline by setting y and z to zero, which results in:

$$\chi = \frac{Q}{\pi\sigma_y\sigma_z\mu} \exp[-1/2(H/\sigma_z)^2] \quad (\text{Eq. 7})$$

The average ground-level concentration in air over a sector of 22.5° can be approximated by the expression:

$$\chi_{ave} = f\chi \quad (\text{Eq. 8})$$

where f is the integral of the exponential expression:

$$\exp[-1/2(y/\sigma_y)^2]$$

in Equation (6) from a value of y equals zero to infinity divided by  $y_s$ , the value of y at the edge of the 22.5° sector, which is the value of the downwind distance, x, multiplied by the tangent of half the sector angle. The expression is:

$$f = \frac{\int_0^{\infty} \exp\left[-\left(0.5/\sigma_y^2\right)y^2\right] dy}{y_s} \quad (\text{Eq. 9})$$

The definite integral in the numerator of Equation (9) is evaluated as

$$\sigma_y (\pi/2)^{1/2}$$

Since  $y_s = x \tan (11.25^\circ)$ ,

$$f = \frac{6.300836 \sigma_y}{x} \quad (\text{Eq. 10})$$

The equation for sector-averaged ground level concentration in air is therefore:

$$\chi = \frac{Q}{0.15871 \pi x \sigma_y \mu} \exp[-1/2(H/\sigma_z)^2] \quad (\text{Eq. 11})$$

This method of sector-averaging compresses the plume within the bounds of each of the sixteen 22.5° sectors for unstable Pasquill atmospheric stability categories in which horizontal dispersion is great enough to extend significantly beyond the sector edges. It is not a precise method, however, because the integration over the y-axis, which is perpendicular to the downwind direction, x, involves increasing values for x as y is increased from zero to infinity.

An average lid for the assessment area is provided as part of the input data. The lid is assumed not to affect the plume until x becomes equal to  $2x_L$ , where  $x_L$  is the value of x for which  $\sigma_z = 0.47$  times the height of the lid (Turner, 1969). For values of x greater than  $2x_L$ , vertical dispersion is restricted and radionuclide concentration in air is assumed to be uniform from ground to lid.

The average concentration between ground and lid, which is the ground-level concentration in air for values of x greater than  $2x_L$ , may be expressed by:

$$\chi_{ave} = \int_0^L \frac{\chi}{L} dz \quad (\text{Eq. 12})$$

where  $\chi$  is taken from Equation (6) and L is lid height. The value of H in Equation (6) may be set at zero since  $\chi_{ave}$  is not a function of the effective stack height.

The resulting simplified expression may be evaluated for constant x and y values ( $s_y$  and  $s_z$  held constant) by using a definite integral similar to that in Equation (10):

$$\chi_{ave} = \left(\frac{1}{L}\right) \int_0^L \left(\frac{Q}{\pi \sigma_y \sigma_z}\right) \exp\left(\frac{-Z^2}{2\sigma_z^2}\right) \exp\left(\frac{-Z^2}{2\sigma_y^2}\right) dz \quad (\text{Eq. 13})$$

The result is:

$$\chi_{ave} = \frac{Q}{2.5066 \sigma_y L \mu} \exp[-y^2/\sigma_y^2] \quad (\text{Eq. 14})$$

One obtains the sector-averaged concentration at ground level by replacing the exponential expression containing  $y$  by  $f$  in Equation (11):

$$\chi_{ave} = Q/0.397825xL\mu \quad (\text{Eq. 15})$$

It should be noted at this point that for values of the downwind distance greater than  $2x_L$  dispersion, as expressed in Equation (16), no longer can be said to be represented by the Pasquill equation. The model is simply a uniform distribution with a rectangle of dimensions LID and  $2x \tan(11.25^\circ)$ .

Gravitational settling is handled by tilting the plume downward after it has leveled off at height  $H$  by subtracting  $V_g x/m$  from  $H$  in the plume dispersion equations. For CAP88-PC  $V_g$  is set at the default value of zero and cannot be changed by the user.

### C.2.1.3 Dry Deposition

Dry deposition is modeled as being proportional to the ground-level concentration of the radionuclide (Moore, 1979):

$$R_d = V_d \chi \quad (\text{Eq. 16})$$

where:

- $R_d$  = surface deposition rate (pCi/cm<sup>2</sup>-sec)
- $V_d$  = deposition velocity (cm/sec)
- $\chi$  = ground-level concentration (chi) in air (pCi/cm<sup>3</sup>)

Although  $V_d$  has units of velocity, it is only a proportionality constant and is usually higher than the actual, measured velocity of radionuclides falling to the ground. The proportionality constant must include deposition from fallout interception by foliage, which subsequently falls to the ground and so adds to ground deposition. Defaults for deposition velocity used by CAP88-PC are  $3.5 \times 10^{-02}$  meters per second for Iodine,  $1.8 \times 10^{-03}$  meters per second for particulates, and zero for gases.

### C.2.1.4 Precipitation Scavenging

The deposition rate from precipitation scavenging (Moore, 1979), which occurs when rain or snow removes particles from the plume, is modeled with:

$$R_s = \Phi \chi_{ave} L \quad (\text{Eq. 17})$$

where:

- $R_s$  = surface deposition rate (pCi/cm<sup>2</sup>-sec)
- $\Phi$  = scavenging coefficient (sec<sup>-1</sup>)
- $\chi_{ave}$  = average concentration in plume up to lid height (pCi/cm<sup>3</sup>)
- $L$  = lid height (tropospheric mixing layer) (cm)

The scavenging coefficient,  $\Phi$  (in sec<sup>-1</sup>), is calculated in CAP88-PC by multiplying the rainfall rate in cm/yr, by  $1.0 \times 10^{-07}$  yr/cm-sec.

### C.2.1.5 Plume Depletion

Radionuclides are depleted from the plume by precipitation scavenging, dry deposition, and radioactive decay. Depletion is accounted for by substituting a reduced release rate,  $Q^1$ , for the original release rate  $Q$  for each downwind distance  $x$  (Slade, 1968). The ratio of the reduced release rate to the original is the depletion fraction. The overall depletion fraction used in CAP88-PC is the product of the depletion fractions for precipitation scavenging, dry deposition and radioactive decay.

For precipitation scavenging the depletion fraction for each downwind distance ( $x$ ) is:

$$\frac{Q^1}{Q} = e^{-\Phi t} \quad (\text{Eq. 18})$$

where:

- $\Phi$  = scavenging coefficient ( $\text{sec}^{-1}$ )
- $t$  = time (sec) required for the plume to reach the downwind distance  $x$

The depletion fraction for dry deposition is derived by using Equation (6) with  $z$  set to zero for ground-level concentrations, and subtracting the quantity  $(V_g x)/U$  from  $H$  for a tilted plume (Van, 1968, and Moore, 1979):

$$\frac{Q^1}{Q} = \exp \left\{ - \left( \frac{2}{\pi} \right)^{1/2} \left( \frac{V_d}{\mu} \right) \int_0^x \frac{\exp \left[ - \left( \frac{H - V_g x}{\mu} \right) / 2\sigma_z^2 \right]}{\sigma_z} dx \right\} \quad (\text{Eq. 19})$$

where:

- $V_d$  = deposition velocity (m/sec)
- $\mu$  = wind speed (m/sec)
- $\sigma_z$  = vertical dispersion coefficient (m)
- $V_g$  = gravitational velocity (m/sec)
- $H$  = effective stack height (m)
- $x$  = downwind distance (m)

The integral expression must be evaluated numerically. Values for the vertical dispersion coefficient  $s_z$  are expressed as functions of  $x$  in the form  $x^D/F$  where  $D$  and  $F$  are constants with different values for each Pasquill atmospheric stability category, to facilitate integrations over  $x$ .

Values for the depletion fraction for cases where  $V_g$  is zero are obtained from the subroutine QY in CAP-88. Subroutine QY obtains depletion fractions for the conditions  $V_d = 0.01$  m/sec and  $\mu = 1$  m/sec for each Pasquill stability category from the data file REFA.DAT. This file contains values for release heights (meters) of:

1, 1.5, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12.5, 15, 17.5, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 120, 140, 160, 180, 200, 240, 260, 300 and 400;

and for downwind distances (meters) of:

35, 65, 100, 150, 200, 300, 400, 500, 650, 800, 1,000, 1,500, 2,000, 4,000, 7,000, 10,000, 25,000, 60,000, 90,000, and 200,000.

The stored depletion fractions were calculated numerically with a Simpson's rule routine. CAP88-PC uses a linear interpolation to produce a fraction for the required downwind value, release height and Pasquill category for  $V_d = 0.01$  m/sec and  $\mu = 1$  m/sec. The value is then converted to the appropriate value for the actual deposition velocity and wind speed by use of the equation:

$$(Q^1/Q)_2 = (Q^1/Q)_1^{100 V_d/\mu} \quad (\text{Eq. 20})$$

in which subscript 2 refers to the desired value and subscript 1 refers to the value for  $V_d = 0.01$  m/sec and  $\mu = 1$  m/sec.

For downwind distances greater than  $2x_L$ , where Equation 15 applies to the ground-level concentrations in air, the depletion is modeled with (Moore, 1979):

$$\frac{Q_x^1}{Q_{2x_L}^1} = \exp\left[-V_d(x - 2x_L) / L\mu\right] \quad (\text{Eq. 21})$$

Which shows the reduced release rates at distances  $x$  and  $2x_L$ , respectively.

The depletion fraction for radioactive decay is:

$$\frac{Q^1}{Q} = \exp(-\lambda_r t) \quad (\text{Eq. 22})$$

where:

- $\lambda_r$  = effective decay constant in plume
- $t$  = time required for plume travel

The decay constant used is referred to as the "effective decay constant" since it is not the true radiological decay constant in all cases. For example, if a radionuclide is a short-lived decay product in equilibrium with a longer-lived parent, the effective decay constant would be equal to the true radiological decay constant of the parent.

The atmospheric dispersion equations use the reciprocal-averaged wind speed, but neither this value nor the true average wind speed can adequately be used to calculate reduced release rates to account for radiological decay and scavenging losses because averaging of exponential terms is required. CAP88-PC uses an approximate method of calculation for this purpose, which establishes three wind speeds (1 m/sec, the average wind speed, and 6 m/sec) to simulate the actual wind-speed spectrum for each specific wind direction and Pasquill category. The wind speeds 1 and 6 m/sec were chosen because they approximate the upper and lower bounds in most meteorological data sets.

If  $f_1$ ,  $f_2$  and  $f_3$  are designated as the time fractions for the three wind speeds, then:

$$f_1 + (\mu_a f_2) + 6f_3 = \mu$$

$$f_1 + (f_2/\mu_a) + f_3/6 = 1/\mu_r$$

and

$$f_1 + f_2 + f_3 = 1$$

where:

$\mu_a$  = Arithmetic-average wind speed

$\mu_r$  = Reciprocal-average wind speed

Solving the three simultaneous equations yields:

$$f_1 = 1 - f_2 - f_3$$

$$f_2 = \frac{(7/6) - (\mu_a/6) - (1/\mu_r)}{(7/6) - (\mu_a/6) - (1/\mu_a)}$$

$$f_3 = \frac{(\mu_a - 1)(1 - f_2)}{5}$$

The depletion fraction to account for radioactive decay is then approximated by:

$$f_1 \exp(-\lambda_r x) + f_2 \exp[-\lambda_r(x/\mu_a)] + f_3 \exp[-\lambda_r(x/6)]$$

where:

$\lambda_r$  = effective decay constant in plume ( $\text{sec}^{-1}$ )

$\mu_a$  = Arithmetic-average wind speed

$x$  = downwind distance (m)

For precipitation scavenging losses, the depletion fraction is:

$$f_1 \exp(-\Phi x) + f_2 \exp[-\Phi(x/\mu_a)] + f_3 \exp[-\Phi(x/6)]$$

where  $\Phi$  is the scavenging coefficient ( $\text{sec}^{-1}$ ).

The overall depletion fraction is calculated by multiplying the depletion fraction for dry deposition by the fraction for radioactive decay and precipitation scavenging.

#### C.2.1.6 Dispersion Coefficients

Horizontal and vertical dispersion coefficients ( $s_y$  and  $s_z$ ) used for dispersion calculation in CONCEN and for depletion fraction determination in QY are taken from recommendations by G.A. Briggs of the Atmospheric Turbulence and Diffusion Laboratory at Oak Ridge, Tennessee (Moore, 1979, and Gifford, 1976). The coefficients are different functions of the downwind distance  $x$  for each Pasquill stability category for open-country conditions, as shown in Table C-6:

**Table C-6 Coefficients for Open-Country Conditions**

Pasquill category	$\sigma_y$ (m)	$\sigma_z$ (m)
A	$0.22 \times (1+0.0001x)^{-1/2}$	0.20 x
B	$0.16 \times (1+0.0001x)^{-1/2}$	0.12 x
C	$0.11 \times (1+0.0001x)^{-1/2}$	$0.08 \times (1+0.0002x)^{-1/2}$
D	$0.08 \times (1+0.0001x)^{-1/2}$	$0.06 \times (1+0.0015x)^{-1/2}$
E	$0.06 \times (1+0.0001x)^{-1/2}$	$0.03 \times (1+0.0003x)^{-1}$
F	$0.04 \times (1+0.0001x)^{-1/2}$	$0.016 \times (1+0.0003x)^{-1}$
G	calculated by subtracting half the difference between values for categories E and F from the value for category F.	

where:

x = downwind distance

CAP88-PC uses the functions in the form of

$$\sigma_y = x^A / C$$

$$\sigma_z = x^D / F$$

to facilitate integrations over x. Values for A, C, D, and F for each stability category and downwind distance are stored in a data statement.

### C.2.1.7 Ground Surface Concentrations

Ground surface and soil concentrations are calculated for those nuclides subject to deposition due to dry deposition and precipitation scavenging. The deposition accumulation time is defined by the user. This value corresponds to establishing a cutoff for the time following a release when any significant intake or external exposure associated with deposition on soil might take place.

Ingrowth from a parent radionuclide is calculated using the Bateman decay equations for all chains contained in the isotope database from Federal Guidance Report 13. Ingrowth is calculated for the entire chain based on the decay time input by the user. The default decay time is 100 years.

Radionuclide concentrations in meat, milk, and vegetables are calculated using elemental transfer factors from Report 123 of the National Council on Radiation Protection (NCRP, 1996). The concentration in soil for each isotope is multiplied by the appropriate elemental transfer factor to generate a concentration in each of the ingestion pathways media for that isotope in that sector. This information is then supplied to the dose and risk calculation models via an intermediate output file.

### C.2.2 Dose and Risk Estimates

CAP88-PC uses a modified version of DARTAB (ORNL, 1981) and a database of dose and risk factors from Federal Guidance Report 13 (EPA, 1999) for estimating dose and risk. Relevant portions of these documents are reproduced here, as referenced.

Dose and risk conversion factors include the effective dose equivalent calculated with the weighting factors in International Commission on Radiation Protection Publication Number 72 (ICRP, 1996). Dose

and risk factors are provided for the pathways of ingestion and inhalation intake, ground level air immersion, and ground surface irradiation. Factors are further broken down by particle size, clearance category chemical form, and gut-to-blood transfer factors. These factors are stored in a database for use by the program. At this time CAP88-PC only uses dose and risk factors for adult populations, for particle sizes of 1 micron, and for cancer mortality.

For assessments where radon-222 decay products are not considered, estimates of dose and risk are made by combining the inhalation and ingestion intake rates, air and ground surface concentrations with the appropriate dose and risk conversion factors. CAP88-PC lists the dose and risk to the maximum individual and the collective population. CAP88-PC calculates dose to the 23 internal organs in International Commission on Radiation Protection Publication 72 (ICRP, 1996) in addition to the 50 year effective dose equivalent. Risks are estimated for 15 cancer sites, including leukemia, bone, thyroid, breast, lung, stomach, colon, liver, pancreas, ovaries, skin, kidneys, esophagus, and bladder. Doses and risks can be further tabulated as a function of radionuclide, pathway, location, and organ.

For each assessment, CAP88-PC tabulates the frequency distribution of risk, that is, the number of people at various levels of risk (lifetime risk). The risk categories are divided into powers of ten, from one in ten to one in one million. The number of health effects is also tabulated for each risk category.

#### C.2.2.1 Air Immersion

Individual dose is calculated for air immersion with the general equation:

$$\frac{E_{ij}(k) DF_{iji} K_j}{P(k)}$$

where:

- $E_{ij}(k)$  = exposure rate, person-pCi/cm<sup>3</sup>
- $DF_{iji}$  = Dose rate factor, mrem/nCi-yr/m<sup>3</sup>
- $P(k)$  = number of exposed people
- $K_j$  = 0.001 nCi/pCi x 1,000,000 cm<sup>3</sup>/m<sup>3</sup> (proportionality factor)

Risk is calculated similarly, by substituting the risk conversion factor, for the dose conversion factor. The risk conversion factor is in units of risk/nCi-yr/m<sup>3</sup>.

#### C.2.2.2 Surface Exposure

Individual dose is calculated for ground surface exposure with the general equation:

$$\frac{E_{ij}(k) DF_{iji} K_j}{P(k)}$$

where:

- $E_{ij}(k)$  = exposure rate, person-pCi/cm<sup>2</sup>
- $DF_{iji}$  = Dose rate factor, mrem/nCi-yr/m<sup>2</sup>
- $P(k)$  = number of exposed people
- $K_j$  = 0.001 nCi/pCi x 10,000 cm<sup>2</sup>/m<sup>2</sup> (proportionality factor)

Risk is calculated by substituting the risk conversion factor for the dose conversion factor. The risk conversion factor is in units of risk/nCi-yr/m<sup>2</sup>.



### C.2.2.3 Ingestion and Inhalation

Individual dose is calculated for the ingestion and inhalation exposure pathway with the general equation:

$$\frac{E_{ij}(k) DF_{ijt} K_j}{P(k)}$$

where:

- $E_{ij}(k)$  = exposure rate, person-pCi/cm<sup>3</sup>
- $DF_{ijt}$  = Dose rate factor, mrem/nCi-yr/m<sup>3</sup>
- $P(k)$  = number of exposed people
- $K_j$  = 0.001 nCi/pCi x 1,000,000 cm<sup>3</sup>/m<sup>3</sup> (proportionality factor)

Risk is calculated by substituting the risk conversion factor or the dose conversion factor.

### C.2.2.4 Maximally-Exposed Individual

Doses for the maximally-exposed individual in population runs are estimated by CAP88-PC for the location, or sector-segment in the radial assessment grid, of highest risk where at least one individual actually resides. The effective dose equivalent for the maximally-exposed individual is tabulated in mrem/yr for a 50 year exposure. The reported risk associated with the 50 year Total Effective Dose Equivalent based on the risk coefficients contained in Federal Guidance Report 13.

When performing assessments of individual dose in CAP88-PC, the code will calculate the maximum individual dose based on the result from the highest grid point input by the user for that individual case. Alternatively, the user may specify the grid location where CAP88-PC is to generate the maximum exposed individual. This is done using the ILOC and JLOC parameters on the individual assessment grid input screen.

### C.2.2.5 Collective Population

Collective population dose and risk are found by summing, for all sector segments, the intake and exposure rates multiplied by the appropriate dose or risk conversion factors from Federal Guidance Report 13. Collective population dose is reported by person-Rem per year (not millirem), and collective risk is reported in deaths per year.

## C.3 References

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**APPENDIX D**  
**TRANSPORTATION ANALYSIS METHODOLOGY, ASSUMPTIONS, AND IMPACTS**



## APPENDIX D TRANSPORTATION ANALYSIS METHODOLOGY, ASSUMPTIONS, AND IMPACTS

### D.1 Introduction

This appendix presents the methodology, assumptions, and impacts from the transportation of radiological materials to and from the proposed American Centrifuge Plant (ACP) near Piketon, Ohio. Transportation of radiological materials include shipments of feed materials to the ACP, shipments of product materials and heel cylinders from the proposed ACP, shipments of radioactive waste from the proposed ACP during the operation of the facility, and the shipment of radioactive materials resulting from the decontamination and decommissioning of the ACP. Also included in the appendix is the eventual shipment of depleted uranium to a disposal site after its conversion from uranium hexafluoride ( $UF_6$ ) to triuranium octaoxide ( $U_3O_8$ ), and calcium fluoride ( $CaF_2$ ), a by-product of the conversion that would be contaminated with small amounts of uranium. Shipments to and from the ACP are modeled as truck shipments, while shipments from the conversion plant are modeled as rail shipments..

This appendix is organized into separate sections that include a description of the radioactive materials being shipped; a description of the routes modeled; the input parameters used to estimate the number of latent cancer fatalities from both incident-free transport and accidents; the results of the risk assessment; and a discussion of the chemical impacts from accidents.

### D.2 Radioactive Materials Description

The feed material is transported in Type 48Y or Type 48X cylinders. The product consists of enriched  $UF_6$  and is transported in Type 30B cylinders. Specifications for these cylinders are given in Table D-1. Two other radioactive materials requiring transportation that result from the conversion of  $UF_6$  are depleted  $U_3O_8$  and calcium fluoride ( $CaF_2$ ), contaminated with uranium. Assuming no change in isotopic concentration of the uranium isotopes, the  $U_3O_8$  material would have the same isotopic ratios as the depleted  $UF_6$  tails. The  $CaF_2$  could have about 55 becquerels (1.5 picocuries) per gram of depleted uranium as a radioactive contaminate (DOE, 2004). Finally radioactive waste resulting from routine operations and the eventual decontamination and decommissioning (D&D) of the plant would be transported to a waste disposal site. Specifications for 55-gallon drums and B-25 boxes, used to transport radioactive waste are give in Table D-2.

**Table D-1 Specifications for Type 30B, 48X, and 48Y Cylinders**

Cylinder Specification	30B	48X	48Y
Nominal Diameter	76 cm	122 cm	122 cm
Nominal Length	206 cm	302 cm	380 cm
Wall Thickness	1.3 cm	1.6 cm	1.6 cm
Nominal Tare Weight	635 kg	2,000 kg	2,359 kg
Maximum Net Weight	2,300 kg	9,540 kg	12,500 kg
Nominal Gross Weight	2,900 kg	11,600 kg	14,800 kg
Minimum Volume	0.74 m <sup>3</sup>	3.05 m <sup>3</sup>	4.04 m <sup>3</sup>
Basic Construction Material	Steel: ASTM-516	Steel: ASTM-516	Steel: ASTM-516
Service Pressure	1,380 kPa gage	1,380 kPa gage	1,380 kPa gage
Hydrostatic Test Pressure	2,760 kPa gage	2,760 kPa gage	2,760 kPa gage
Isotopic Content Limit (Max. with Moderation Control)	5.0 % U-235	4.5 % U-235 (5.0% in-plant use)	4.5 % U-235
Valve Used	2.54 cm valve	2.54 cm valve	2.54 cm valve

Notes:

cm = centimeter; m<sup>3</sup> = cubic meter; kg = kilogram; kPa = kilopascal; psi = pounds per square inch; ASTM = American Society for Testing and Materials.

To convert cm to inches multiply by 0.394.

To convert m<sup>3</sup> to ft<sup>3</sup> multiply by 35.3.

To convert kg to lb multiply by 2.2.

To convert kPa to psi multiply by 0.144.

Source: USEC, 1995.

**Table D-2 Specifications for 55-Gallon Drums and B-25 Boxes**

Cylinder Specification	55-Gallon Drum	B-25 Box
Nominal Diameter	61 cm	122 cm 183 cm
Nominal Length	89 cm	122 cm
Minimum Volume	259 L	2,720 L
Material of Construction	Steel	Steel

Notes:

cm = centimeter; L = liter

To convert cm to inches multiply by 0.394.

To convert L to ft<sup>3</sup> multiply by 0.35.

Source: USEC, 2005.

Table D-3 provides the isotopic mass fractions used to calculate the activities of the individual radionuclides in the various shipping containers. The calculated activity of the uranium isotopes and their



most prevalent progeny are given in Table D-4. The activities of the various isotopes of protactinium and thorium are calculated assuming one year of decay. These progeny along with the uranium isotopes account for more than 99 percent of the total activity of the radioactive materials described in Section D.1. While other progeny are present in very small quantities, their contribution to the total risk is negligible.

**Table D-3 Uranium Isotopic Mass Fractions**

Radionuclide	Mass Fraction		
	Feed Material (%)	Product Materials (%)	Depleted Tails (%)
U-234	0.0054	0.047	0.00052
U-235	0.7	4.7	0.3
U-238	99.3	95.2	99.7

**Table D-4 Activities of Uranium, Protactinium, and Thorium Radionuclides in Various Shipping Containers (becquerels)**

Radionuclide	Feed Material			Product 30B Cylinder	Heels 30B Cylinder	Radioactive Waste <sup>1</sup>		Depleted Uranium Bulk Bag	Calcium Fluoride Bulk Bag
	48X Cylinder	48Y Cylinder	30B Cylinder			55-Gallon Drum	B-25		
Th-230	$7.4 \times 10^5$	$9.6 \times 10^5$	$1.6 \times 10^6$	$1.6 \times 10^6$	$8.1 \times 10^3$	0	0	$1.1 \times 10^5$	$5.2 \times 10^{-1}$
Th-231	$3.7 \times 10^9$	$4.8 \times 10^9$	$5.9 \times 10^9$	$5.9 \times 10^9$	$2.9 \times 10^7$	$7.4 \times 10^6$	$7.4 \times 10^7$	$2.1 \times 10^9$	$1.0 \times 10^4$
Th-234	$8.1 \times 10^{10}$	$1.0 \times 10^{11}$	$1.9 \times 10^{10}$	$1.9 \times 10^{10}$	$9.3 \times 10^7$	$1.2 \times 10^8$	$1.6 \times 10^9$	$1.2 \times 10^{11}$	$5.6 \times 10^5$
Pa-231	$7.8 \times 10^4$	$1.0 \times 10^5$	$1.2 \times 10^5$	$1.2 \times 10^5$	$5.9 \times 10^2$	0	0	$4.4 \times 10^4$	$2.1 \times 10^{-1}$
Pa-234	$1.0 \times 10^8$	$1.4 \times 10^8$	$2.4 \times 10^7$	$2.4 \times 10^7$	$1.2 \times 10^5$	0	0	$1.6 \times 10^8$	$7.4 \times 10^2$
Pa-234m	$8.1 \times 10^{10}$	$1.0 \times 10^{11}$	$1.9 \times 10^{10}$	$1.9 \times 10^{10}$	$9.3 \times 10^7$	$1.2 \times 10^8$	$1.6 \times 10^9$	$1.2 \times 10^{11}$	$5.6 \times 10^4$
U-234	$8.1 \times 10^{10}$	$1.0 \times 10^{11}$	$1.7 \times 10^{11}$	$1.7 \times 10^{11}$	$8.1 \times 10^8$	$1.2 \times 10^8$	$1.6 \times 10^9$	$1.1 \times 10^{10}$	$5.6 \times 10^4$
U-235	$3.7 \times 10^9$	$4.8 \times 10^9$	$1.6 \times 10^9$	$1.6 \times 10^9$	$2.9 \times 10^7$	$7.4 \times 10^6$	$7.4 \times 10^7$	$2.1 \times 10^9$	$1.0 \times 10^4$
U-238	$8.1 \times 10^{10}$	$1.0 \times 10^{11}$	$1.9 \times 10^{10}$	$1.9 \times 10^{10}$	$9.3 \times 10^7$	$1.2 \times 10^8$	$1.6 \times 10^9$	$1.2 \times 10^{11}$	$5.6 \times 10^5$
<b>Total Curies</b>	$3.3 \times 10^{11}$	$4.1 \times 10^{11}$	$2.4 \times 10^{11}$	$2.4 \times 10^{11}$	$1.0 \times 10^9$	$5.2 \times 10^8$	$6.7 \times 10^9$	$3.7 \times 10^{11}$	$1.7 \times 10^6$

Notes:

1 curie (Ci) =  $3.7 \times 10^{10}$  becquerels

<sup>1</sup>Source: USEC, 2005.

### D.3 Transportation Routes

Transportation of radiological materials would include shipments of feed material to the proposed ACP, shipments of product materials (enriched  $UF_6$ ) from the proposed ACP, and shipments of radioactive waste from the proposed ACP (USEC, 2005). Depleted  $UF_6$  is assumed to be stored onsite until it is converted from  $UF_6$  to  $U_3O_8$ , a more stable chemical form, and then transported by railcar to a low-level radioactive waste disposal site. According to the ACP Environmental Report, feed materials will be transported from Metropolis, Illinois; Port Hope, Ontario, Canada; and Wilmington, Delaware in Type 48Y, Type 48X, and Type 30B cylinders, respectively. Product materials will be shipped to Richland, Washington; Columbia, South Carolina; Wilmington, North Carolina; and Seattle, Washington in Type 30B cylinders. Wilmington, Delaware is the shipping port for feed materials from Russia, while Seattle is the port for product shipments to Korea, and Japan. Low-level radioactive waste (LLRW) will be shipped to Gainesville, Florida; Clive, Utah; and the Nevada Test Site. The transportation of radiological materials is subject to NRC and DOT regulations. Table D-5 presents a matrix of the shipping origins and destinations for the various radioactive materials.

In addition to the transport of radioactive materials during the operation of the proposed ACP, low-level radioactive waste will be shipped to disposal sites during decontamination and decommissioning (D&D) waste are expected to include of the proposed ACP. Shipments of decontamination and decommissioning waste are expected to be 5,100 shipments to the Nevada Test Site; 105 shipments to Clive, Utah; and 60 shipments to Kingston, Tennessee.

WebTragis (ORNL, 2003) was used to generate the routing information. WebTragis is a web-based version of Tragis (Transport Routing Analysis Geographic Information System) and is used to calculate highway, rail, or waterway routes within the United States. WebTragis generates routing distance, population density within 800 meters (0.5 mile), and for the truck routes, the number of rest stops and stops for State inspections. Table D-6 presents the output from WebTragis to be used in this risk assessment. For Port Hope, Ontario, an additional 241 kilometers (150 miles) of route distance was added to the TRAGIS output to account for that portion of the route located in Canada. Even though transportation regulations by truck do not require restricted routing for the shipment of natural uranium, low-enriched uranium, or depleted uranium, routing restrictions were applied as follows (USEC, 2005):

- Highway Route Controlled Quantity preferred route with two drivers;
- Prohibit use of links prohibiting truck use; and
- Prohibit use of ferry crossing; prohibit use of roads with hazardous materials prohibition.

Transport routes generated by TRAGIS are shown in Figures D-1 through D-5 for the different types of materials transported.

**Table D-5 Radioactive Waste Shipment Routes**

Route	Radioactive Shipments							
	Feed Material (Natural UF <sub>6</sub> )	Product (Enriched UF <sub>6</sub> )	Heeled Containers	Low-Level Radioactive Waste	Mixed Low-Level Radioactive Waste	Low-Level Liquid Radioactive Waste	Depleted Uranium (U <sub>3</sub> O <sub>8</sub> )	Calcium Fluoride (CaF <sub>2</sub> )
Metropolis, IL to ACP	✓							
Port Huron, ON to ACP	✓							
Wilmington, DE to ACP	✓							
ACP to Richland, WA		✓	✓					
ACP to Columbia, SC		✓	✓					
ACP to Wilmington, NC		✓						
ACP to Seattle, WA		✓						
ACP to Clive, UT				✓			✓	✓
ACP to Nevada Test Site, NV				✓				
ACP to Gainesville, FL					✓			
ACP to Oak Ridge, TN						✓		

Source: USEC, 2005.

**Table D-6 Route Information as Generated by TRAGIS**

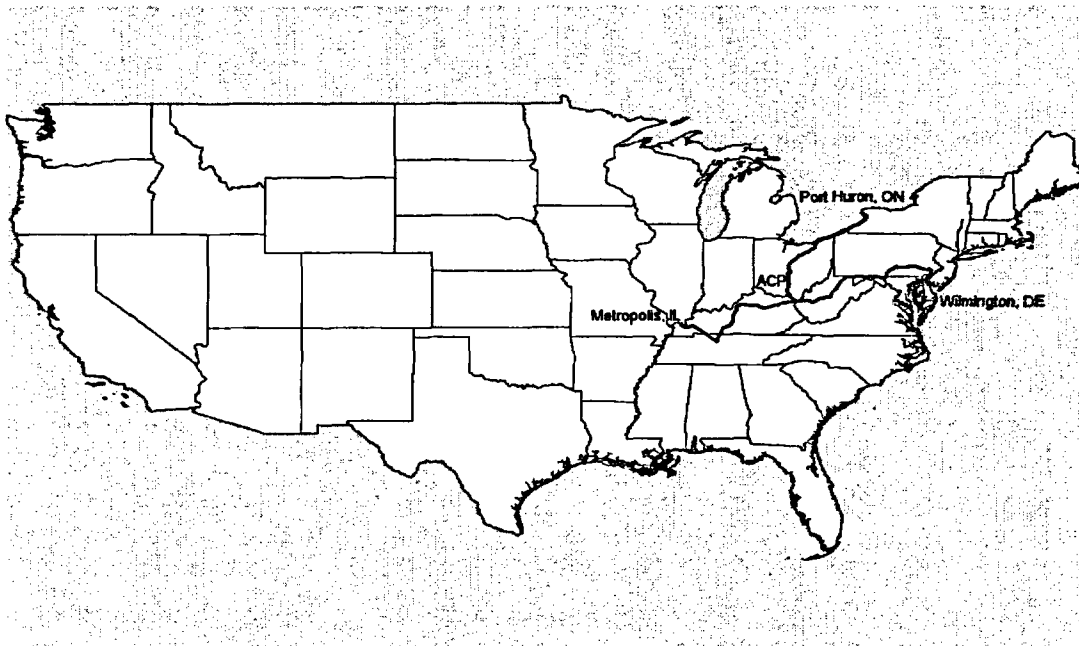
Destination/ Origin	Distance (km)				Elapsed Time (hh:mm)	Weighted Population (people/km <sup>2</sup> )			Population within 800 m Buffer Zone
	Rural	Suburban	Urban	Total		Rural	Suburban	Urban	
Metropolis, IL	554.1 (63.0%)	307.3 (35.0%)	17.7 (2.0%)	879.1 (100%)	9:31	20.6	282	2,193	174,192
Port Hope, ON	457.8 (50.9%)	392.7 (43.7%)	48.2 (5.4%)	898.7 (100%)	10:26	21	305.2	2,444	316,151
Wilmington, DE	474.4 (54.3%)	355.3 (40.7%)	44.3 (5.1%)	873.9 (100%)	10:06	19	330.6	2,316	308,509
Richland, WA	3,130.9 (81.4%)	653.4 (17.0%)	60.8 (1.6%)	3,844.8 (100%)	41:27	10.9	298.3	2,235	494,741
Columbia, SC	422.2 (53.8%)	331.8 (42.3%)	30.4 (3.9%)	784.3 (100%)	8:02	17.6	367	2,278	256,008
Wilmington, NC	549.2 (55.3%)	409.7 (41.3%)	33.8 (3.4%)	992.6 (100%)	10:26	18.3	359.1	2,150	305,803
Seattle, WA	3,229.9 (79.2%)	743.8 (18.2%)	103.6 (2.5%)	4,077.2 (100%)	44:09	11	320.7	2,319	695,631
Clive, UT (Truck)	2,430.1 (80.7%)	520.8 (17.3%)	60.1 (2.0%)	3,010.9 (100%)	31:46	11.1	310.4	2,292	448,863
Clive, UT (Rail)	2,518.1 (80.0%)	500.2 (15.9%)	128.3 (4.1%)	3,146.4 (100%)	72:26	9.3	370.3	2,375	716,122
Nevada Test Site, NV	2,935.2 (80.6%)	617.7 (17.0%)	90.5 (2.5%)	3,643.1 (100%)	38:15	10.7	316.2	2,405	614,875
Gainesville, FL	875.3 (61.2%)	519.4 (36.3%)	36.3 (2.5%)	1,430.8 (100%)	14:52	15.1	334.6	2,306	343,734
Oak Ridge, TN	350.9 (59.1%)	226.6 (38.2%)	16.3 (2.8%)	593.3 (100%)	6:20	21	293.8	2,065	131,400

Notes:

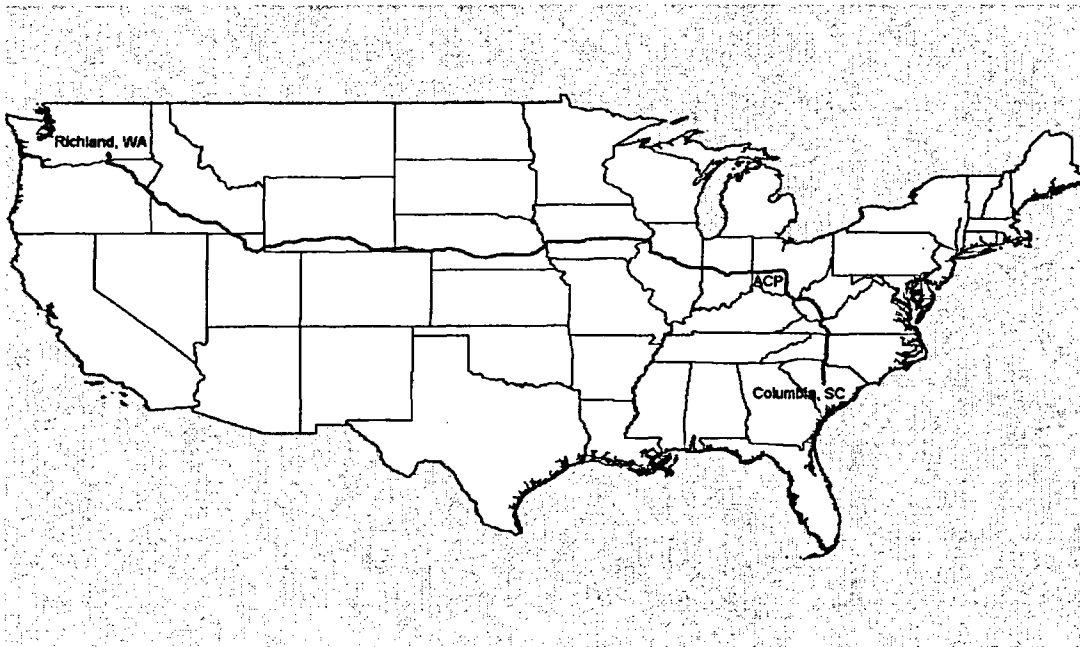
km = kilometer; km<sup>2</sup> = square kilometer

To convert km to mi multiply by 0.62.

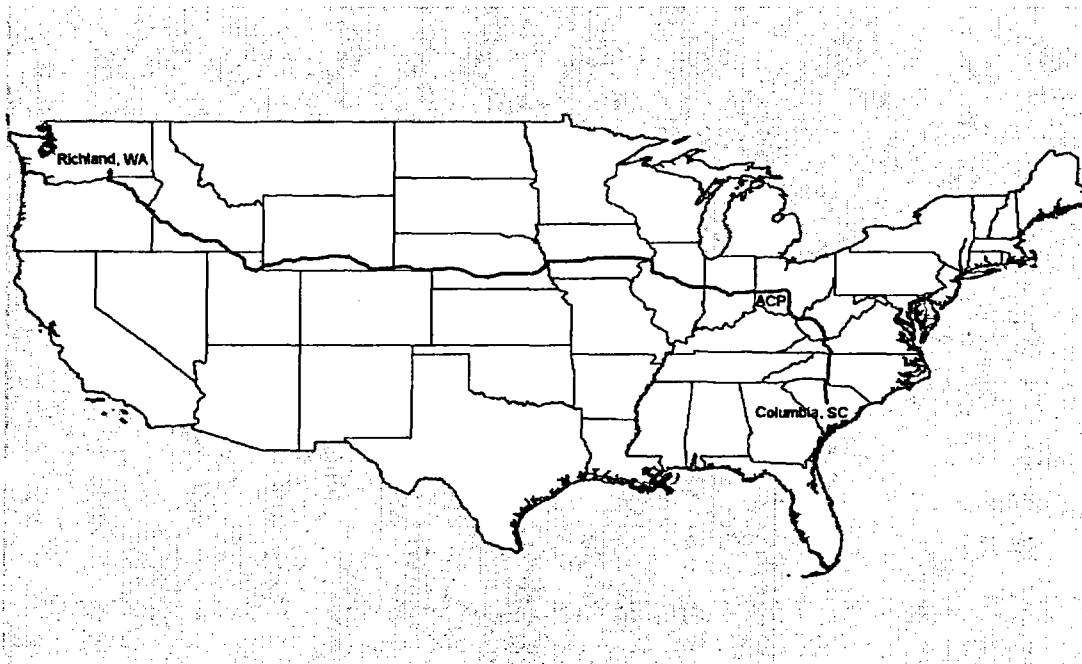
To convert from km<sup>2</sup> to mi<sup>2</sup> multiply by 0.386.



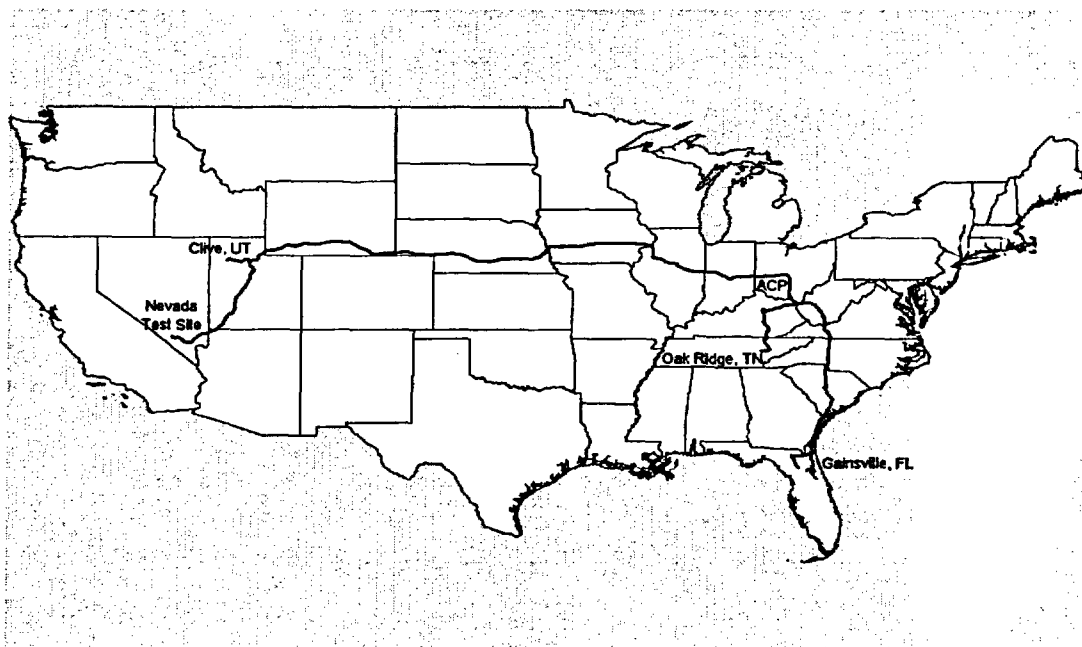
**Figure D-1 Routes Modeled for the Transport Feed Material by Truck to the American Centrifuge Plant (ACP) from Port Huron, ON; Metropolis, IL; and Wilmington, DE**



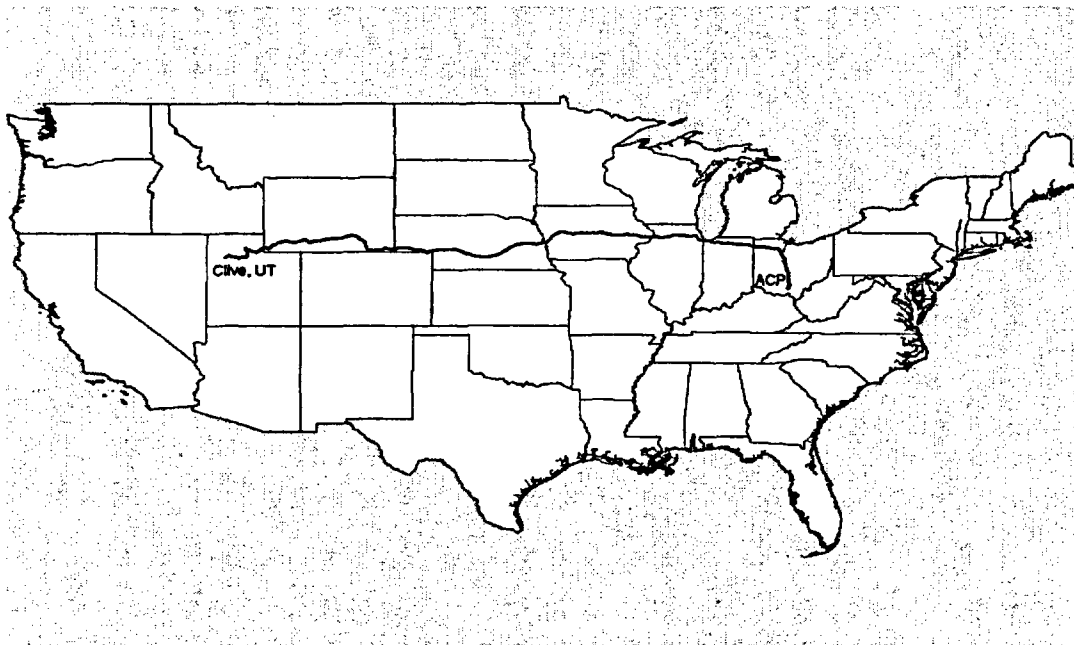
**Figure D-2 Routes Modeled for the Transport of Product Materials by Truck from the American Centrifuge Plant (ACP) to Seattle, WA; Richland, WA; Wilmington, NC; and Columbia, SC**



**Figure D-3 Routes Modeled for the Transport of Heeled Cylinders by Truck from the American Centrifuge Plant to Richland, WA and Columbia, SC**



**Figure D-4 Routes Modeled for the Transport of Radioactive Waste by Truck from the American Centrifuge Plant (ACP) to the Nevada Test Site; Clive, UT; Oak Ridge, TN; and Gainsville, FL**



**Figure D-5 Route Modeled for the Transport of Conversion Products by Rail from a Conversion Facility located in Piketon, OH to Clive, UT**

#### **D.4 RADTRAN Modeling Inputs and Results**

The radiological impacts to occupational workers and the general public from the transport of the radioactive materials were estimated using RADTRAN 5 (Osborn, 2005), a computer code that calculates the risks for both the incident-free transport of radioactive-material and for accidents. The term “incident free” means that no traffic accident or other incident resulted in the release of radioactive material to the surrounding environment. In this context, accidents refer only to incidents that result in the release of radioactive material. The risks associated with the transport of radioactive materials include injuries and fatalities from traffic accidents and an increased risk of cancer fatalities from exposure of persons near the vehicle to direct radiation.

Exposure to radiation from radioactive shipments is assumed to result in an increased risk of latent cancer to crews operating the truck or train, persons sharing the route with the shipment (on-link public), persons living alongside the route (off-link public), and persons at rest stops and inspection stops. These latent cancers do not occur immediately after exposure, but instead occur a number of years after the exposure. RADTRAN 5 estimates the number of latent cancer fatalities from the incident free transport of the materials and accidents. This section includes the RADTRAN input parameters used in this analysis and the results of that analysis in expected latent cancer fatalities.

##### **D.4.1 Incident-Free Parameters**

The risks from incident-free transport depend on the external radiation levels of the package being transported; the length and time duration of the route; and the number of persons sharing the route. Tables D-7 and D-8 provide a listing of the input parameters to RADTRAN that were used in this risk assessment.



**Table D-7 RADTRAN "Package" Parameters**

Package	RADTRAN Parameter			
	Long Dimension (m)	Dose Rate (mrem/hr) <sup>1</sup>	Gamma Fraction	Neutron Fraction
Feed Material (48X cylinder)	3.0	0.7	1	0
Feed Material (48Y cylinder)	3.8	0.7	1	0
Feed Material (30B cylinder)	2.1	0.7	1	0
Product Material (30B cylinder)	2.1	0.4	1	0
Heels (30B cylinder)	2.1	0.4	1	0
Waste (55-gallon drums)	0.9	1	1	0
Waste (B-25)	1.8	1	1	0
Depleted UF <sub>6</sub> (bulk bag)	8	1	1	0
CaF <sub>2</sub> (bulk bag)	8	0.0001	1	0

Notes:

<sup>1</sup>Dose rate is the external dose rate at 1 m from the package.

m = meter; mrem/hr = millirem per hour

To convert from m to ft multiply by 3.28.

**Table D-8 RADTRAN "Link" Parameters**

RADTRAN Parameter	Truck Links			Rail Links		
	Rural	Suburban	Urban	Rural	Suburban	Urban
Speed (km/hr)	88.5	40.2	24.1	64.4	40.2	24.2
Vehicle Density (vehicles/hr)	470	780	2,800	1	5	5
Persons Per Vehicle	2	2	2	3	3	3
Accident Rate (accidents/vehicle-hour)	3 10 <sup>-7</sup>	3 10 <sup>-7</sup>	3 10 <sup>-7</sup>	1 10 <sup>-7</sup>	1 10 <sup>-7</sup>	1 10 <sup>-7</sup>
Zone	Rural	Suburban	Urban	Rural	Suburban	Urban
Type	Primary Highway	Primary Highway	Primary Highway	N/A	N/A	N/A
Farm Fraction	1	0	0	1	0	0

Notes:

km = kilometer

To convert km to mi multiply by 0.62.

#### D.4.2 Accident Parameters

To calculate the risk associated with accidents that result in the release of radioactive material, RADTRAN 5 estimates the probability, or likelihood, of an accident and the consequences, or outcome, of such an accident. The likelihood or frequency of an accident is a function of the type of road and the number of vehicles using the road. NRC classifies accidents into eight severity categories, based on the mechanical (impact) and thermal (fire) forces involved (NRC, 1977). Category I is the least severe and Category VIII is the most severe. Less severe accidents occur more frequently, but have relatively mild consequences. More severe accidents happen less frequently, but have more significant consequences, including the release of some or all of the radioactive material in the shipment. NRC has estimated the fraction of accidents for truck and rail transport that fall within each category. Additionally, NRC has estimated the fraction of accidents in each category that occur in rural, suburban, and urban areas. As shown in Table 2-9 less severe accidents are most likely to occur in urban areas, where driving speeds are typically lower, while more severe accidents are more likely to occur in rural areas where driving speeds are higher (NRC, 1977). These estimates when combined with average accident rates are used estimate the number of latent cancer fatalities due to exposure to radiation and radioactivity from transportation accidents. Fatalities to chemical effects and bodily injury are addressed separately. Tables D-9 and D-10 provided the fractional occurrences of accidents by severity category used in this risk assessment.

**Table D-9 Fractional Occurrences of Truck Accidents by Severity Category**

Accident Severity Category	Fractional Occurrences of Severity Category	Fractional Occurrence by Population Zone		
		Rural	Suburban	Urban
I	0.55	0.1	0.1	0.8
II	0.36	0.1	0.1	0.8
III	0.07	0.3	0.4	0.3
IV	0.016	0.3	0.4	0.3
V	0.0028	0.5	0.3	0.2
VI	0.0011	0.7	0.2	0.1
VII	0.000085	0.8	0.1	0.1
VIII	0.000015	0.9	0.05	0.05

Source: NRC, 1977.

**Table D-10 Fractional Occurrences of Rail Accidents by Severity Category**

Accident Severity Category	Fractional Occurrences of Severity Category	Fractional Occurrence by Population Zone		
		Rural	Suburban	Urban
I	0.5	0.1	0.1	0.8
II	0.3	0.1	0.1	0.8
III	0.18	0.3	0.4	0.3
IV	0.018	0.3	0.4	0.3
V	0.0018	0.5	0.3	0.2
VI	0.00013	0.7	0.2	0.1
VII	0.00006	0.8	0.1	0.1
VIII	0.00001	0.9	0.05	0.05

Source: NRC, 1977.

Table D-11 provides the release fraction used for each severity category. For purposes of this analysis, all releases of material are assumed to be airborne and respirable.

**Table D-11 Release Fractions for Accidents by Severity Category**

Accident Severity Category	Release Fraction
I	0
II	0.01
III	0.1
IV, V, VI, VII, and VIII	1

Source: DOE, 2002.

#### D.4.3 RADTRAN Results

The transportation of feed material, product, heel cylinders, radioactive waste, and the products from the conversion of depleted UF<sub>6</sub> results in some increased risk of cancer to both the occupational workers transporting and handling the material and to members of the public driving on the roads or living along the transportation route. RADTRAN results for the transportation of radioactive materials associated with operations are given in Tables D-12 and D-13 on an annual basis. The transport of all materials is estimated to result in approximately 0.014 latent cancer fatalities per year of operation from exposure to direct radiation during incident-free transport, and an additional 0.008 latent cancer fatalities per year from accidents that result in the release of radioactive material into the environment. The total latent cancer fatalities per year is estimated to be 0.02 per year of operation or about one cancer fatality over thirty years of operation.

In addition to the transport of radioactive materials during the operation of the proposed ACP, low level radioactive waste will be shipped to disposal sites during decontamination and decommissioning (D&D) of the proposed ACP. Tables D-14 and D-15 provide the RADTRAN results for the transportation of radioactive materials associated with all decontamination and decommissioning activities of the proposed ACP. The number of latent cancer fatalities from the transportation of all decontamination and decommissioning waste is estimated to be 0.3, including 0.005 deaths resulting from the release of radioactive material from accidents.

The risk assessment described above is for product materials enriched to approximately 5 weight percent of uranium-235. Although it is currently believed to be unlikely, USEC may in the future enrich relatively small volumes of product up to 10 weight percent of uranium-235. There are currently no 2.5 ton cylinders certified for the shipment of  $UF_6$ . In the event this higher enrichment occurs, USEC would have to gain the appropriate certification before it shipped 10 percent product in either an existing 2.5-ton cylinder or in a new 2.5-ton cylinder. External exposure rates surrounding such a cylinder would likely be similar to those around the 30B cylinders presently used to ship 5 percent product and less than the external dose equivalent rates used in this assessment, which are considered conservative. For this reason, the risks associated with the incident free transport of the 10 percent enriched product would not be significantly than that of the 5 percent enriched product.

**Table D-12 Number of Latent Cancer Fatalities Expected from the Incident-Free Transportation of Radioactive Materials for One Year of Operation.**

Route	Material	Latent Cancer Fatalities							
		MEI	Drivers	Off-Link Public	On-Link Public	Rest Stop	Inspect-ion Stop	Loading	Total
Metropolis, IL to ACP	Feed Material	$6.2 \times 10^{-9}$	$1.2 \times 10^{-3}$	$6.8 \times 10^{-5}$	$4.4 \times 10^{-4}$	$8.1 \times 10^{-4}$	$1.1 \times 10^{-3}$	$3.0 \times 10^{-3}$	$4.0 \times 10^{-3}$
Port Hope, ON to ACP	Feed Material	$9.4 \times 10^{-9}$	$1.4 \times 10^{-3}$	$1.4 \times 10^{-4}$	$1.1 \times 10^{-3}$	$1.2 \times 10^{-3}$	$6.9 \times 10^{-4}$	$5.2 \times 10^{-4}$	$5.1 \times 10^{-3}$
Wilmington, DE to ACP	Feed Material	$1.5 \times 10^{-9}$	$2.5 \times 10^{-4}$	$2.2 \times 10^{-5}$	$1.7 \times 10^{-4}$	$2.0 \times 10^{-4}$	$1.8 \times 10^{-4}$	$9.7 \times 10^{-5}$	$9.1 \times 10^{-4}$
ACP to Richland, WA	Product	$5.0 \times 10^{-10}$	$2.8 \times 10^{-4}$	$1.3 \times 10^{-5}$	$1.1 \times 10^{-4}$	$2.6 \times 10^{-4}$	$1.1 \times 10^{-4}$	$6.5 \times 10^{-5}$	$8.3 \times 10^{-4}$
ACP to Columbia, SC	Product	$5.9 \times 10^{-10}$	$8.8 \times 10^{-5}$	$8.8 \times 10^{-6}$	$5.2 \times 10^{-5}$	$3.8 \times 10^{-5}$	$7.1 \times 10^{-5}$	$7.7 \times 10^{-5}$	$3.3 \times 10^{-4}$
ACP to Wilmington, NC	Product	$6.7 \times 10^{-10}$	$1.2 \times 10^{-4}$	$1.2 \times 10^{-5}$	$7.0 \times 10^{-5}$	$8.7 \times 10^{-5}$	$6.4 \times 10^{-5}$	$8.7 \times 10^{-5}$	$4.4 \times 10^{-4}$
ACP to Seattle, WA (Korea)	Product	$1.3 \times 10^{-10}$	$1.1 \times 10^{-4}$	$4.0 \times 10^{-6}$	$3.6 \times 10^{-5}$	$8.3 \times 10^{-5}$	$3.3 \times 10^{-5}$	$1.6 \times 10^{-5}$	$2.8 \times 10^{-4}$
ACP to Seattle, WA (Japan)	Product	$1.9 \times 10^{-10}$	$1.5 \times 10^{-4}$	$7.7 \times 10^{-6}$	$7.0 \times 10^{-5}$	$2.3 \times 10^{-4}$	$5.4 \times 10^{-5}$	$2.2 \times 10^{-5}$	$5.4 \times 10^{-4}$
Richland, WA to ACP	Heels	$8.9 \times 10^{-11}$	$5.1 \times 10^{-5}$	$2.3 \times 10^{-6}$	$1.9 \times 10^{-5}$	$4.7 \times 10^{-5}$	$1.9 \times 10^{-5}$	$4.9 \times 10^{-5}$	$1.9 \times 10^{-4}$
Columbia, SC to ACP	Heels	$8.9 \times 10^{-11}$	$1.3 \times 10^{-5}$	$1.3 \times 10^{-6}$	$8.0 \times 10^{-6}$	$5.8 \times 10^{-6}$	$1.1 \times 10^{-5}$	$4.9 \times 10^{-5}$	$8.8 \times 10^{-6}$
ACP to Clive UT	LLW	$3.5 \times 10^{-10}$	$1.3 \times 10^{-4}$	$7.4 \times 10^{-6}$	$6.4 \times 10^{-5}$	$1.6 \times 10^{-4}$	$4.1 \times 10^{-5}$	$7.3 \times 10^{-5}$	$4.7 \times 10^{-4}$
ACP to Nevada Test Site, NV	LLW	$1.4 \times 10^{-10}$	$1.6 \times 10^{-4}$	$3.6 \times 10^{-6}$	$3.4 \times 10^{-5}$	$8.1 \times 10^{-5}$	$3.8 \times 10^{-5}$	$3.0 \times 10^{-5}$	$3.5 \times 10^{-4}$
ACP to Gainesville, FL	Mixed LLW	$7.3 \times 10^{-11}$	$2.5 \times 10^{-5}$	$1.6 \times 10^{-6}$	$9.3 \times 10^{-6}$	$1.4 \times 10^{-5}$	$1.4 \times 10^{-5}$	$1.0 \times 10^{-5}$	$7.5 \times 10^{-5}$
Piketon, OH to Clive, UT	U <sub>3</sub> O <sub>8</sub>	$3.2 \times 10^{-11}$	$2.2 \times 10^{-7}$	$7.3 \times 10^{-7}$	$7.3 \times 10^{-8}$	$2.7 \times 10^{-5}$	0	0	$2.8 \times 10^{-6}$
Piketon, OH to Clive, UT	CaF <sub>2</sub>	$3.2 \times 10^{-15}$	$2.2 \times 10^{-10}$	$7.3 \times 10^{-11}$	$7.3 \times 10^{-11}$	$2.7 \times 10^{-9}$	0	0	$3.1 \times 10^{-9}$
<b>Total</b>		$9.4 \times 10^{-9}$	$4.0 \times 10^{-3}$	$2.9 \times 10^{-4}$	$2.2 \times 10^{-3}$	$3.3 \times 10^{-3}$	$2.4 \times 10^{-3}$	$1.4 \times 10^{-3}$	$1.4 \times 10^{-2}$

**Table D-13 Number of Latent Cancer Fatalities Expected from Accidents Resulting from the Transportation of Radioactive Materials for One Year of Operation**

Route	Material	Latent Cancer Fatalities				
		Ground	Inhaled	Resuspended	Cloudshine	Total
Metropolis, IL to ACP	Feed Material	$5.2 \times 10^{-6}$	$4.8 \times 10^{-4}$	$3.2 \times 10^{-4}$	$3.5 \times 10^{-10}$	$8.0 \times 10^{-4}$
Port Hope, ON to ACP	Feed Material	$1.3 \times 10^5$	$1.2 \times 10^{-3}$	$8.0 \times 10^{-4}$	$8.8 \times 10^{-10}$	$2.0 \times 10^{-3}$
Wilmington, DE to ACP	Feed Material	$9.8 \times 10^{-6}$	$8.0 \times 10^{-4}$	$5.2 \times 10^{-4}$	$2.5 \times 10^{-10}$	$1.3 \times 10^{-3}$
ACP to Richland, WA	Product	$7.5 \times 10^{-6}$	$6.6 \times 10^{-4}$	$2.1 \times 10^{-4}$	$2.0 \times 10^{-10}$	$8.7 \times 10^{-4}$
ACP to Columbia, SC	Product	$4.9 \times 10^{-6}$	$4.3 \times 10^{-4}$	$1.3 \times 10^{-4}$	$1.3 \times 10^{-10}$	$5.6 \times 10^{-4}$
ACP to Wilmington, NC	Product	$6.5 \times 10^{-6}$	$5.7 \times 10^{-4}$	$1.8 \times 10^{-4}$	$1.8 \times 10^{-10}$	$7.5 \times 10^{-4}$
ACP to Seattle, WA (Korea)	Product	$2.5 \times 10^{-6}$	$2.1 \times 10^{-4}$	$6.9 \times 10^{-5}$	$6.6 \times 10^{-11}$	$2.8 \times 10^{-4}$
ACP to Seattle, WA (Japan)	Product	$3.5 \times 10^{-6}$	$3.0 \times 10^{-4}$	$9.6 \times 10^{-5}$	$9.2 \times 10^{-11}$	$3.9 \times 10^{-4}$
Richland, WA to ACP	Heels	$5.2 \times 10^{-8}$	$3.2 \times 10^{-6}$	$7.2 \times 10^{-6}$	$1.0 \times 10^{-12}$	$1.0 \times 10^{-6}$
Columbia, SC to ACP	Heels	$2.8 \times 10^{-8}$	$1.8 \times 10^{-6}$	$4.0 \times 10^{-6}$	$5.5 \times 10^{-13}$	$5.8 \times 10^{-6}$
ACP to Clive UT	LLW	$5.2 \times 10^{-8}$	$4.4 \times 10^{-6}$	$5.1 \times 10^{-6}$	$5.7 \times 10^{-12}$	$9.5 \times 10^{-6}$
ACP to Nevada Test Site, NV	LLW	$8.8 \times 10^{-9}$	$5.5 \times 10^{-7}$	$1.7 \times 10^{-6}$	$4.5 \times 10^{-12}$	$2.2 \times 10^{-6}$
ACP to Gainesville, FL	Mixed LLW	$2.0 \times 10^{-9}$	$1.3 \times 10^{-7}$	$5.7 \times 10^{-7}$	$1.0 \times 10^{-12}$	$7.0 \times 10^{-7}$
Piketon, OH to Clive, UT	U <sub>3</sub> O <sub>8</sub>	$1.7 \times 10^{-6}$	$7.4 \times 10^{-4}$	$6.1 \times 10^{-7}$	$9.1 \times 10^{-10}$	$7.5 \times 10^{-4}$
Piketon, OH to Clive, UT	CaF <sub>2</sub>	$3.5 \times 10^{-11}$	$2.9 \times 10^{-9}$	$1.3 \times 10^{-8}$	$3.6 \times 10^{-15}$	$1.6 \times 10^{-8}$
<b>Total</b>		$5.4 \times 10^{-5}$	$5.4 \times 10^{-3}$	$2.3 \times 10^{-3}$	$3.1 \times 10^{-9}$	$7.8 \times 10^{-3}$

**Table D-14 Number of Latent Cancer Fatalities Expected from the Incident-Free Transportation of Radioactive Materials of All Decontamination and Decommissioning (D&D) Waste**

Route	Material	Latent Cancer Fatalities							
		MEI	Drivers	Off-Link Public	On-Link Public	Rest Stop	Inspection Stop	Loading	Total
ACP to Clive, UT	D&D Waste	$4.1 \times 10^{-9}$	$1.4 \times 10^{-3}$	$8.6 \times 10^{-5}$	$7.4 \times 10^{-4}$	$2.2 \times 10^{-3}$	$1.9 \times 10^{-3}$	$4.7 \times 10^{-4}$	$6.8 \times 10^{-3}$
ACP to Nevada Test Site, NV	D&D Waste	$2.0 \times 10^{-7}$	$8.9 \times 10^{-2}$	$5.1 \times 10^{-3}$	$4.8 \times 10^{-2}$	$1.2 \times 10^{-1}$	$3.1 \times 10^{-2}$	$2.1 \times 10^{-2}$	$3.1 \times 10^{-1}$
ACP to Kingston, TN	D&D Waste	$1.8 \times 10^{-10}$	$2.7 \times 10^{-5}$	$1.5 \times 10^{-6}$	$1.0 \times 10^{-5}$	$1.2 \times 10^{-5}$	$1.0 \times 10^{-5}$	$1.1 \times 10^{-4}$	$1.7 \times 10^{-4}$
<b>Total</b>		$2.0 \times 10^{-7}$	$9.1 \times 10^{-2}$	$5.2 \times 10^{-3}$	$4.9 \times 10^{-2}$	$1.2 \times 10^{-1}$	$3.2 \times 10^{-2}$	$2.1 \times 10^{-2}$	$3.2 \times 10^{-1}$

**Table D-15 Number of Latent Cancer Fatalities Expected from Accidents Resulting from the Transportation of Radioactive Materials of All Decontamination and Decommissioning (D&D) Waste**

Route	Material	Latent Cancer Fatalities				
		Ground	Inhaled	Resuspended	Cloudshine	Total
ACP to Clive, UT	D&D Waste	$3.2 \times 10^{-7}$	$2.5 \times 10^{-5}$	$4.7 \times 10^{-5}$	$3.3 \times 10^{-11}$	$7.3 \times 10^{-5}$
ACP to Nevada Test Site, NV	D&D Waste	$2.1 \times 10^{-5}$	$1.6 \times 10^{-3}$	$3.0 \times 10^{-3}$	$2.1 \times 10^{-9}$	$4.7 \times 10^{-3}$
ACP to Kingston, TN	D&D Waste	$7.5 \times 10^{-9}$	$5.3 \times 10^{-7}$	$1.2 \times 10^{-6}$	$4.4 \times 10^{-12}$	$1.7 \times 10^{-6}$
<b>Total</b>		$2.1 \times 10^{-5}$	$1.7 \times 10^{-3}$	$3.1 \times 10^{-3}$	$2.1 \times 10^{-9}$	$4.7 \times 10^{-3}$

However, the accident related radiological risks associated with the transport of the 10 percent enriched product would be somewhat greater than that of the 5 percent enriched product. This primarily due to the higher activity of uranium-234 in the 10 percent enriched product. Uranium-234 does not contribute significantly to the external dose rate, but is an inhalation hazard if released. Table D-16 shows the calculated latent cancer fatalities from the transport of the higher enriched product material for the same routes used previously. The number of expected latent cancer fatalities associated with the transport of product material only would be approximately a factor of three greater than that previously estimated. It should be noted that this factor of three is conservative in that it assumes all the product material is enriched to 10 percent; and that it does not account for the decreased risks associated with lower activities of uranium-234 in shipment of the conversion products.



**Table D-16 Number of Latent Cancer Fatalities Expected from Accidents Resulting from the Transportation of Product Material Enriched to 10 Percent for One Year of Operation**

Route	Material	Latent Cancer Fatalities				
		Ground	Inhaled	Resuspended	Cloudshine	Total
ACP to Richland, WA	Product	$1.6 \times 10^{-5}$	$2.3 \times 10^{-3}$	$1.4 \times 10^{-4}$	$3.6 \times 10^{-10}$	$2.5 \times 10^{-3}$
ACP to Columbia, SC	Product	$1.0 \times 10^{-5}$	$1.5 \times 10^{-3}$	$9.4 \times 10^{-5}$	$2.4 \times 10^{-10}$	$1.6 \times 10^{-3}$
ACP to Wilmington, NC	Product	$1.3 \times 10^{-5}$	$2.0 \times 10^{-3}$	$1.3 \times 10^{-4}$	$3.1 \times 10^{-10}$	$2.1 \times 10^{-3}$
ACP to Seattle, WA (Korea)	Product	$5.2 \times 10^{-6}$	$7.5 \times 10^{-4}$	$1.1 \times 10^{-4}$	$1.2 \times 10^{-10}$	$8.6 \times 10^{-4}$
ACP to Seattle, WA (Japan)	Product	$7.3 \times 10^{-6}$	$1.0 \times 10^{-3}$	$1.5 \times 10^{-4}$	$1.6 \times 10^{-10}$	$1.2 \times 10^{-3}$
<b>Total</b>		$5.2 \times 10^{-5}$	$7.6 \times 10^{-3}$	$6.2 \times 10^{-4}$	$1.2 \times 10^{-9}$	$8.3 \times 10^{-3}$

## D.5 Chemical Impacts from Transportation Accidents

In addition to the radiological impacts during transportation described above, chemical impacts from a transportation accident involving uranium could also affect the surrounding public. Uranium compounds, in addition to being radioactive, can have toxic chemical effects (primarily on the kidneys) if inhaled or ingested. The operation of the ACP would result in the transport of UF<sub>6</sub> as feed and product material to and from the ACP, as well as the transport of triuranium octaoxide as a conversion product. Calcium fluoride, another conversion product, contains small amounts of uranium as a contaminant.

Uranium hexafluoride does not react with nitrogen (N<sub>2</sub>), oxygen (O<sub>2</sub>), carbon dioxide (CO<sub>2</sub>) or dry air, but does react rapidly with water vapor to hydrogen fluoride (HF) and uranyl fluoride (UO<sub>2</sub>F<sub>2</sub>):



Hydrogen fluoride is extremely corrosive and can damage the lungs and cause death if inhaled at high enough concentrations. Irreversible adverse effects resulting from sufficiently high concentrations of these chemicals include permanent organ damage or the impairment of everyday functions, including death. The number of deaths resulting from the chemical effects of hydrogen fluoride and uranyl fluoride is estimated to occur in one percent of those experiencing irreversible effects (Policastro et al., 1997). In contrast to the irreversible adverse effects from exposure to higher concentrations of hydrogen fluoride and uranyl fluoride, the adverse effects from exposure to lower concentrations include skin rash and respiratory irritation.

To estimate the chemical effects of an accident involving the transport of UF<sub>6</sub>, the Department of Energy (ANL 2001, DOE 2004) modeled the dispersion of chemical emissions released into the environment from a transportation accident involving a fire. The results were used to determine the number of people whose exposure would exceed the threshold for adverse and irreversible adverse effects. DOE estimated the chemical effects for accidents in rural, suburban, and urban areas. Table D-17 shows the potential chemical impacts to the public from a hypothetical severe transportation accident that involves a fire.

**Table D-17 Potential Chemical Consequences to the Population from Severe Transportation Accidents**

Material	Mode	Number of Persons with Potential Adverse Health Effects			Number of Persons with Potential Irreversible Adverse Health Effects		
		Rural	Suburban	Urban	Rural	Suburban	Urban
UF <sub>6</sub>	Truck	6	760	1,700	0	1	3
U <sub>3</sub> O <sub>8</sub>	Rail	0	47	103	0	17	38

Source: DOE, 2004.

Based on the total number of trips, the length of the trips, and the mean accident rate, the estimated number of accidents involving shipments of UF<sub>6</sub> is 0.5 accidents per year, or an average of one accident every two years. Of these accidents, approximately 55 percent will not result in the release of any UF<sub>6</sub>, and another 43 percent will result in a release of no more than 10 percent of the UF<sub>6</sub>. About 2 percent of all accidents are expected to be severe enough to result in the release of all the UF<sub>6</sub> present. The probability of one or more of the fifteen expected accidents being this severe is about 26 percent. Such an accident is most likely to occur in a rural or suburban area.

## **D.6 References**

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**APPENDIX E**  
**AIR QUALITY ANALYSIS**



**APPENDIX E  
AIR QUALITY ANALYSIS**

**E.1 Air Dispersion Modeling Inputs**

This section discusses the inputs used in the application of the ISCLT3 air dispersion model (EPA, 1995) to assess the non-radiological air quality impacts from site preparation and construction as well as from the operation of the proposed ACP. Modeling results can be found in Chapter 4 of the EIS.

**E.1.1 Emissions from Site Preparation and Construction**

Emissions during the site preparation and construction phases can be divided into four parts: emissions from diesel equipment used by the work crews, emissions from gasoline-powered trucks used by the work crews, emissions from commuter vehicles and delivery trucks, and fugitive dust from construction activity for the construction of new buildings. Emissions related to work crews, crew trucks, and fugitive dust were modeled as area sources with the same footprint as the building being constructed or prepared. Emissions from on-road vehicles were modeled as elongated area sources following the most likely (shortest distance from main entrance) route of traffic.

During the construction period, four work crews are expected to be active: the steel crew, the electrical and mechanical crew, the equipment crew, and the utilities crew. Equipment and fuel proposed for use for each crew are summarized in Table E-1. (USEC, 2005) Diesel equipment is assumed to consume one gallon of fuel per 10 hp per day with equipment horsepowers were taken from the Means Open Shop Building Construction Cost Data Book (USEC, 2005). Each crew trucks is assumed to consume 10 gallons of gasoline per day.

**Table E-1 Equipment and Fuel Use Associated with each Crew**

Steel Crew			Electrical and Mechanical Crews		
90T Crane	275	hp	Bucket Truck	200	hp
Welding	50	hp	55T Crane	170	hp
Diesel	260	gal/day	12T Crane	40	hp
Gas	40	gal/day	Diesel	328	gal/day
			Gas	30	gal/day
Utilities Crew			Equipment Crew		
Excavator	240	hp	90T Crane	275	hp
Diesel	192	gal/day	Diesel	220	gal/day
Gas	10	gal/day	Gas	20	gal/day

Notes:

gal/day = gallons per day; hp = horsepower

The NONROAD model is the EPA's standard method for preparing emissions inventories for mobile sources that are not classified as being related to on-road traffic, railroads, air traffic, or water going vessels (EPA, 2002a). The model was developed to estimate county-level emission inventories, but contains all of the information needed to develop a facility specific inventory. Thus NRC used the supporting information from the NONROAD model for developing a site-specific emission inventory.

The NONROAD model uses the following general equation to estimate emissions separately for CO, NO<sub>x</sub>, PM (essentially all the PM from combustion is PM<sub>2.5</sub>), and THC:

$$\text{EMS} = \text{EF} * \text{HP} * \text{LF} * \text{ACT} * \text{DF} \quad (\text{Eq. 1})$$

where:

EMS = estimated emissions  
EF = emissions factor in grams per horsepower hours  
HP = peak horsepower  
LF = load factor (assumed percentage of peak horsepower)  
ACT = Activity in hours of operation per period of operation  
DF = Deterioration Factor

The emissions factor (EF) is specific to the equipment type, engine size, and technology type. The technology type for diesel equipment can be “Base” (before 1988), Tier 0 (1988-1999), or Tier 1 (2000-2005). Tier 2 emissions factors are appropriate for equipment that satisfies 2006 national standards (or slightly earlier California standards). The range in years represents a phase-in by equipment type, engine size and technology. Since most construction activity is schedule for the 2007-2010 time period it was assumed that equipment would meet the Tier 1 standard. Different emissions factors are applied to different ranges of engine sizes. These size ranges are lower bound exclusive and upper bound inclusive. Thus a 175 hp diesel forklift is included in the 100-175 hp range rather than the 175-300 hp range.

The load factor (LF) is specific to the equipment type in the NONROAD model regardless of engine size or technology type and represents the average fraction of peak horsepower at which the engine is assumed to operate.

The deterioration factor (DF) is used to estimate increased emissions due to engine age and is calculated according to the following equation:

$$\text{DF} = 1 + \text{A} * (\text{AGE})^b \quad (\text{Eq. 2})$$

where:

A,b = factors given specified in the NONROAD model  
AGE = normalized age of the engine

The normalized age of each type of engine appearing in the NONROAD model is calculated using equation 3:

$$\text{AGE} = (\text{cumulative hours of operation}) * \text{LF} / (\text{median engine life}) \quad (\text{Eq. 3})$$

The median engine life is specified in the NONROAD model’s data files and LF is the load factor used in equation 1 above. The “cumulative hours of operation” can be calculated by multiplying the age in years of the engine by the average activity assumed by the NONROAD model. For this study we assumed a nominal equipment age of five years.

The source classification code and name associated by the NONROAD model with each piece of equipment is presented in Table E-2.



**Table E-2 Equipment with Source Classification Codes and Names  
as they appear in the NONROAD Data Tables**

Equipment	Source Classification Code	NONROAD Name
Bucket Truck	2270003010	Diesel Aerial Lift
Crane	2270002045	Diesel Crane
Excavator	2270002036	Diesel Excavator
Welding	2270006025	Diesel Light Commercial Welder

All of the information needed to estimate the facility specific emissions is available as part of the NONROAD model's data files. Sample calculations for estimating CO emissions from the 240 hp excavator follow.

From the NONROAD model data file ACTIVITY.DAT the following record is associated with diesel powered excavators (some blank spaces have been deleted):

```
2270002036 Diesel Excavators ALL 0 9999 0.59 hrs/yr 1092 DEFAULT
```

The fields of interest are the load factor (0.59) and the average hours of operation per year (1092). The other fields appear identical for all equipment and are intended for use in a future version of the model.

The data file with emissions factors for each pollutant is called EXHCO.EMF which contains the exhaust factors for CO. The following lines are associated with diesel excavators between 175 and 300 hp (some blank spaces and additional technology types have been deleted):

```
2270002036 175 300 Base T0 T1 T2 g/hp-hr CO
                3.98 4.13 1.14 1.14
```

Once again the source classification code appears followed by the minimum and maximum horsepower for the following emissions factors. Because all equipment is assumed to be Tier 1 (T1) the emissions factor will be 1.14 grams of CO per horsepower-hour. In this case an advance to Tier 2 would not produce an improvement, but it could for other pollutants and/or other equipment types and sizes.

To estimate the emissions per eight-hour day using Equation 1 all that is needed is to calculate the deterioration factor.

The following record is associated with Tier 1 diesel equipment in the file EXHCO.DAT:

```
T1                0.101        1.0        1.0        CO
```

The second field gives factor "A" from Equation 2; the third field gives factor "b"; and the fourth field gives the emissions cap in median life units (the largest number that can be used for "age" in Equation 2).

To determine the "age" used in Equation 3 it is now necessary to know the cumulative hours of operation and the "median engine life." This information is found from equipment type population survey's available for each state. For Ohio, the equipment population file OH.POP gives the expected useful life of a diesel excavator between 175 and 300 hp as 4,667 hours (some blank spaces have been deleted):

```
39000 2000 2270002036 Dsl - Excavators 175 300 233.3 4667 DFAULT
1577.2
```

It is now possible to calculate CO emissions for the excavator.

Starting with Equation 3:

$$\text{AGE} = (5 \text{ years} * 1092 \text{ hrs/yr}) * 0.59 / (4667 \text{ hours}) = 0.69$$

Then Equation 2:

$$\text{DF} = 1 + 0.101 * (0.69)^1 = 1.07$$

Finally Equation 3:

$$\text{EMS} = (1.14 \text{ g/hp-hr}) * (240 \text{ hp}) * (0.59) * (8 \text{ hr/day}) * (1.07) * (0.002205 \text{ lb/g}) = 3.05 \text{ lb/day}$$

The above process was used to estimate emissions of PM, CO, NO<sub>x</sub>, and non-methane hydrocarbons (NMHC). All PM was assumed to be PM<sub>2.5</sub>. SO<sub>2</sub> emissions were calculated by mass balance using the 2007 nonroad sulfur emission standard (500 ppm) and an average density of 7.1 lbs per gallon of diesel.

Each work crew was assumed to have one truck for every four people (USEC, 2005). Emissions were estimated assuming that each crew had a truck similar to a Ford F-150 Supercab meeting Tier 1 standards with at least 80,500 kilometers (50,000 miles) of use. Such a truck fits into the Heavy Duty-Light Truck classification. Table E-3 gives the emissions standards for this truck type. Each truck was assumed to be in use for a full eight-hour day (USEC, 2005) traveling at an average speed of five miles per hour.

**Table E-3 Emissions from crew trucks**

	NMHC	CO	NO <sub>x</sub>	PM
grams/mile	0.56	7.3	1.53	0.12
grams/day	22.4	292	61.2	4.8

Notes:

To convert grams to ounces multiply by 0.35.

SO<sub>2</sub> emissions from crew trucks were calculated by mass balance using the 2007 gasoline sulfur standard (30 ppm) and an average fuel density of 6.1 lbs per gallon of gasoline.

Emissions from on-road heavy-duty delivery trucks and commuter cars and trucks were estimated using EPA's MOBILE6.2 model (EPA, 2002b). Long-haul diesel truck emission rates were estimated based on trucks operating in 2010 using national fleet age distribution. Medium-haul diesel trucks were based on the same parameters. Commuter vehicle emissions rates were applied using national defaults for fleet age distribution, but assumed that the fleet mix was half light duty gasoline vehicles and half light duty gasoline trucks. Table E-4 gives emission rates for delivery trucks and commuter vehicles.

**Table E-4 Emissions rates for on-road vehicles (grams per mile)**

	NMHC	CO	NO <sub>x</sub>	PM <sub>10</sub>	SO <sub>2</sub>
Long-Haul Heavy Duty Diesel Delivery Trucks	0.36	1.3	5.61	0.11	0.01
Medium-Haul Heavy Duty Diesel Delivery Trucks	0.44	1.9	8.32	0.16	0.01
Commuter vehicles	0.83	10.6	0.66	0.03	0.01

Notes:

To convert grams per mile to ounces per mile multiply by 0.035.

Delivery trucks were modeled as elongated area sources originating at the facility's main entrance and taking larger roads to the north end of the construction area. Commuter vehicles were modeled as elongated area sources originating at the southwest construction access entrance and following interior roads to the parking lot south of the construction area. During the construction period an average of 28 one-way truck trips (9 long-haul and 19 medium-haul) per day and 2,612 one-way commuter trips per day were modeled. This assumed that each construction worker arrived in a single occupant vehicle.

Emissions rates for fugitive dust were estimated using guidelines outlined in the Western Regional Air Partnership fugitive dust handbook (WRAP, 2004). Although these guidelines were developed for use in western states they assume standard dust mitigation activities, such as wetting, so they were deemed applicable to a Midwestern setting. The handbook offers several options for selecting PM<sub>10</sub> factors depending on what information is known. Table E-5 shows the possible emissions factors and bases for choosing them.

**Table E-5 PM<sub>10</sub> emissions factors recommended by the Western Regional Air Partnership Handbook**

Basis for Emission Factor	Recommended PM10 Emission Factor
Only area and duration known	0.11 ton/acre/month (average conditions)
	<u>or</u>
	0.22 ton/acre/month (average, no mitigation)
Volume of earth moved known	<u>or</u>
	0.43 ton/acre/month (worst-case conditions)
	0.011 ton/acre/month for general construction
	<u>plus</u>
Equipment usage known	0.059 ton/1000 yd <sup>3</sup> for on-site cut-fill
	<u>plus</u>
	0.22 ton/1000 yd <sup>3</sup> for off-site cut-fill
	<u>or</u>
Equipment usage known	0.13 lb/acre/work-hr for general construction
	<u>plus</u>
	49 lb/scraper-hr for on-site haulage
	<u>plus</u>
	94 lb/hr for off-site haulage

Notes:  
lb = pounds; yd<sup>3</sup> = cubic yards; hr = hour

Because equipment usage is known, the third option is most appropriate for the proposed ACP. However, because the foundations have been dug and the fill has been hauled before the modeled construction period only the 0.13 pound/acre/work-hour factor was applied. Once PM<sub>10</sub> was estimated, the Western Regional Air Partnership recommended fractional factor of 0.209 was used to estimate PM<sub>2.5</sub> from PM<sub>10</sub>.

Fugitive dust emissions were only applied to new buildings and then only to the construction phase, not to other phases such as equipment installation.

### E.1.2 Emissions from Plant Operations

Air emissions during plant operation were associated with the use of emergency backup generators burning diesel fuel as well as the on-road delivery trucks and commuter vehicles. These are the only non-radioactive emissions associated with the normal operation of the proposed proposed ACP.

Emissions factors for on-road vehicles were identical to those used for the construction phase. During plant operations, however, an average of 24 one-way delivery truck trips per day and 1,116 commuter one-way trips per day were modeled.

A number of diesel-powered emergency generators will be installed at the plant. The generators' total emissions rates for CO, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and NMHC were modeled using specifications from a proprietary appendix to the Environmental Report (USEC, 2005).

Each generator was modeled as a point source located at the assigned building as identified in a proprietary index to the Environmental Report (USEC, 2005). Stack parameters were based on a typical 1,109 hp diesel generator described in Appendix 7 of CARB's Diesel Risk Reduction Plan (CARB, 2000) with the exception that the stack height was increased from 3 meters to 10 meters to reflect good engineering practice to avoid downwash effects assuming that the stacks are located on top of the building(s). Table E-7 lists the stack parameters used in modeling the generators.

**Table E-7 Stack Parameters for Diesel Generators**

Stack Temperature	Stack Height	Stack Diameter	Exit Velocity
787 °K	30 m (10 m above roof)	0.25 m	59.8 m/s

Notes:

K = °Kelvin; m = meter; m/s = meters per second.

To convert °K to °F use the following formula: °F = ((°K - 273.15) x 1.8) + 32

To convert meters to feet multiply by 3.3

### E.1.3 Emissions from Manufacturing and Assembly

**[The information in this section is being withheld pursuant to 10 CFR 2.390.]**

**[The information in this section is being withheld pursuant to 10 CFR 2.390.]**

## E.2 Meteorological Inputs

Surface meteorological data, including wind data, have been collected at the on-site meteorological tower at the 10-, 30-, and 60-meters (33-, 98-, and 197-foot) levels. The tower is in the southern part of the reservation. A comparison of annual wind roses for the period 1995 through 2001 indicates that wind patterns at the 10-m (33-ft) level are different from those at the 30-m and 60-meters (98- and 197-foot) levels. Winds at the 10-m (33-ft) level appear to be influenced by local topographical and/or vegetative features. Accordingly, wind data at the 30-meters (98-foot) level, believed to be representative of the site, were used in this analysis. This same meteorological data set was used in the radiological air quality assessment.

Seasonal temperatures from Waverly, OH (NOAA, 2000) and mean mixing heights were obtained from Huntington, WV (Holzworth, 1972). Table E-12 lists temperature data used in modeling and Table E-13 gives the mixing heights.

**Table E-12 Seasonal temperatures (°K) for Waverly, OH (Climatology:1960-1991, NOAA)**

	Minimum	Maximum	Average
Winter	267	273	279
Spring	277	284	291
Summer	289	296	302
Fall	278	285	292

Notes:

°K = °Kelvin

To convert °K to °F use the following formula: °F = ((°K - 273.15) x 1.8) + 32

**Table E-13 Mean afternoon mixing heights (meters) for Huntington, WV (Holzworth, 1972)**

Winter	1,079
Spring	1,986
Summer	1,641
Fall	1,340

Notes:

To convert meters to feet multiply by 3.3.

## E.2 References

(CARB, 2000) California Air Resources Board. "Risk Reduction Plan to Reduce Particulate Matter from Diesel-Fueled Engines and Vehicles." Appendix 7, Sacramento, CA. October 2000.

(EPA, 1995) U.S. Environmental Protection Agency. "User's Guide for the Industrial Source Complex (ISC3) Dispersion Models." Volume 1. EPA-454/B-95-003a. September 1995.

(EPA, 2002a) U.S. Environmental Protection Agency. "User's Guide for the EPA Emissions Model Draft NONROAD 2002." EPA-420-P-02-013. December 2002.

(EPA, 2002b) User's Guide to MOBILE6.1 and MOBILE6.2: Mobile Source Emission Factor Model (Draft). EPA420-R-02-010. March 2002.

(Holzworth, 1972) Mixing Heights, Wind Speeds, and Potential for Urban Air Pollution Throughout the Contiguous United States, EPA, Office of Air Programs, RTP, AP-101. 1972.

(NOAA, 2000) Climatography of the United States No. 20, 1971-2000., Waverly, Ohio, National Oceanic Atmospheric Administration, National Climate Data Center, North Carolina. 2000.

(USEC, 2005) USEC Inc. "Environmental Report for the American Centrifuge Plant in Piketon, Ohio." Revision 6. LA-3605-0002, Docket No. 70-7004. November 2005.

(WRAP, 2004) Western Regional Air Partnership. "Fugitive Dust Handbook." Prepared by Countess Environmental, 4001 Whitesail Circle, Westlake Village, CA. under contract to the Western Governor Association (WGA), WGA Contract No. 30204-83. November 2004.





**APPENDIX F**  
**ENVIRONMENTAL JUSTICE ANALYSIS**



## **APPENDIX F ENVIRONMENTAL JUSTICE ANALYSIS**

This appendix provides additional data for the assessment of the potential for disproportionately high and adverse human health or environmental effects on minority and/or low-income populations resulting from the proposed construction, operation, and decommissioning of the proposed American Centrifuge Plant (ACP).

Tables F-1 and F-2 present detailed year 2000 Census data for the environmental justice analysis at the State and county level, respectively. The tables provide minority and low-income population data for each Census tract within 80 kilometers (50 miles) of the proposed ACP. Census tracts exceeding minority or low-income criteria are shown in bold.

A summary of the number of Census tracts exceeding minority and/or low-income criteria is presented in Tables F-3 and F-4. Table F-3 summarizes information at the State level; Table F-4 summarizes information at the county level.

Refer to Chapter 3 of this Environmental Impact Statement (EIS) for methods and references.

**Table F-1 State Population Data, by Census Tract <sup>a, b</sup>**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>State of Ohio</b>	11353140	10.6	84.9	11.5	0.2	1.2	0.8	1.5	1.9	16
<b>Threshold for EJ Concerns</b>	NA	30.6	NA	31.5	20.2	21.2	20.8	21.5	21.9	36
<b>Adams County</b>										
39001990100	4868	22.4	96.8	0	1.3	0	0.1	1.7	0.8	3.9
39001990200	4635	13.1	98.4	0	0.2	0.2	0.1	1.1	0.6	1.9
39001990300	6212	12.6	98.8	0.1	0.1	0	0.2	0.8	0.3	1.5
39001990400	4630	17.6	97.8	0	1.3	0	0	1	0	2.2
39001990500	3454	21.7	96.3	0	1.6	0	0	2.1	0	3.7
39001990600	3531	19.6	99	0	0.1	0.1	0	0.8	0.5	1.5
<b>Athens County</b>										
39009972800	4272	27.7	97.4	0.4	0.8	0.4	0.3	0.6	1.8	4
39009972900	5362	29.8	90.9	3.1	0.4	3.1	0.3	2.1	0.5	9.5
39009973200	4320	17.4	87.8	3.7	0.5	4.4	0.5	2.5	2.2	13
39009973700	3967	13.9	95.7	1.2	0.6	0.8	0.2	1.6	1.4	5.7
39009973800	4642	11.3	98.4	0.2	0	0.7	0.1	0.5	0.5	2
<b>Brown County</b>										
39015951200	9522	6.2	98.3	0.2	0.1	0.3	0	1.1	0	1.7
39015951300	6435	12.3	98.7	0.3	0.2	0.3	0	0.5	0.3	1.6
39015951400	4408	14.4	98.6	0.4	0	0.1	0	0.8	0.5	1.9
39015951500	4896	12.3	98.5	0	0.9	0.4	0	0.2	0	1.5
39015951600	3869	16.5	97.4	1.1	0.3	0.2	0.2	0.8	1.4	3.5
39015951700	2764	15.3	92.8	4.8	0.1	0.1	0.1	2.1	0.6	7.6
39015951800	4650	12.2	97.4	2	0.2	0.1	0	0.3	0.4	2.9
39015951900	5741	12.1	99	0	0.2	0	0.3	0.5	0.6	1.2

**Table F-1 State Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>Clinton County</b>										
39027994300	3871	10.3	97.6	0.9	0	0.1	0.4	1	0.1	2.4
39027994400	4808	4.4	98.1	0	0.7	0	0	1.2	0.2	2.1
39027995000	3967	7.9	99.3	0.1	0.2	0.1	0	0.4	0.1	0.7
39027995100	4105	8	97	0.1	1.2	0.2	0.9	0.6	1.2	3.2
<b>Fairfield County</b>										
39045031200	4901	6.1	99.3	0	0	0.1	0.3	0.3	1.3	1.8
39045032500	5996	6.1	83.8	14	0.4	0.1	0.3	1.1	0.7	16.2
39045032600	5840	5	99.1	0.1	0.2	0	0.1	0.5	0.4	1.2
<b>Fayette County</b>										
39047985800	3785	9.1	96.9	1.3	0.2	0	0.8	0.8	0.9	3.2
39047985900	3847	8.7	95.3	2.2	0.2	0.1	0.1	2	0.9	5.2
39047986000	4180	9.4	96.1	0.6	0.4	2.4	0	0.6	0.8	4.7
39047986100	4132	17.1	94	4	0	0	0	2	0	6
39047986200	4623	10.3	93	3.1	0.2	0.8	1.8	1.1	2.8	8.2
39047986300	3602	11	96.8	2.7	0.1	0	0	0.4	1	4
39047986400	4264	5.5	98.3	1	0	0	0.2	0.5	0.4	1.9
<b>Gallia County</b>										
39053953500	4929	14.3	94.5	3.4	0.3	0.8	0.2	0.8	0.4	5.7
39053953600	3974	19.7	95.5	2.3	0.2	0.6	0.1	1.3	0.6	4.8
39053953700	4067	27.4	95.6	0.7	0.2	1.2	0.2	1.9	0.3	4.6
39053953800	4322	19.4	98.2	0.3	0	0	0.2	1.3	0.7	2
39053953900	6790	13.6	94.4	4.1	0	0.4	0	1.2	0	5.6
39053954000	4489	17.2	92.4	3.4	0.8	1.5	0.5	1.5	0.9	8
39053954100	2498	20.7	93.8	3.4	0.3	0	0	2.5	0.4	6.2

Table F-1 State Population Data, by Census Tract (continued)

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>Highland County</b>										
39071954400	3825	11	97.1	2.2	0.4	0	0.3	0	0.3	2.9
39071954500	4129	10.8	96.9	1.2	0	0	0.1	1.8	1.2	3.9
39071954600	4726	6.8	99	0.6	0	0.1	0	0.3	0	1
39071954700	5976	6.8	98.1	0	0.3	0.4	0	1.2	0	1.9
39071954800	4011	17.5	95.1	2.1	0.3	1.4	0.6	0.5	0.1	4.9
39071954900	3757	13.8	87.2	9	0.6	1.3	0	1.9	1	12.8
39071955000	4027	19.1	97.9	0.3	1.8	0	0	0	0.9	2.6
39071955100	5783	14	97.6	0.1	0.5	0.7	0	1	0.1	2.5
39071955200	4641	9.6	99.5	0	0.4	0	0	0.1	0.2	0.6
<b>Hocking County</b>										
39073964900	4400	7.3	98.7	0.3	0.7	0	0	0.4	0.1	1.4
39073965000	3888	15.7	99.6	0.2	0.2	0	0	0	0.7	1.1
39073965100	4134	10.5	97.9	0.4	0	0	0	1.7	0	2.1
39073965200	4302	15.9	98.7	0.8	0.2	0	0	0.3	0.2	1.5
39073965300	3548	10.9	99.5	0.4	0.2	0	0	0	0.1	0.7
39073965400	3991	18.9	96.1	0.7	0	1.6	0	1.5	0.6	4.2
39073965500	3978	16.2	93.5	4.6	0.1	0	0.3	1.5	0.3	6.5
<b>Jackson County</b>										
39079957200	5318	16.7	98.1	0.6	0	0.4	0.2	0.7	0.7	2.4
39079957300	3669	19.7	97	0.2	0.3	0.4	0.2	1.8	0.8	3.5
39079957400	5332	15.3	95.3	2.8	0.3	0.3	0.2	1.1	1.2	4.9
39079957500	5765	16	98.5	1.1	0	0.2	0	0.3	2.6	4.1
39079957600	2822	16.6	96.5	0.2	0.2	0.2	0	2.3	0.4	3.5
39079957700	5188	17.2	97.1	0.6	0.2	0.6	0	1.5	1.8	4.7
39079957800	4547	14.8	98.3	0.5	0.9	0	0	0.4	0.1	1.7

**Table F-1 State Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>Lawrence County</b>										
39087050100	2692	15.2	95.9	2.8	0.2	0	0	1.1	0.8	4.9
39087050200	2524	20.8	97	2.5	0	0	0	0.5	0.3	3.3
39087050300	2349	33	78.1	19.6	0	1.4	0.2	0.5	0.9	22.3
39087050400	3155	25.1	97.8	1.6	0.3	0	0	0.3	0.4	2.3
39087050500	6585	19.1	97.6	0.1	0.3	1	0.2	0.7	0.9	2.9
39087050600	1677	28.1	94.5	1.4	0.3	0	0.4	3.5	0.4	5.5
39087050700	3749	26	99	0	0	0.7	0	0.3	0	1
39087050800	3843	22.6	97.4	1.8	0	0.7	0	0.1	0.2	2.8
39087050900	2279	18.4	98.3	0.3	0.4	0	0.4	0.7	1	2
39087051001	4475	13.9	95	3.7	0	0	0	1.3	0	5
39087051002	4316	14.5	96.7	1.6	0	0	0	1.7	0	3.3
39087051100	6977	21.2	92.2	5.7	0.6	0	0.5	1.1	0.5	7.8
39087051200	5299	15.7	98.6	0.3	0.3	0	0.1	0.6	1	1.9
39087051300	3705	18.4	98.7	0.3	0	0.1	0	1	0	1.3
39087051400	8694	12	97.5	1.1	0.3	0.6	0.2	0.3	0.4	2.8
<b>Madison County</b>										
39097041200	3282	7.6	97.8	0	0.1	0.9	0.2	1	1.4	3.3
<b>Meigs County</b>										
39105964200	4423	17.3	98.6	0.3	0.1	0	0.1	0.8	0.2	1.5
39105964300	4342	21.3	96.8	0.3	0.3	0	0.5	2	0.7	4
39105964400	3676	28.2	94.5	2.2	0.6	0.1	0	2.6	0	5.5
<b>Pickaway County</b>										
39129020100	2050	22.9	92.6	3.1	2.2	0	0	2.1	0.7	8.1
39129020200	2698	10.8	98.3	1.3	0	0	0	0.4	0.6	2.3

**Table F-1 State Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
39129020310	5089	6.2	96.5	1.1	0.2	0.8	0.1	1.2	0	3.5
39129020320	3335	6.8	93.8	2.2	1.1	1.7	1.1	0.2	2.4	7.5
39129020400	2543	25.6	98	1	0	0	0.2	0.8	0.3	2.2
39129021100	6910	5.5	97.9	0.1	0.3	0.8	0	1	0.4	2.4
39129021200	6424	8.9	97.3	0.3	0.9	0.1	0.1	1.3	0.5	3.1
39129021400	8992	7.7	88.1	9.8	0.3	0.1	0.1	1.5	0.7	12.2
39129021500	2987	9.2	99.2	0	0.1	0	0	0.7	1.3	1.9
39129021600	3528	12.7	98.1	0.4	0.5	0.1	0.1	0.9	0.1	2
39129021700	4506	7.1	99	0.6	0.4	0	0.1	0	1	1.9
<b>Pike County</b>										
39131952200	5592	16.2	94.2	1.9	1.4	0.2	0.6	1.8	0.3	5.9
39131952300	5067	18.6	95.9	1.2	0.3	0.5	0	2.1	0.4	4.4
39131952400	3368	10.7	95.5	1.3	1	1.4	0.1	0.7	0	4.5
39131952500	3753	17.7	97.9	0	0.1	0.5	0	1.5	0.6	2.1
39131952600	5573	20.6	96.9	0.2	2	0	0	1	0.3	3.4
39131952700	4342	25.7	98	0	1.1	0.3	0.3	0.3	1.7	3.4
<b>Ross County</b>										
39141955500	5388	5.2	98.6	0.1	0.2	0	0.2	0.8	0.7	1.8
39141955601	2047	7.5	98.5	0.8	0.4	0	0.3	0	1.9	3.4
39141955602	4954	4.8	57.1	39.3	0.2	0	0	4	2.2	44
39141955603	3861	11.8	98.3	0.6	0.1	0.5	0.2	0.3	0	1.7
39141955700	4267	12.5	98.5	0.4	0.4	0.1	0	0.5	0.4	1.9
39141955800	6824	9.8	94.9	3.5	0	0.1	0.5	1	0.7	5.4
39141955900	4257	10.4	87.9	8.7	0	0.8	0.2	2.5	0.1	12.2
39141956000	4549	12	90.1	6.8	1.3	0	0	1.8	0.2	10.1
39141956100	3774	9.4	84.9	11.8	0.2	0.8	0	2.3	0.3	15.4



Table F-1 State Population Data, by Census Tract (continued)

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
39141956200	2299	11	90.9	2.9	1.3	2.3	0.3	2.5	0.8	9.7
39141956300	2942	14.4	93.6	4.2	0	0.7	0	1.3	0.6	6.7
39141956400	3665	15.3	89.1	7.5	0.6	0.2	0.4	2.3	0.7	11.2
39141956500	4045	16.4	91.3	5.9	0.9	0	0	2	1.7	9.5
39141956600	5044	9.5	98.9	0.2	0	0.6	0	0.2	0.6	1.6
39141956700	5003	13.5	97	1	1.1	0.4	0.3	0.3	1	3.7
39141956800	6026	15.4	97.6	0.9	0.1	0.1	0	1.3	1.7	4 <sup>mor</sup>
39141956900	4400	18	97.7	0.4	0	0.3	0	1.6	0	2.3
<b>Scioto County</b>										
39145992100	4960	17.4	98.3	0	0.2	0.1	0.6	0.7	0.6	1.7
39145992200	5180	12.8	79.9	16	0.4	0.1	0.3	3.4	2	20.8
39145992300	4867	16.1	96.7	0.2	1.5	0	0.3	1.3	0	3.3
39145992400	5626	21	97.2	0	0.2	0.7	0.3	1.6	1	3.2
39145992500	3188	17.8	95.4	0.5	0	0.6	0.5	2.9	1.5	5.1
39145992600	4164	16	98.2	0	0.2	0.1	0.1	1.2	1.4	2.3
39145992700	4538	12.5	96.7	0.2	0.2	0.2	0.1	2.5	0.4	3.3
39145992800	4486	18.8	95.7	2.5	1.1	0.3	0	0.4	0.3	4.7
39145992900	6372	15.4	98.1	0.7	0.4	0	0	0.8	0	1.9
39145993000	3878	20.8	96.9	0.3	0.9	1.3	0	0.6	0	3.1
39145993100	3495	21.9	98.5	0	0.4	0.3	0.1	0.6	0.1	1.5
39145993200	1861	31.5	97.6	0.3	0	0	0	2.1	0	2.4
39145993300	2698	14.1	94.6	2.4	0.8	1.8	0	0.5	0.9	6.3
39145993400	3801	28.5	93.1	3.9	0.5	0.2	0.2	2.1	0.3	7.1
39145993500	2859	29.3	97.2	0.2	0.8	0.2	0	1.6	1.5	4.4
39145993600	2596	43.4	88.8	7	0	1.2	0	2.9	0	11.2
39145993700	2618	24.6	75.4	20.3	0.4	0	0	4.2	1.4	25.6
39145993800	4689	8.1	95.6	0.7	0.2	1.9	0	1.6	0.2	4.6

**Table F-1 State Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
39145993900	3515	22.6	96.4	0	2.3	0.2	0	1.1	0	3.6
39145994000	3804	20.3	98.1	0.6	0.3	0.3	0.1	0.5	0.3	1.9
<b>Vinton County</b>										
39163953000	4509	17.8	98.3	0.3	0.5	0	0.1	0.8	0.4	2
39163953100	5284	21.4	97.3	0.1	0.5	0	0.2	1.9	0.8	3.4
39163953200	3013	20.8	98.4	0	0	0	0	1.6	0.5	2
<b>State of Kentucky</b>	<b>4041769</b>	<b>15.8</b>	<b>90</b>	<b>7.3</b>	<b>0.2</b>	<b>0.7</b>	<b>0.5</b>	<b>1.2</b>	<b>1.4</b>	<b>10.7</b>
<b>Threshold for EJ Concerns</b>	<b>NA</b>	<b>35.8</b>	<b>NA</b>	<b>27.3</b>	<b>20.2</b>	<b>20.7</b>	<b>20.5</b>	<b>21.2</b>	<b>21.4</b>	<b>30.7</b>
<b>Boyd County</b>										
21019030200	1182	25.9	81.2	9.2	0.5	4.9	1.2	3	0.6	19.4
21019030300	2542	32.3	96.6	3	0	0	0	0.4	0.2	3.6
21019030400	2072	27.9	93.1	2.3	0.2	0.2	1	3.2	2.3	7.1
21019030500	4489	11.1	97.3	1.6	0	0.9	0	0.2	0	2.7
21019030600	4169	9.9	97	1.6	0.1	0.2	0	1.1	0.2	3
21019030700	3578	8.7	95.8	0.8	0.5	0.1	1.1	1.6	0.4	4.3
21019030800	3969	29.4	97.6	0.5	0	0	0.2	1.8	1	3
21019030900	5772	13.7	99	0.2	0.3	0	0	0.5	0.3	1.3
21019031000	8122	12.6	88.7	7	0.4	0.3	1.1	2.3	4.7	14.1
21019031100	7764	10.9	98	0.5	0	0.2	0.1	1	0.5	2.1
21019031200	3374	11.5	99.1	0.9	0	0	0	0	0	0.9
21019031300	2719	19.2	97.1	1.1	0.2	0.3	0.1	1.3	0	2.9
<b>Carter County</b>										
21043960100	3370	26	98.5	0.7	0	0	0	0.8	0.7	2.2
21043960200	4334	25.5	99.3	0	0.1	0.3	0	0.3	0.2	0.9
21043960300	3080	20.8	100	0	0	0	0	0	0.6	0.6

**Table F-1 State Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
21043960400	1696	25.6	98.8	0	0.9	0.2	0	0	0	1.2
21043960500	4183	18	99	0.3	0.5	0	0	0.2	0	1
21043960600	5863	18.6	99.3	0.2	0	0.2	0.3	0	0.2	0.7
21043960700	4363	24.5	98.1	0	0	1.2	0	0.7	1.3	2.9
<b>Fleming County</b>										
21069980100	3949	16.6	94.9	4.5	0	0	0.1	0.5	0.8	6
21069980200	3184	12.9	98.4	1	0.2	0	0	0.4	1.3	2.7
21069980400	4085	24.1	99.1	0.9	0	0	0	0	0	0.9
<b>Greenup County</b>										
21089040100	4375	5.5	98.1	0.2	0.2	0.8	0.3	0.3	1.9	3.5
21089040200	7475	12.2	97.8	0.6	0.2	0.1	0.5	0.8	1.9	3.5
21089040300	4531	11.3	97	0.3	0	1.5	0.1	1	0.4	3.3
21089040400	5562	14.6	98.5	0.6	0	0.2	0.1	0.6	0.2	1.6
21089040500	8110	18.7	96.7	1.6	0	0.4	0.2	1.1	0.3	3.4
21089040600	3310	18	98.1	0	0.2	0.2	0	1.5	0	1.9
21089040700	3528	17.6	99.1	0	0.2	0.3	0	0.3	0	0.9
<b>Lewis County</b>										
21135990100	4716	29.1	99.7	0	0.2	0	0	0.1	0.2	0.5
21135990200	3990	33.6	98.9	0.4	0.2	0	0	0.5	0.5	1.6
21135990300	3293	22.5	97	0.8	0.6	0	0.7	0.9	0.7	3.2
21135990400	2093	27.1	100	0	0	0	0	0	0	0

**Table F-1 State Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>Mason County</b>										
21161960100	3093	14.3	97.3	1.6	0	0	0.2	0.9	0.8	3.3
21161960200	3478	24.7	84.5	12.2	0.2	0	0.9	2.3	1.3	15.7
21161960300	4337	16.8	85.7	10.3	0.1	1.1	0.9	1.9	1.5	15.6
21161960400	4140	11.4	94.7	2.4	0.4	0.7	0.5	1.5	1	5.7
<b>Carter County</b>										
21205950100	6103	16.5	94.4	2.2	0.5	0.9	1	1	2	6.5
State of West Virginia	1808344	17.9	95	3.1	0.2	0.5	0.2	1	0.7	5.5
Threshold for EJ Concerns	NA	37.9	NA	23.1	20.2	20.5	20.2	21	20.7	25.5
<b>Cabell County</b>										
54011000600	1607	58.9	89.3	4	1.2	5	0.4	0	0.9	10.7
54011000900	1852	30.7	95.3	3.2	0	0	0.3	1.2	0.3	4.7
54011001000	2426	29.6	97.7	1.1	0	0	0	1.3	0.4	2.7
54011001100	2096	28.1	93.6	2	0	0	0	4.5	2.6	6.4
54011010700	7160	15.5	98.1	0.3	0	0.3	0.1	1.2	0.4	2.2
<b>Mason County</b>										
54053954800	6909	16.3	98.5	0.6	0.2	0	0	0.6	0.2	1.7
54053954900	6750	24	98.8	0.6	0	0.4	0	0.1	0.6	1.7
54053955000	5025	17.6	96.5	1.8	0	1.5	0	0.2	0.5	4
54053955100	7273	21.2	99	0	0.2	0.1	0	0.7	0.2	1.3
<b>Wayne County</b>										
54099005100	2181	13.7	98.4	0	0.6	0.7	0	0.3	0	1.6
54099005200	2086	14.1	98.8	0	0	0.9	0.3	0	0.3	1.2
54099020100	2545	13.1	99.3	0.4	0.4	0	0	0	0	0.7

**Table F-1 State Population Data, by Census Tract (continued)**

<b>Census Tract</b>	<b>Persons</b>	<b>Below Poverty Level (%)</b>	<b>Whites (%)</b>	<b>African American/Black (%)</b>	<b>Native American (%)</b>	<b>Asian and Pacific Islander (%)</b>	<b>Other Races (%)</b>	<b>Two or More Races (%)</b>	<b>Hispanic or Latino (%)</b>	<b>Minorities (%)</b>
54099020300	5307	16.4	99	0.4	0	0.2	0.1	0.3	0.4	1.3
54099020400	6219	11.8	99.3	0	0	0	0.2	0.5	1.1	1.6

Notes:

<sup>a</sup> NA = Not available.

<sup>b</sup> Census tracts exceeding minority/low-income criteria are shown in bold.

**Table F-2 County Population Data, by Census Tract <sup>a, b</sup>**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>Ohio</b>										
<b>Adams County</b>	39001	6	17.4	0	0.7	0	0.1	1.2	0.4	2.4
<b>Threshold for EJ Concerns</b>	NA	26	NA	20	20.7	20	20.1	21.2	20.4	22.4
39001990100	4868	22.4	96.8	0	1.3	0	0.1	1.7	0.8	3.9
39001990200	4635	13.1	98.4	0	0.2	0.2	0.1	1.1	0.6	1.9
39001990300	6212	12.6	98.8	0.1	0.1	0	0.2	0.8	0.3	1.5
39001990400	4630	17.6	97.8	0	1.3	0	0	1	0	2.2
39001990500	3454	21.7	96.3	0	1.6	0	0	2.1	0	3.7
39001990600	3531	19.6	99	0	0.1	0.1	0	0.8	0.5	1.5
<b>Ohio</b>										
<b>Athens County</b>	39009	5	27.4	2.4	0.5	1.8	0.3	1.6	1	7.3
<b>Threshold for EJ Concerns</b>	NA	25	NA	22.4	20.5	21.8	20.3	21.6	21	27.3
39009972800	4272	27.7	97.4	0.4	0.8	0.4	0.3	0.6	1.8	4
39009972900	5362	29.8	90.9	3.1	0.4	3.1	0.3	2.1	0.5	9.5
39009973200	4320	17.4	87.8	3.7	0.5	4.4	0.5	2.5	2.2	13
39009973700	3967	13.9	95.7	1.2	0.6	0.8	0.2	1.6	1.4	5.7
39009973800	4642	11.3	98.4	0.2	0	0.7	0.1	0.5	0.5	2

**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>Ohio</b>										
<b>Brown County</b>	39015	8	11.6	0.8	0.2	0.2	0.1	0.7	0.4	2.3
<b>Threshold for EJ Concerns</b>	NA	28	NA	20.8	20.2	20.2	20.1	20.7	20.4	22.3
39015951200	9522	6.2	98.3	0.2	0.1	0.3	0	1.1	0	1.7
39015951300	6435	12.3	98.7	0.3	0.2	0.3	0	0.5	0.3	1.6
39015951400	4408	14.4	98.6	0.4	0	0.1	0	0.8	0.5	1.9
39015951500	4896	12.3	98.5	0	0.9	0.4	0	0.2	0	1.5
39015951600	3869	16.5	97.4	1.1	0.3	0.2	0.2	0.8	1.4	3.5
39015951700	2764	15.3	92.8	4.8	0.1	0.1	0.1	2.1	0.6	7.6
39015951800	4650	12.2	97.4	2	0.2	0.1	0	0.3	0.4	2.9
39015951900	5741	12.1	99	0	0.2	0	0.3	0.5	0.6	1.2
<b>Ohio</b>										
<b>Clinton County</b>	39027	4	8.6	2.1	0.3	0.2	0.4	1.1	0.9	4.7
<b>Threshold for EJ Concerns</b>	NA	24	NA	22.1	20.3	20.2	20.4	21.1	20.9	24.7
39027994300	3871	10.3	97.6	0.9	0	0.1	0.4	1	0.1	2.4
39027994400	4808	4.4	98.1	0	0.7	0	0	1.2	0.2	2.1
39027995000	3967	7.9	99.3	0.1	0.2	0.1	0	0.4	0.1	0.7
39027995100	4105	8	97	0.1	1.2	0.2	0.9	0.6	1.2	3.2

**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>Ohio</b>										
<b>Fairfield County</b>	39045	3	5.9	2.6	0.3	0.7	0.3	1	1	5.5
<b>Threshold for EJ Concerns</b>	NA	23	NA	22.6	20.3	20.7	20.3	21	21	25.5
39045031200	4901	6.1	99.3	0	0	0.1	0.3	0.3	1.3	1.8
39045032500	5996	6.1	83.8	14	0.4	0.1	0.3	1.1	0.7	16.2
39045032600	5840	5	99.1	0.1	0.2	0	0.1	0.5	0.4	1.2
<b>Ohio</b>										
<b>Fayette County</b>	39047	7	10.1	2.1	0.2	0.5	0.4	1.1	1	4.8
<b>Threshold for EJ Concerns</b>	NA	27	NA	22.1	20.2	20.5	20.4	21.1	21	24.8
39047985800	3785	9.1	96.9	1.3	0.2	0	0.8	0.8	0.9	3.2
39047985900	3847	8.7	95.3	2.2	0.2	0.1	0.1	2	0.9	5.2
39047986000	4180	9.4	96.1	0.6	0.4	2.4	0	0.6	0.8	4.7
39047986100	4132	17.1	94	4	0	0	0	2	0	6
39047986200	4623	10.3	93	3.1	0.2	0.8	1.8	1.1	2.8	8.2
39047986300	3602	11	96.8	2.7	0.1	0	0	0.4	1	4
39047986400	4264	5.5	98.3	1	0	0	0.2	0.5	0.4	1.9
<b>Ohio</b>										
<b>Gallia County</b>	39053	7	18.1	2.6	0.2	0.7	0.2	1.4	0.4	5.3
<b>Threshold for EJ Concerns</b>	NA	27	NA	22.6	20.2	20.7	20.2	21.4	20.4	25.3
39053953500	4929	14.3	94.5	3.4	0.3	0.8	0.2	0.8	0.4	5.7
39053953600	3974	19.7	95.5	2.3	0.2	0.6	0.1	1.3	0.6	4.8
39053953700	4067	27.4	95.6	0.7	0.2	1.2	0.2	1.9	0.3	4.6
39053953800	4322	19.4	98.2	0.3	0	0	0.2	1.3	0.7	2



**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
39053953900	6790	13.6	94.4	4.1	0	0.4	0	1.2	0	5.6
39053954000	4489	17.2	92.4	3.4	0.8	1.5	0.5	1.5	0.9	8
39053954100	2498	20.7	93.8	3.4	0.3	0	0	2.5	0.4	6.2
<b>Ohio</b>										
<b>Highland County</b>	39071	9	11.8	1.5	0.5	0.4	0.1	0.8	0.4	3.4
<b>Threshold for EJ Concerns</b>	NA	29	NA	21.5	20.5	20.4	20.1	20.8	20.4	23.4
39071954400	3825	11	97.1	2.2	0.4	0	0.3	0	0.3	2.9
39071954500	4129	10.8	96.9	1.2	0	0	0.1	1.8	1.2	3.9
39071954600	4726	6.8	99	0.6	0	0.1	0	0.3	0	1
39071954700	5976	6.8	98.1	0	0.3	0.4	0	1.2	0	1.9
39071954800	4011	17.5	95.1	2.1	0.3	1.4	0.6	0.5	0.1	4.9
39071954900	3757	13.8	87.2	9	0.6	1.3	0	1.9	1	12.8
39071955000	4027	19.1	97.9	0.3	1.8	0	0	0	0.9	2.6
39071955100	5783	14	97.6	0.1	0.5	0.7	0	1	0.1	2.5
39071955200	4641	9.6	99.5	0	0.4	0	0	0.1	0.2	0.6
<b>Ohio</b>										
<b>Hocking County</b>	39073	7	13.5	1	0.2	0.2	0	0.8	0.3	2.5
<b>Threshold for EJ Concerns</b>	NA	27	NA	21	20.2	20.2	20	20.8	20.3	22.5
39073964900	4400	7.3	98.7	0.3	0.7	0	0	0.4	0.1	1.4
39073965000	3888	15.7	99.6	0.2	0.2	0	0	0	0.7	1.1
39073965100	4134	10.5	97.9	0.4	0	0	0	1.7	0	2.1
39073965200	4302	15.9	98.7	0.8	0.2	0	0	0.3	0.2	1.5
39073965300	3548	10.9	99.5	0.4	0.2	0	0	0	0.1	0.7
39073965400	3991	18.9	96.1	0.7	0	1.6	0	1.5	0.6	4.2

**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
39073965500	3978	16.2	93.5	4.6	0.1	0	0.3	1.5	0.3	6.5
<b>Ohio</b>										
Jackson County	39079	7	16.5	0.9	0.3	0.3	0.1	1.1	1.2	3.6
Threshold for EJ Concerns	NA	27	NA	20.9	20.3	20.3	20.1	21.1	21.2	23.6
39079957200	5318	16.7	98.1	0.6	0	0.4	0.2	0.7	0.7	2.4
39079957300	3669	19.7	97	0.2	0.3	0.4	0.2	1.8	0.8	3.5
39079957400	5332	15.3	95.3	2.8	0.3	0.3	0.2	1.1	1.2	4.9
39079957500	5765	16	98.5	1.1	0	0.2	0	0.3	2.6	4.1
39079957600	2822	16.6	96.5	0.2	0.2	0.2	0	2.3	0.4	3.5
39079957700	5188	17.2	97.1	0.6	0.2	0.6	0	1.5	1.8	4.7
39079957800	4547	14.8	98.3	0.5	0.9	0	0	0.4	0.1	1.7
<b>Ohio</b>										
Lawrence County	39087	15	18.9	2.4	0.2	0.3	0.1	0.8	0.5	4.2
Threshold for EJ Concerns	NA	35	NA	22.4	20.2	20.3	20.1	20.8	20.5	24.2
39087050100	2692	15.2	95.9	2.8	0.2	0	0	1.1	0.8	4.9
39087050200	2524	20.8	97	2.5	0	0	0	0.5	0.3	3.3
39087050300	2349	33	78.1	19.6	0	1.4	0.2	0.5	0.9	22.3
39087050400	3155	25.1	97.8	1.6	0.3	0	0	0.3	0.4	2.3
39087050500	6585	19.1	97.6	0.1	0.3	1	0.2	0.7	0.9	2.9
39087050600	1677	28.1	94.5	1.4	0.3	0	0.4	3.5	0.4	5.5
39087050700	3749	26	99	0	0	0.7	0	0.3	0	1
39087050800	3843	22.6	97.4	1.8	0	0.7	0	0.1	0.2	2.8
39087050900	2279	18.4	98.3	0.3	0.4	0	0.4	0.7	1	2
39087051001	4475	13.9	95	3.7	0	0	0	1.3	0	5

**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
39087051002	4316	14.5	96.7	1.6	0	0	0	1.7	0	3.3
39087051100	6977	21.2	92.2	5.7	0.6	0	0.5	1.1	0.5	7.8
39087051200	5299	15.7	98.6	0.3	0.3	0	0.1	0.6	1	1.9
39087051300	3705	18.4	98.7	0.3	0	0.1	0	1	0	1.3
39087051400	8694	12	97.5	1.1	0.3	0.6	0.2	0.3	0.4	2.8
<b>Ohio</b>										
<b>Madison County</b>	39097	1	7.8	6	0.2	0.5	0.2	1.5	0.7	8.7
<b>Threshold for EJ Concerns</b>	NA	21	NA	26	20.2	20.5	20.2	21.5	20.7	28.7
39097041200	3282	7.6	97.8	0	0.1	0.9	0.2	1	1.4	3.3
<b>Ohio</b>										
<b>Meigs County</b>	39105	3	19.8	0.6	0.3	0.2	0.3	1.3	0.6	3
<b>Threshold for EJ Concerns</b>	NA	23	NA	20.6	20.3	20.2	20.3	21.3	20.6	23
39105964200	4423	17.3	98.6	0.3	0.1	0	0.1	0.8	0.2	1.5
39105964300	4342	21.3	96.8	0.3	0.3	0	0.5	2	0.7	4
39105964400	3676	28.2	94.5	2.2	0.6	0.1	0	2.6	0	5.5
<b>Ohio</b>										
<b>Pickaway County</b>	39129	11	9.5	5.7	0.5	0.3	0.2	1.1	0.8	8.3
<b>Threshold for EJ Concerns</b>	NA	31	NA	25.7	20.5	20.3	20.2	21.1	20.8	28.3
39129020100	2050	22.9	92.6	3.1	2.2	0	0	2.1	0.7	8.1
39129020200	2698	10.8	98.3	1.3	0	0	0	0.4	0.6	2.3
39129020310	5089	6.2	96.5	1.1	0.2	0.8	0.1	1.2	0	3.5
39129020320	3335	6.8	93.8	2.2	1.1	1.7	1.1	0.2	2.4	7.5
39129020400	2543	25.6	98	1	0	0	0.2	0.8	0.3	2.2

**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
39129021100	6910	5.5	97.9	0.1	0.3	0.8	0	1	0.4	2.4
39129021200	6424	8.9	97.3	0.3	0.9	0.1	0.1	1.3	0.5	3.1
39129021400	8992	7.7	88.1	9.8	0.3	0.1	0.1	1.5	0.7	12.2
39129021500	2987	9.2	99.2	0	0.1	0	0	0.7	1.3	1.9
39129021600	3528	12.7	98.1	0.4	0.5	0.1	0.1	0.9	0.1	2
39129021700	4506	7.1	99	0.6	0.4	0	0.1	0	1	1.9
<b>Ohio</b>										
<b>Pike County</b>	39131	6	18.6	0.8	1	0.4	0.2	1.3	0.5	4
<b>Threshold for EJ Concerns</b>	NA	26	NA	20.8	21	20.4	20.2	21.3	20.5	24
39131952200	5592	16.2	94.2	1.9	1.4	0.2	0.6	1.8	0.3	5.9
39131952300	5067	18.6	95.9	1.2	0.3	0.5	0	2.1	0.4	4.4
39131952400	3368	10.7	95.5	1.3	1	1.4	0.1	0.7	0	4.5
39131952500	3753	17.7	97.9	0	0.1	0.5	0	1.5	0.6	2.1
39131952600	5573	20.6	96.9	0.2	2	0	0	1	0.3	3.4
39131952700	4342	25.7	98	0	1.1	0.3	0.3	0.3	1.7	3.4
<b>Ohio</b>										
<b>Ross County</b>	39141	17	12	5.7	0.4	0.3	0.1	1.4	0.8	8.5
<b>Threshold for EJ Concerns</b>	NA	37	NA	25.7	20.4	20.3	20.1	21.4	20.8	28.5
39141955500	5388	5.2	98.6	0.1	0.2	0	0.2	0.8	0.7	1.8
39141955601	2047	7.5	98.5	0.8	0.4	0	0.3	0	1.9	3.4
39141955602	4954	4.8	57.1	39.3	0.2	0	0	4	2.2	44
39141955603	3861	11.8	98.3	0.6	0.1	0.5	0.2	0.3	0	1.7
39141955700	4267	12.5	98.5	0.4	0.4	0.1	0	0.5	0.4	1.9
39141955800	6824	9.8	94.9	3.5	0	0.1	0.5	1	0.7	5.4

**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
39141955900	4257	10.4	87.9	8.7	0	0.8	0.2	2.5	0.1	12.2
39141956000	4549	12	90.1	6.8	1.3	0	0	1.8	0.2	10.1
39141956100	3774	9.4	84.9	11.8	0.2	0.8	0	2.3	0.3	15.4
39141956200	2299	11	90.9	2.9	1.3	2.3	0.3	2.5	0.8	9.7
39141956300	2942	14.4	93.6	4.2	0	0.7	0	1.3	0.6	6.7
39141956400	3665	15.3	89.1	7.5	0.6	0.2	0.4	2.3	0.7	11.2
39141956500	4045	16.4	91.3	5.9	0.9	0	0	2	1.7	9.5
39141956600	5044	9.5	98.9	0.2	0	0.6	0	0.2	0.6	1.6
39141956700	5003	13.5	97	1	1.1	0.4	0.3	0.3	1	3.7
39141956800	6026	15.4	97.6	0.9	0.1	0.1	0	1.3	1.7	4
39141956900	4400	18	97.7	0.4	0	0.3	0	1.6	0	2.3
<b>Ohio</b>										
<b>Scioto County</b>	39145	20	19.3	2.6	0.5	0.5	0.2	1.5	0.6	5.5
<b>Threshold for EJ Concerns</b>	NA	40	NA	22.6	20.5	20.5	20.2	21.5	20.6	25.5
39145992100	4960	17.4	98.3	0	0.2	0.1	0.6	0.7	0.6	1.7
39145992200	5180	12.8	79.9	16	0.4	0.1	0.3	3.4	2	20.8
39145992300	4867	16.1	96.7	0.2	1.5	0	0.3	1.3	0	3.3
39145992400	5626	21	97.2	0	0.2	0.7	0.3	1.6	1	3.2
39145992500	3188	17.8	95.4	0.5	0	0.6	0.5	2.9	1.5	5.1
39145992600	4164	16	98.2	0	0.2	0.1	0.1	1.2	1.4	2.3
39145992700	4538	12.5	96.7	0.2	0.2	0.2	0.1	2.5	0.4	3.3
39145992800	4486	18.8	95.7	2.5	1.1	0.3	0	0.4	0.3	4.7
39145992900	6372	15.4	98.1	0.7	0.4	0	0	0.8	0	1.9
39145993000	3878	20.8	96.9	0.3	0.9	1.3	0	0.6	0	3.1
39145993100	3495	21.9	98.5	0	0.4	0.3	0.1	0.6	0.1	1.5

**Table F-2 County Population Data, by Census Tract (continued)**

<b>Census Tract</b>	<b>Persons</b>	<b>Below Poverty Level (%)</b>	<b>Whites (%)</b>	<b>African American/ Black (%)</b>	<b>Native American (%)</b>	<b>Asian and Pacific Islander (%)</b>	<b>Other Races (%)</b>	<b>Two or More Races (%)</b>	<b>Hispanic or Latino (%)</b>	<b>Minorities (%)</b>
39145993200	1861	31.5	97.6	0.3	0	0	0	2.1	0	2.4
39145993300	2698	14.1	94.6	2.4	0.8	1.8	0	0.5	0.9	6.3
39145993400	3801	28.5	93.1	3.9	0.5	0.2	0.2	2.1	0.3	7.1
39145993500	2859	29.3	97.2	0.2	0.8	0.2	0	1.6	1.5	4.4
39145993600	2596	43.4	88.8	7	0	1.2	0	2.9	0	11.2
39145993700	2618	24.6	75.4	20.3	0.4	0	0	4.2	1.4	25.6
39145993800	4689	8.1	95.6	0.7	0.2	1.9	0	1.6	0.2	4.6
39145993900	3515	22.6	96.4	0	2.3	0.2	0	1.1	0	3.6
39145994000	3804	20.3	98.1	0.6	0.3	0.3	0.1	0.5	0.3	1.9
<b>Ohio</b>										
<b>Vinton County</b>	39163	3	20	0.1	0.4	0	0.1	1.4	0.6	2.5
<b>Threshold for EJ Concerns</b>	NA	23	NA	20.1	20.4	20	20.1	21.4	20.6	22.5
39163953000	4509	17.8	98.3	0.3	0.5	0	0.1	0.8	0.4	2
39163953100	5284	21.4	97.3	0.1	0.5	0	0.2	1.9	0.8	3.4
39163953200	3013	20.8	98.4	0	0	0	0	1.6	0.5	2
<b>Kentucky</b>										
<b>Boyd County</b>	21019	12	15.5	2.2	0.2	0.3	0.4	1.2	1.1	5
<b>Threshold for EJ Concerns</b>	NA	32	NA	22.2	20.2	20.3	20.4	21.2	21.1	25
21019030200	1182	25.9	81.2	9.2	0.5	4.9	1.2	3	0.6	19.4
21019030300	2542	32.3	96.6	3	0	0	0	0.4	0.2	3.6
21019030400	2072	27.9	93.1	2.3	0.2	0.2	1	3.2	2.3	7.1
21019030500	4489	11.1	97.3	1.6	0	0.9	0	0.2	0	2.7
21019030600	4169	9.9	97	1.6	0.1	0.2	0	1.1	0.2	3
21019030700	3578	8.7	95.8	0.8	0.5	0.1	1.1	1.6	0.4	4.3

**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
21019030800	3969	29.4	97.6	0.5	0	0	0.2	1.8	1	3
21019030900	5772	13.7	99	0.2	0.3	0	0	0.5	0.3	1.3
21019031000	8122	12.6	88.7	7	0.4	0.3	1.1	2.3	4.7	14.1
21019031100	7764	10.9	98	0.5	0	0.2	0.1	1	0.5	2.1
21019031200	3374	11.5	99.1	0.9	0	0	0	0	0	0.9
21019031300	2719	19.2	97.1	1.1	0.2	0.3	0.1	1.3	0	2.9
<b>Kentucky</b>										
<b>Carter County</b>	21043	7	22.3	0.2	0.2	0.3	0.1	0.3	0.4	1.3
<b>Threshold for EJ Concerns</b>	NA	27	NA	20.2	20.2	20.3	20.1	20.3	20.4	21.3
21043960100	3370	26	98.5	0.7	0	0	0	0.8	0.7	2.2
21043960200	4334	25.5	99.3	0	0.1	0.3	0	0.3	0.2	0.9
21043960300	3080	20.8	100	0	0	0	0	0	0.6	0.6
21043960400	1696	25.6	98.8	0	0.9	0.2	0	0	0	1.2
21043960500	4183	18	99	0.3	0.5	0	0	0.2	0	1
21043960600	5863	18.6	99.3	0.2	0	0.2	0.3	0	0.2	0.7
21043960700	4363	24.5	98.1	0	0	1.2	0	0.7	1.3	2.9
<b>Kentucky</b>										
<b>Fleming County</b>	21069	3	18.6	1.8	0.1	0	0	0.4	0.8	3
<b>Threshold for EJ Concerns</b>	NA	23	NA	21.8	20.1	20	20	20.4	20.8	23
21069980100	3949	16.6	94.9	4.5	0	0	0.1	0.5	0.8	6
21069980200	3184	12.9	98.4	1	0.2	0	0	0.4	1.3	2.7
21069980400	4085	24.1	99.1	0.9	0	0	0	0	0	0.9

**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>Kentucky</b>										
<b>Greenup County</b>	21089	7	14.1	0.6	0.1	0.4	0.2	0.8	0.8	2.8
<b>Threshold for EJ Concerns</b>	NA	27	NA	20.6	20.1	20.4	20.2	20.8	20.8	22.8
21089040100	4375	5.5	98.1	0.2	0.2	0.8	0.3	0.3	1.9	3.5
21089040200	7475	12.2	97.8	0.6	0.2	0.1	0.5	0.8	1.9	3.5
21089040300	4531	11.3	97	0.3	0	1.5	0.1	1	0.4	3.3
21089040400	5562	14.6	98.5	0.6	0	0.2	0.1	0.6	0.2	1.6
21089040500	8110	18.7	96.7	1.6	0	0.4	0.2	1.1	0.3	3.4
21089040600	3310	18	98.1	0	0.2	0.2	0	1.5	0	1.9
21089040700	3528	17.6	99.1	0	0.2	0.3	0	0.3	0	0.9
<b>Kentucky</b>										
<b>Lewis County</b>	21135	4	28.5	0.3	0.3	0	0.2	0.4	0.4	1.4
<b>Threshold for EJ Concerns</b>	NA	24	NA	20.3	20.3	20	20.2	20.4	20.4	21.4
21135990100	4716	29.1	99.7	0	0.2	0	0	0.1	0.2	0.5
21135990200	3990	33.6	98.9	0.4	0.2	0	0	0.5	0.5	1.6
21135990300	3293	22.5	97	0.8	0.6	0	0.7	0.9	0.7	3.2
21135990400	2093	27.1	100	0	0	0	0	0	0	0



**Table F-2 County Population Data, by Census Tract (continued)**

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>Kentucky</b>										
Mason County	21161	4	16.8	6.4	0.1	0.5	0.9	1.5	1.4	9.9
Threshold for EJ Concerns	NA	24	NA	26.4	20.1	20.5	20.9	21.5	21.4	29.9
21161960100	3093	14.3	97.3	1.6	0	0	0.2	0.9	0.8	3.3
21161960200	3478	24.7	84.5	12.2	0.2	0	0.9	2.3	1.3	15.7
21161960300	4337	16.8	85.7	10.3	0.1	1.1	0.9	1.9	1.5	15.6
21161960400	4140	11.4	94.7	2.4	0.4	0.7	0.5	1.5	1	5.7
<b>Kentucky</b>										
Carter County	21043	7	22.3	0.2	0.2	0.3	0.1	0.3	0.4	1.3
Threshold for EJ Concerns	NA	27	NA	20.2	20.2	20.3	20.1	20.3	20.4	21.3
21205950100	6103	16.5	94.4	2.2	0.5	0.9	1	1	2	6.5
<b>West Virginia</b>										
Cabell County	54011	5	19.2	4	0.2	0.9	0.3	1.3	0.6	7
Threshold for EJ Concerns	NA	25	NA	24	20.2	20.9	20.3	21.3	20.6	27
54011000600	1607	58.9	89.3	4	1.2	5	0.4	0	0.9	10.7
54011000900	1852	30.7	95.3	3.2	0	0	0.3	1.2	0.3	4.7
54011001000	2426	29.6	97.7	1.1	0	0	0	1.3	0.4	2.7
54011001100	2096	28.1	93.6	2	0	0	0	4.5	2.6	6.4
54011010700	7160	15.5	98.1	0.3	0	0.3	0.1	1.2	0.4	2.2

Table F-2 County Population Data, by Census Tract (continued)

Census Tract	Persons	Below Poverty Level (%)	Whites (%)	African American/ Black (%)	Native American (%)	Asian and Pacific Islander (%)	Other Races (%)	Two or More Races (%)	Hispanic or Latino (%)	Minorities (%)
<b>West Virginia</b>										
Mason County	54053	4	19.9	0.7	0.1	0.4	0	0.4	0.4	2
Threshold for EJ Concerns	NA	24	NA	20.7	20.1	20.4	20	20.4	20.4	22
54053954800	6909	16.3	98.5	0.6	0.2	0	0	0.6	0.2	1.7
54053954900	6750	<b>24</b>	98.8	0.6	0	0.4	0	0.1	0.6	1.7
54053955000	5025	17.6	96.5	1.8	0	1.5	0	0.2	0.5	4
54053955100	7273	21.2	99	0	0.2	0.1	0	0.7	0.2	1.3
<b>West Virginia</b>										
Wayne County	54099	5	19.6	0.1	0.2	0.2	0.1	0.5	0.3	1.4
Threshold for EJ Concerns	NA	25	NA	20.1	20.2	20.2	20.1	20.5	20.3	21.4
54099005100	2181	13.7	98.4	0	0.6	0.7	0	0.3	0	1.6
54099005200	2086	14.1	98.8	0	0	0.9	0.3	0	0.3	1.2
54099020100	2545	13.1	99.3	0.4	0.4	0	0	0	0	0.7
54099020300	5307	16.4	99	0.4	0	0.2	0.1	0.3	0.4	1.3
54099020400	6219	11.8	99.3	0	0	0	0.2	0.5	1.1	1.6

Notes:

<sup>a</sup> NA = Not available.

<sup>b</sup> Census tracts exceeding minority/low-income criteria are shown in bold.

**Table F-3 Number of Census Tracts Exceeding State Environmental Justice Threshold \***

County	Below Poverty Level	African American/ Black	Native American	Asian and Pacific Islander	Other Races	Two or More Races	Hispanic or Latino (All Races)	Minorities (Racial Minorities plus White Hispanics)	Total Minority Tracts
<b>State of Ohio (%)</b>	10.6	11.5	0.2	1.2	0.8	1.5	1.9	16	--
<b>Threshold for EJ Concerns (%)</b>	30.6	31.5	20.2	21.2	20.8	21.5	21.9	36	--
Adams	0	0	0	0	0	0	0	0	0
Athens	0	0	0	0	0	0	0	0	0
Brown	0	0	0	0	0	0	0	0	0
Clinton	0	0	0	0	0	0	0	0	0
Fairfield	0	0	0	0	0	0	0	0	0
Fayette	0	0	0	0	0	0	0	0	0
Gallia	0	0	0	0	0	0	0	0	0
Highland	0	0	0	0	0	0	0	0	0
Hocking	0	0	0	0	0	0	0	0	0
Jackson	0	0	0	0	0	0	0	0	0
Lawrence	1	0	0	0	0	0	0	0	NA
Madison	0	0	0	0	0	0	0	0	0
Meigs	0	0	0	0	0	0	0	0	0
Pickaway	0	0	0	0	0	0	0	0	0
Pike	0	0	0	0	0	0	0	0	0
Ross	0	1	0	0	0	0	0	1	NA
Scioto	2	0	0	0	0	0	0	0	NA
Vinton	0	0	0	0	0	0	0	0	0
<b>Total Ohio Counties</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>NA</b>

**Table F-3 Number of Census Tracts Exceeding State Environmental Justice Threshold (continued)**

County	Below Poverty Level	African American/ Black	Native American	Asian and Pacific Islander	Other Races	Two or More Races	Hispanic or Latino (All Races)	Minorities (Racial Minorities plus White Hispanics)	Total Minority Tracts
<b>State of Kentucky (%)</b>	15.8	7.3	0.2	0.7	0.5	1.2	1.4	10.7	--
<b>Threshold for EJ Concerns (%)</b>	35.8	27.3	20.2	20.7	20.5	21.2	21.4	30.7	--
Boyd	0	0	0	0	0	0	0	0	0
Carter	0	0	0	0	0	0	0	0	0
Fleming	0	0	0	0	0	0	0	0	0
Greenup	0	0	0	0	0	0	0	0	0
Lewis	0	0	0	0	0	0	0	0	0
Mason	0	0	0	0	0	0	0	0	0
Carter	0	0	0	0	0	0	0	0	0
<b>Total Kentucky Counties</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>State of West Virginia (%)</b>	17.9	3.1	0.2	0.5	0.2	1	0.7	5.5	--
<b>Threshold for EJ Concerns (%)</b>	37.9	23.1	20.2	20.5	20.2	21	20.7	25.5	--
Cabell	1	0	0	0	0	0	0	0	NA
Mason	0	0	0	0	0	0	0	0	0
Wayne	0	0	0	0	0	0	0	0	0
<b>Total West Virginia Counties</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NA</b>

**Table F-3 Number of Census Tracts Exceeding State Environmental Justice Threshold (continued)**

<b>County</b>	<b>Below Poverty Level</b>	<b>African American/ Black</b>	<b>Native American</b>	<b>Asian and Pacific Islander</b>	<b>Other Races</b>	<b>Two or More Races</b>	<b>Hispanic or Latino (All Races)</b>	<b>Minorities (Racial Minorities plus White Hispanics)</b>	<b>Total Minority Tracts</b>
<b>Grand Total (3 States)</b>	4	1	0	0	0	0	0	1	NA

Notes:

\* NA = Not available.

**Table F-4 Number of Census Tracts Exceeding County Environmental Justice Threshold \***

<b>County</b>	<b>Below Poverty Level</b>	<b>African American/ Black</b>	<b>Native American</b>	<b>Asian and Pacific Islander</b>	<b>Other Races</b>	<b>Two or More Races</b>	<b>Hispanic or Latino (All Races)</b>	<b>Minorities (Racial Minorities plus White Hispanics)</b>	<b>Total Minority Block Groups</b>
<b>State of Ohio (%)</b>	10.6	11.5	0.2	1.2	0.8	1.5	1.9	16	--
<b>Threshold for EJ Concerns (%)</b>	30.6	31.5	20.2	21.2	20.8	21.5	21.9	36	--
Adams	0	0	0	0	0	0	0	0	0
Athens	2	0	0	0	0	0	0	0	NA
Brown	0	0	0	0	0	0	0	0	0
Clinton	0	0	0	0	0	0	0	0	0
Fairfield	0	0	0	0	0	0	0	0	0
Fayette	0	0	0	0	0	0	0	0	0
Gallia	1	0	0	0	0	0	0	0	NA
Highland	0	0	0	0	0	0	0	0	0
Hocking	0	0	0	0	0	0	0	0	0
Jackson	0	0	0	0	0	0	0	0	0
Lawrence	0	0	0	0	0	0	0	0	0
Madison	0	0	0	0	0	0	0	0	0
Meigs	1	0	0	0	0	0	0	0	NA
Pickaway	0	0	0	0	0	0	0	0	0
Pike	0	0	0	0	0	0	0	0	0
Ross	0	1	0	0	0	0	0	1	NA
Scioto	1	0	0	0	0	0	0	1	NA
Vinton	0	0	0	0	0	0	0	0	0
<b>Total Ohio Counties</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>NA</b>

**Table F-4 Number of Census Tracts Exceeding County Environmental Justice Threshold (continued)**

County	Below Poverty Level	African American/ Black	Native American	Asian and Pacific Islander	Other Races	Two or More Races	Hispanic or Latino (All Races)	Minorities (Racial Minorities plus White Hispanics)	Total Minority Block Groups
<b>State of Kentucky (%)</b>	15.8	7.3	0.2	0.7	0.5	1.2	1.4	10.7	--
<b>Threshold for EJ Concerns (%)</b>	35.8	27.3	20.2	20.7	20.5	21.2	21.4	30.7	--
Boyd	1	0	0	0	0	0	0	0	NA
Carter	0	0	0	0	0	0	0	0	0
Fleming	1	0	0	0	0	0	0	0	NA
Greenup	0	0	0	0	0	0	0	0	0
Lewis	3	0	0	0	0	0	0	0	NA
Mason	1	0	0	0	0	0	0	0	NA
<b>Total Kentucky Counties</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NA</b>
<b>State of West Virginia (%)</b>	17.9	3.1	0.2	0.5	0.2	1	0.7	5.5	--
<b>Threshold for EJ Concerns (%)</b>	37.9	23.1	20.2	20.5	20.2	21	20.7	25.5	--
Cabell	4	0	0	0	0	0	0	0	NA
Mason	1	0	0	0	0	0	0	0	0
Wayne	0	0	0	0	0	0	0	0	0
<b>Total West Virginia Counties</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>NA</b>
<b>Grand Total (3 States)</b>	<b>16</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>NA</b>

Notes:

\* NA = Not available.





**APPENDIX G**  
**COST BENEFIT ANALYSIS**



## **APPENDIX G COST BENEFIT ANALYSIS**

### **G.1 Introduction**

This appendix describes the methodology used in preparing the incremental cost benefit analysis that is summarized in Section 7.2.

An incremental cost benefit analysis measures the impacts of each alternative relative to a baseline, which is how things would be if the alternative were not imposed (i.e., the no-action alternative). The baseline used in this analysis assumes full licensee compliance with existing NRC requirements, including current regulations. This is consistent with the *Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission* (NRC, 2004), which state that "...in evaluating a new requirement for existing plants, the staff should assume that all existing NRC and Agreement State requirements have been implemented" (NRC, 2004).

The incremental cost benefit analysis described in this appendix compares the proposed action (construction and operation of the proposed ACP at Piketon, Ohio) with the no-action alternative. For the purposes of this analysis, the no-action alternative is defined as continued operation of the Paducah Gaseous Diffusion Plant at Paducah, Kentucky. This appendix presents full details of construction and operating costs and the results of a net present value analysis estimating the economic impact of implementing the proposed action compared to the no-action alternative under different discount rates and production capacity assumptions.

### **G.2 Methodology and Assumptions**

The incremental cost benefit analysis presented in Section 7.2 considers a limited number of costs and benefits in assessing the net present value of implementing the proposed action compared to the no-action alternative. Specifically, the analysis quantitatively assesses direct costs such as construction costs, manufacturing costs, and decontamination and decommissioning costs. The only benefits assessed are those resulting from operating cost savings associated with implementing the proposed action compared to the no-action alternative. Some of the indirect impacts and costs described in Section 7.1.1 are not included as part of this comparative analysis because the effect of these impacts is assumed to be either (1) equal for the proposed action and the no-action alternative as defined above, or (2) too small an impact to materially affect the comparative cost benefit analysis.

The estimates in this analysis reflect costs and benefits to the U.S. economy and not to USEC. All costs and benefits in this analysis are measured in 2005 real dollars (denoted hereafter as 2005\$). Costs and benefits are assumed to accrue at the beginning of the calendar year over which they actually occur.

### **G.3 Costs of the Proposed Action**

**Construction Costs:** The construction phase of the proposed alternative is estimated to cost \$1,449 million between calendar years 2006 and 2010 (USEC, 2005b). Construction costs are assumed to accrue evenly in each of the calendar years of the construction phase of the proposed action. The construction cost figure USEC provided is not expressed in constant dollars. To be conservative, NRC staff treat these costs as 2005\$. This approach overestimates costs, and is therefore a conservative assumption.

**Manufacturing Costs:** The manufacturing and assembly phase of the proposed alternative is estimated to cost \$1,423 million between calendar years 2004 and 2013 (USEC, 2005b). Manufacturing costs are assumed to accrue evenly in each of the calendar years of the manufacturing phase of the proposed action. Again, the USEC cost estimates are not expressed in constant dollars. Similar to the assumption made for construction costs, the costs derived from the manufacturing and assembly phase are treated as 2005\$ in the cost benefit analysis. This is a conservative assumption that likely overstates costs.

**Decontamination and Decommissioning Costs:** Decontamination and decommissioning of the proposed alternative is estimated to cost \$435 million (2004\$) (USEC, 2005b). These costs are adjusted to reflect 2005\$ (NASA, 2005). Decontamination and decommissioning costs are assumed to accrue evenly over six years, commencing 30 years after the first year of operation. The cost benefit analysis does not factor in costs associated with tails disposition. It is assumed that for a given production level, the amount of tails generated by the proposed ACP will be equivalent to the amount of tails that would have been generated using Paducah Gaseous Diffusion Plant (USEC, 2005b). Therefore, no incremental tails disposition costs result from the proposed action relative to the no-action alternative.

#### **G.4 Costs of the No-Action Alternative**

No construction or manufacturing costs are associated with the no-action alternative.

The decontamination and decommissioning schedule and costs associated with the Paducah Gaseous Diffusion Plant are considered independent of the proposed alternative and are not included in this analysis.

In addition, this section does not consider the costs and benefits associated with actions pertaining to the Portsmouth Gaseous Diffusion Plant. USEC closed the Portsmouth Gaseous Diffusion Plant in May 2001 to reduce operating costs. The NRC staff do not believe that there has been any significant change in the factors that were considered by USEC in its decision to cease uranium enrichment at Portsmouth. For the purposes of this cost benefit analysis, actions pertaining to the Portsmouth Gaseous Diffusion Plant, such as decontamination and decommissioning, are considered unrelated to the no-action alternative and the proposed action.

#### **G.5 Benefits of the Proposed Action Relative to the No-Action Alternative**

Benefits in a given year are computed as the difference between the operating costs per separative work unit of the no-action alternative and the proposed alternative multiplied by the level of production substituted in that year. Two scenarios are assumed:

- (i) the proposed action substitutes 4.6 million separative work units of production at the Paducah Gaseous Diffusion Plant (this figure reflects the anticipated production levels at the Paducah Gaseous Diffusion Plant in 2005); and,
- (ii) the proposed action substitutes 7 million separative work units of production at the Paducah Gaseous Diffusion Plant.

In both scenarios, the proposed ACP is assumed to be producing at the 7 million separative work unit capacity level. The difference is that in the first scenario, the proposed ACP is replacing only 4.6 million separative work units that would otherwise have been produced at the Paducah Gaseous Diffusion Plant. This analysis assumes that the proposed ACP's excess production (2.4 million separative work units) substitutes production from sources that are no more expensive than the proposed ACP. Therefore, incremental benefits from the proposed action do not accrue beyond the 4.6 million separative work units

level. In the second scenario, the proposed ACP is substituting 7 million separative work units that would otherwise have been produced at the Paducah Diffusion Gaseous Plant; the benefits are therefore higher in the second scenario.

In both scenarios, separative work unit production at the proposed ACP is expected to phase-in according to USEC's proposed schedule (USEC, 2005b). Specifically, the proposed ACP is expected to reach an annual capacity of 1 million separative work units per year in 2010, and is projected to have an annual capacity of 3.5 million separative work units per year in 2011 (USEC, 2005b). The proposed ACP is assumed to reach full capacity by 2015. These milestones are factored into the cost benefit analysis.

Operating costs under the no-action alternative are estimated to be approximately four times higher than under the proposed action.

#### **G.6 Discount Rates**

Three different real discount rates are applied to estimate the net present value of the proposed alternative – zero percent, three percent, and seven percent. These discount rates are consistent with those recommended in NUREG/BR-0184, *Regulatory Analysis Technical Evaluation Handbook* (NRC, 1997). The higher discount rate places a lower value on benefit streams occurring in the future. Net present value estimates are lower under the higher real discount rate because most of the costs associated with the proposed alternative occur up front while benefits are distributed evenly over time.

#### **G.7 Limitations**

The cost benefit analysis presented here does not quantitatively estimate potential impacts such as public health effects, occupational health effects, and property value impacts.

Furthermore, certain benefits associated with the proposed alternative, including domestic energy security policy objectives, are not captured in this economic analysis.

As stated in Chapter 7, this analysis does not attempt a dynamic general equilibrium modeling of the economic effects of a cheaper source of enriched uranium for nuclear power plants. No attempt is made to model the effects of reduced enriched uranium prices on the ratio of nuclear and non-nuclear power in the domestic economy, on overall power demand and price, and on the potential economic benefits to consumers and suppliers. Instead, the analysis focuses on estimating the economic savings to society from replacing Paducah Gaseous Diffusion Plant production by a cheaper and less resource-intensive source based on centrifuge technology.

#### **G.8 Results**

Table G-1 presents the net present value of implementing the proposed action instead of the no-action alternative for the two scenarios described above at three alternative real discount rates. The figures represent net benefits of the proposed action when compared to the no-action alternative.

**Table G-1 Net Present Value of the Net Benefits of  
Proposed Alternative Relative to the No-action Alternative**

<b>Scenario 1: Proposed ACP Substitutes 4.6 Million Separative Work Units of Paducah Gaseous Diffusion Plant Production</b>	
Net Present Value (3 percent) in 2005 in Millions 2005\$	\$3,630
Net Present Value (7 percent) in 2005 in Millions 2005\$	\$966
Net Present Value (0 percent) in 2005 in Millions 2005\$	\$7,992
<b>Scenario 2: Proposed ACP Substitutes 7 Million Separative Work Units of Paducah Gaseous Diffusion Plant Production</b>	
Net Present Value (3 percent) in 2005 in Millions 2005\$	\$6,417
Net Present Value (7 percent) in 2005 in Millions 2005\$	\$2,290
Net Present Value (0 percent) in 2005 in Millions 2005\$	\$13,212

**G.9 Conclusions**

The analysis indicates that the incremental economic benefits of implementing the proposed action instead of the no-action alternative are substantially positive under both the scenarios and the three discount rates considered, even after accounting for all project-related costs.

**G.10 References**

(NASA, 2005) National Aeronautics and Space Administration. "Gross Domestic Product Deflator Inflation Calculator." <<http://www1.jsc.nasa.gov/bu2/inflateGDP.html>> May 25, 2005.

(USEC, 2005a) United States Enrichment Corporations. "Additional Responses to Request for Additional Information Regarding the Environmental Report (TAC No. L32307) - Proprietary Information." April 21, 2005.

(USEC, 2005b) United States Enrichment Corporation. "Environmental Report for the American Centrifuge Plant in Piketon, Ohio." Revision 3. NRC Docket No. 70-7004. July 2005.

(NRC, 1997) U.S. Nuclear Regulatory Commission, Office of Nuclear Regulatory Research. "Regulatory Analysis Technical Evaluation Handbook, Final Report," NUREG/BR-0184. January 1997.

(NRC, 2004) U.S. Nuclear Regulatory Commission, Office of Nuclear Regulatory Research. "Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission," NUREG/BR-0058. September 2004.

**APPENDIX H**  
**ACCIDENT ANALYSIS FOR THE PROPOSED ACP**





**The text in this appendix is being withheld pursuant to 10 CFR 2.390.**



**APPENDIX I  
GLOSSARY**



## **APPENDIX I GLOSSARY**

**Acid rain:** Rain with a pH of less than 5.6.

**Agreement State:** A state that has signed an agreement with the Nuclear Regulatory Commission under which the state regulates the use of byproduct, source, and small quantities of special nuclear material in that state.

**Air pollutant:** Any substance in air which could, if in high enough concentration, harm humans, other animals, vegetation, or material. Pollutants may include almost any natural or artificial composition of matter capable of being airborne.

**Air quality:** A measure of the quantity of pollutants, measured individually, in the air. These levels are often compared to regulatory standards.

**ALARA:** Acronym for "as low as (is) reasonably achievable." An approach to keep radiation exposures (both to the workforce and the public) and releases of radioactive material to the environment at levels that are as low as social, technical, economic, practical, and public policy considerations allow. ALARA is not a dose limit; it is a practice whose objective is the attainment of dose levels as far below applicable limits as possible.

**Alluvium:** Loose gravel, sand, silt, or clay deposited by streams or running water.

**Alpha particle:** A positively charged particle ejected spontaneously from the nuclei of some radioactive elements. It is identical to a helium nucleus that has a mass number of 4 and an electrostatic charge of +2. It has low penetrating power and a short range (a few centimeters in air). The most energetic alpha particle will generally fail to penetrate the dead layers of cells covering the skin and can be easily stopped by a sheet of paper. Alpha particles are hazardous when an alpha-emitting isotope is inside the body.

**Ambient Air Quality Standards:** Standards established on a State or Federal level, that define the limits for airborne concentrations of designated "criteria" pollutants (nitrogen dioxide, sulfur dioxide, carbon monoxide, total suspended particulates, ozone, and lead), to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards).

**Aquifer:** A permeable body of rock capable of yielding quantities of groundwater to wells and springs.

**Area of potential effects:** The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (See 36 CFR § 800.16).

**Assay:** The qualitative or quantitative analysis of a substance often used to determine the proportion of isotopes in radioactive materials.

**Atomic Energy Act of 1954 as amended:** A federal law that created the Atomic Energy Commission, which later split into the Nuclear Regulatory Commission and the Energy and Research and Development Administration (ERDA). ERDA became part of the Department of Energy in 1977. This act encouraged the development and use of nuclear energy and research for the general welfare and the security of the United States. This act authorized the Nuclear Regulatory Commission to regulate and license fuel fabrication facilities that seek to receive, possess, use, or transfer special nuclear material.

**Attainment area:** A region that meets the U.S. EPA National Ambient Air Quality Standards (NAAQS) for a criteria pollutant under the *Clean Air Act*.

**Background radiation:** Radiation from cosmic sources, naturally occurring radioactive materials, including radon (except as a decay product of source or special nuclear material), and global fallout as it exists in the environment from the testing of nuclear explosive devices. It does not include radiation from source, byproduct, or special nuclear materials regulated by the Nuclear Regulatory Commission. The typically quoted average individual exposure from background radiation is 3.6 millisievert per year (360 millirem per year).

**Becquerel (Bq):** A unit used to measure radioactivity. One Becquerel is that quantity of a radioactive material that will have one transformation in one second. There are  $3.7 \times 10^{10}$  Bq in one curie (Ci).

**Best Management Practices (BMP):** Structural, nonstructural, and managerial techniques recognized to be the most effective and practical means to reduce surface water and groundwater contamination while still allowing the productive use of resources.

**Beta particle:** A charged particle emitted from a nucleus during radioactive decay, with a mass equal to 1/1837 that of a proton. A negatively charged beta particle is identical to an electron. A positively charged beta particle is called a positron. Large amounts of beta radiation may cause skin burns, and beta emitters are harmful if they enter the body. Beta particles may be stopped by thin sheets of metal or plastic.

**Bound:** To estimate or describe a lower or upper limit on a potential environmental or health consequence when uncertainty exists.

**Buffer area:** A designated area of land that is designed to permanently remain vegetated in an undisturbed and natural condition in order to protect an adjacent aquatic or wetland site from upland impacts and to provide habitat for wildlife.

**Byproduct material:** The tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content. See also, Source Material.

**Carbon monoxide:** An odorless, colorless, poisonous gas produced by incomplete burning of carbon in fuels. Exposure to carbon monoxide reduces the delivery of oxygen to the body's organs and tissues. Elevated levels can cause impairment of visual perception, manual dexterity, learning ability, and performance of complex tasks.

**Census tract:** An area usually containing between 2,500 and 8,000 persons that is used for organizing and monitoring census data. The geographic dimensions of census tracts vary widely, depending on population density. Census tracts do not cross county borders.

**Climatology:** The science devoted to the study of the conditions of the natural environment (rainfall, daylight, temperature, humidity, air movement) prevailing in specific regions of the earth.

**Cold standby:** Cold standby involves placing those portions of the Gaseous Diffusion Plant needed for 3 million separative work units per year production capacity in a non-operational condition. It also includes performing surveillance and maintenance activities necessary to retain the ability to resume operations after a set of restart activities are conducted.

**Contamination:** Undesired radioactive material that is deposited on the surface of, or inside structures, areas, objects, or people.

**Cooling water:** Water circulated through a nuclear reactor or processing plant to remove heat.

**Cost-benefit analysis:** A formal quantitative procedure comparing costs and benefits of a proposed project or act under a set of preestablished rules.

**Council on Environmental Quality:** The President's Council on Environmental Quality (CEQ) was established by the enactment of *National Environmental Policy Act* (NEPA). The CEQ is responsible for developing regulations to be followed by all federal agencies in developing and implementing their own specific NEPA implementation policies and procedures.

**Criteria pollutants:** Common air pollutants for which National Ambient Air Quality Standards have been established by the U.S. EPA under Title I of the *Clean Air Act*. Criteria pollutants include sulfur dioxide, nitrogen oxides, carbon monoxide, ozone, particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead. Standards for these pollutants were developed on the basis of scientific knowledge about their health effects.

**Critical habitat:** Specific areas within the geographical range of an endangered species that is formally designated by the U.S. Fish and Wildlife Service under the *Endangered Species Act* as essential for conservation.

**Cumulative impacts:** Potential impacts when the proposed action is added to other past, present, and reasonable foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

**Curie (Ci):** The basic unit used to describe the intensity of radioactivity in a sample of material. The curie is equal to 37 billion ( $3.7 \times 10^{10}$ ) disintegrations per second, which is approximately the activity of 1 gram of radium. A curie is also a quantity of any radionuclide that decays at a rate of 37 billion disintegrations per second. It is named for Marie and Pierre Curie, who discovered radium in 1898.

**Day-Night Average Noise Level (DNL):** DNL is a noise metric combining the levels and durations of noise events and the number of events over an extended time period. It is a cumulative average computed over a set of 24-hour periods to represent total noise exposure. DNL also accounts for more intrusive night time noise, adding a 10 dB penalty for sounds after 10:00 p.m. and before 7:00 a.m.

**Decibel (dB):** A standard unit for measuring sound-pressure levels based on a reference sound pressure of 0.0002 dyne per square centimeter. This is the smallest sound a human can hear. In general, a sound doubles in loudness with every increase of slightly more than 3 decibels.

**Decibel, A-weighted (dBA):** A number representing the sound level which is frequency weighted according to a prescribed frequency response established by the American National Standards Institute and accounts for the response of the human ear.

**Decommissioning:** The process of closing down a facility followed by reducing residual radioactivity to a level that permits the release of the property for unrestricted use (see 10 CFR 20.1003).

**Decontamination:** The reduction or removal of contaminating radioactive material from a structure, area, object, or person. Decontamination may be accomplished by (1) treating the surface to remove or decrease the contamination, (2) letting the material stand so that the radioactivity is decreased as a result of natural radioactive decay, or (3) covering the contamination to shield or attenuate the radiation emitted (see 10 CFR 20.1003 and 20.1402).

**Depleted uranium:** Uranium having a percentage of uranium-235 smaller than the 0.7 percent found in natural uranium. It is obtained from spent (used) fuel elements or as byproduct tails, or residues, from uranium isotope separation.

**Depleted uranium hexafluoride (DUF<sub>6</sub>):** A compound of uranium and fluorine from which most of the uranium-235 isotope has been removed.

**Direct jobs:** The number of workers required at a site to implement an alternative.

**Dose:** The absorbed dose, given in rads (or in SI units, grays), that represents the energy absorbed from the radiation in a gram of any material. Furthermore, the biological dose or dose equivalent, given in rem or sieverts, is a measure of the biological damage to living tissue from radiation exposure.

**Dosimetry:** The theory and application of the principles and techniques involved in the measurement and recording of radiation doses. Its practical aspect is concerned with the use of various types of radiation instruments with which measurements are made (i.e., film badge, thermoluminescent dosimeter, and Geiger counter).

**Effluent:** A gas or fluid discharged into the environment, treated or untreated. Most frequently, the term applies to wastes discharged to surface waters.

**Emissions:** Substances that are discharged into the air.

**Endangered species:** Any species (plant or animal) that is in danger of extinction throughout all or a significant part of its range. Requirements for declaring a species endangered are found in the *Endangered Species Act*.

***Endangered Species Act of 1973:*** An act requiring federal agencies, with the consultation and assistance of the Secretaries of the Interior and Commerce, to ensure that their actions will not likely jeopardize the continued existence of any endangered or threatened species or adversely affect the habitat of such species.

**Erosion:** The wearing away of the land surface by wind, water, ice, or other geologic agents. Erosion occurs naturally from weather or runoff but is often intensified by human land use practices.

**Exposure:** Being exposed to ionizing radiation or to radioactive material.



**Exposure pathways:** A route or sequence of processes by which a radioactive or hazardous material may move through the environment to humans or other organisms. Each exposure pathway includes a source or release from a source, an exposure point, and an exposure route.

**Floodplain:** Low-lying areas adjacent to rivers and streams that are subject to natural inundations typically associated with precipitation.

**Fuel cycle:** The series of steps involved in supplying fuel for nuclear power reactors. It can include mining, milling, isotopic enrichment, fabrication of fuel elements, use in a reactor, chemical reprocessing to recover the fissionable material remaining in the spent fuel, re-enrichment of the fuel material, refabrication into new fuel elements, and waste disposal.

**Fugitive Dust:** Any solid particulate matter (PM) that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of man. Fugitive dust may include emission from haul roads, wind erosion of exposed soil surfaces, and other activities in which soil is either removed or redistributed.

**Geology and Soils:** Those Earth resources that may be described in terms of landforms, geology, and soil conditions.

**Gray (Gy):** The international system (SI) unit of absorbed dose. One gray is equal to an absorbed dose of 1 Joule/kilogram (one gray equals 100 rads) (see 10 CFR 20.1004).

**Groundwater:** Water, both fresh and saline, that is stored below the Earth's surface in pores, cracks, and crevices below the water table.

**Hazardous Air Pollutants (HAPs):** A group of 188 chemicals identified in the *1990 Clean Air Act Amendments*. Exposure to these pollutants can cause or contribute to cancer, birth defects, genetic damage, and other adverse health effects.

**Hazardous waste:** According to the *Resource Conservation and Recovery Act*, a waste that, because of its characteristics, may (1) cause or significantly contribute to an increase in mortality or an increase in serious irreversible illness, or (2) pose a substantial hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Hazardous wastes possess at least one of the following characteristics: ignitability, corrosivity, reactivity, or toxicity. Hazardous waste is nonradioactive.

**Heels:** In the uranium enrichment process, heels refers to the residual solid uranium hexafluoride left after the feed rate declines to a predetermined level.

**Highly enriched uranium (HEU):** Uranium enriched in the isotope uranium-235 to 20 percent or above, which thus becomes suitable for nuclear weapons use.

**Historic and Cultural Resources:** Cultural resources include any prehistoric or historic district, site, building, structure, or object resulting from, or modified by, human activity. Historic properties are cultural resources listed in, or eligible for listing in, the National Register of Historic Places.

**Holding ponds:** Engineered depressions in the land that contain storm-water runoff until it can slowly seep back into the ground or evaporate.

**Impacts:** An assessment of the meaning of changes in all attributes being studied for a given resource. An aggregation of all of the adverse effects, usually measured using a qualitative and nominally subjective technique.

**Indirect jobs:** Jobs generated or lost in related industries within a regional economic area as a result of a change in direct employment.

**Ingestion:** To take in by mouth. Material that is ingested enters the digestive system.

**Inhalation:** To take in by breathing. Material that is inhaled enters the lungs.

**Isotope:** Any two or more forms of an element having identical or very closely related chemical properties and the same atomic number but different atomic weights or mass numbers.

**Land Use:** The way land is developed and used in terms of the kinds of anthropogenic activities that occur (e.g., agriculture, residential areas, industrial areas).

**Lead:** A heavy metal element formerly added to gasoline and paint for improved performance characteristics. Lead can be inhaled and ingested in food, water, soil, or dust. High exposure to lead can cause seizures, mental retardation, and/or behavioral disorders. Low exposure to lead can lead to central nervous system damage.

**Low-enriched uranium (LEU):** Uranium enriched in the isotope uranium-235, greater than 0.7 percent but less than 20 percent of the total mass. Naturally occurring uranium contains about 0.7 percent uranium-235, almost all the rest is uranium-238.

**Low-level mixed waste:** Low-level waste that also contains hazardous chemical components regulated under the *Resource Conservation and Recovery Act*.

**Low-level radioactive waste:** Wastes containing source, special nuclear, or byproduct material are acceptable for disposal in a land disposal facility. For the purposes of this definition, low-level waste has the same meaning as in the *Low-Level Radioactive Waste Policy Act*, that is, radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11e.(2) of the *Atomic Energy Act* (uranium or thorium tailings and waste).

**Maximally exposed individual (MEI):** A hypothetical person who—because of proximity, activities, or living habits—could receive the highest possible dose of radiation or of a hazardous chemical from a given event or process.

**Meteorology:** The science dealing with the atmosphere and its phenomena, especially as relating to weather.

**Microcurie:** One millionth of a curie. That amount of radioactive material that disintegrates (decays) at the rate of 37 thousand atoms per second.

**Mitigation:** A series of actions implemented to ensure that projected impacts will result in no net loss of habitat value or wildlife populations. The purpose of mitigative actions is to avoid, minimize, rectify, or compensate for any adverse environmental impact.

**Millirem (mrem):** One thousandth of a rem (0.001 rem).

**Mixing height:** The height above the earth's surface through which relatively strong vertical mixing of the atmosphere occurs.

**Modified Mercalli Intensity:** A measurement of earthquake intensity based on the effects to people and structures. Ranges from I (low) to XII (total destruction), as opposed to the Richter scale, which measures the energy of the earthquake. Mercalli scale is often used to classify earthquakes that were not recorded on modern seismographs.

**National Environmental Policy Act (NEPA) of 1969:** A federal law constituting the basic national charter for protection of the environment. The act calls for the preparation of an environmental impact statement (EIS) for every major federal action that may significantly affect the quality of the human or natural environment. The main purpose is to ensure that environmental information is provided to decision makers so that their actions are based on an understanding of the potential environmental and socioeconomic consequences of a proposed action and the reasonable alternatives.

**National Historic Preservation Act (NHPA):** A federal law providing that property resources with significant national historic value be placed on the National Register of Historic Places. It does not require permits; rather, it mandates consultation with the proper agencies whenever it is determined that a proposed action might impact a historic property.

**National Pollutant Discharge Elimination System (NPDES):** A federal permitting system controlling the discharge of effluents to surface waters of the United States and regulated through the *Clean Water Act*, as amended.

**National Register of Historic Places (NRHP):** A list of districts, sites, buildings, structures, and objects of prehistoric or historic local, state, or national significance. The list is maintained by the Secretary of the Interior.

**Nitrogen dioxide:** A brownish, highly reactive gas that is present in all urban atmospheres. Nitrogen dioxide can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. The major mechanism for the formation of nitrogen dioxide in the atmosphere is the oxidation of the primary air pollutant nitric oxide. Nitrogen oxides, together with volatile organic carbons, play a major role in the atmospheric reactions that produce ozone. Nitrogen oxides form when fuel is burned at high temperatures. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

**Non-Attainment Areas:** An area that has been designated by the Environmental Protection Agency, or the appropriate state air quality agency, as exceeding one or more national or state Ambient Air Quality Standards.

**Normal operations:** Conditions during which facilities and processes operate as expected or designed. In general, normal operations include the occurrence of some infrequent events that, although not considered routine, are not classified as accidents.

**Ozone:** A photochemical (formed in chemical reactions between volatile organic compounds and nitrogen oxides in the presence of sunlight) oxidant and the major component of smog. Exposure to ozone for several hours at low concentrations has been shown to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. Other symptoms include chest pain, coughing, sneezing, and pulmonary congestion.

**Outfall:** The place where effluent is discharged into receiving waters.

**Particulate matter:** Materials such as dust, dirt, soot, smoke, and liquid droplets that are emitted into the air by sources such as factories, power plants, cars, construction activity, fires, and natural windblown dust. Exposure to high concentrations of particulate matter can affect breathing, aggravate existing respiratory and cardiovascular disease, alter the body's defense systems against foreign materials, damage lung tissue, and cause premature death.

**Personnel monitoring:** The use of portable survey meters to determine the amount of radioactive contamination on individuals; or, the use of dosimetry to determine an individual's occupational radiation dose.

**Pigtail operations:** Refers to the activities related to the connection and disconnection of the valving and hosing associated with feed and withdrawal operations.

**Point source:** A source of effluents that is small enough in dimensions that it can be treated as if it were a point. A point source can be either a continuous source or a source that emits effluents only in puffs for a short time.

**Pollutant:** Any material entering the environment that has undesired effects.

**Pollution:** The addition of an undesirable agent to the environment in excess of the rate at which natural processes can degrade, assimilate, or disperse it.

**Pollution prevention:** The use of any process, practice, or product that reduces or eliminates the generation and release of pollutants, hazardous substances, contaminants, and wastes, including those that protect natural resources through conservation or more efficient utilization.

**Prime farmland:** Land with the best combination of physical and chemical characteristics for economically producing high yields of food, feed, forage, fiber, and oilseed crops with minimum inputs of fuel, fertilizer, pesticides, and labor. Prime farmland includes cropland, pastureland, rangeland, and forestland.

**Rad:** The special unit for radiation absorbed dose, which is the amount of energy from any type of ionizing radiation (e.g., alpha, beta, gamma, neutrons, etc.) deposited in any medium (e.g., water, tissue, air). A dose of one rad means the absorption of 100 ergs (a small but measurable amount of energy) per gram of absorbing tissue (100 rad = 1 gray).

**Radiation (ionizing radiation):** Alpha particles, beta particles, gamma rays, x-rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. Radiation, as used in 10 CFR Part 20, does not include non-ionizing radiation, such as radio- or microwaves, or visible, infrared, or ultraviolet light. (see also 10 CFR 20.1003)

**Radiation standards:** Exposure standards, permissible concentrations, rules for safe handling, regulations for transportation, regulations for industrial control of radiation, and control of radioactive material by legislative means.

**Radioactivity:** The spontaneous decay or disintegration of unstable atomic nuclei, accompanied by the emission of radiation. Eventually the unstable nuclei reach a stable state.

**Radionuclide:** An atom that exhibits radioactive properties. Radionuclides can be man-made or naturally occurring, can have a long life, and can have potentially mutagenic or carcinogenic effects on the human body.

**Region of influence (ROI):** The physical area that bounds the environmental, sociological, economic, or cultural features of interest for the purpose of analysis. A site-specific geographic area that includes the counties where approximately 90 percent of the site's current employees reside.

**Rem:** The acronym for roentgen equivalent man is a standard unit that measures the effects of ionizing radiation on humans. The dose equivalent in rems is equal to the absorbed dose in rads multiplied by the quality factor of the type of radiation (see 10 CFR 20.1004).

**Remediation:** Action taken to permanently remedy a release, or threatened release, of a hazardous or radioactive substance to the environment, instead of or in addition to removal.

**Resource Conservation and Recovery Act (RCRA):** A federal law that provides for a "cradle-to-grave" regulatory program for hazardous waste, including a system for managing hazardous waste from its generation to its ultimate disposal.

**Restricted area:** Any area to which access is controlled for the protection of individuals from exposure to radiation and radioactive materials.

**Roentgen:** A unit of exposure to ionizing radiation. It is the amount of gamma or x-rays required to produce ions resulting in a charge of 0.000258 coulombs/kilogram of air under standard conditions. Named after Wilhelm Roentgen, the German scientist who discovered x-rays in 1895.

**Runoff:** The portion of rainfall that is not absorbed by soil, evaporated, or transpired by plants, but finds its way into streams directly or as overland surface flows.

**Sanitary/industrial waste:** Nonhazardous, nonradioactive liquid and solid waste generated by normal housekeeping activities.

**Sediment:** Eroded soil particles that are deposited downhill or downstream by surface runoff.

**Shielding:** Any material or obstruction that absorbs radiation and thus tends to protect personnel or materials from the effects of ionizing radiation.

**Sievert (Sv):** A unit of radiation dose used to express a quantity called equivalent dose. This relates the absorbed dose in human tissue to the effective biological damage of the radiation by taking into account the kind of radiation received, the total amount absorbed by the body, and the tissues involved. Not all radiation has the same biological effect, even for the same amount of absorbed dose. One sievert is equivalent to 100 rem.

**Site characterization:** An onsite investigation at a known or suspected contaminated waste or release site to determine the extent and type(s) of contamination.

**Source material:** Uranium or thorium ores containing 0.05 percent Uranium or Thorium regulated under the *Atomic Energy Act*. In general, this includes all materials containing radioactive isotopes in concentrations greater than natural and the byproduct (tailings) from the formation of these concentrated materials

**Special nuclear material:** Plutonium, uranium-233, or uranium enriched in the isotopes uranium-233 or uranium-235.

**State Historic Preservation Officer (SHPO):** The state officer charged with the identification and protection of prehistoric and historic resources in accordance with the *National Historic Preservation Act*.

**Subsidence:** The process of sinking or settling of a land surface due to natural or artificial causes.

**Sulfur dioxide:** A gas emitted largely from stationary sources such as coal and oil combustion, steel and paper mills, and refineries. It is a primary contributor to acid rain and contributes to visibility impairments in large parts of the country. Exposure to sulfur dioxide can affect breathing and may aggravate existing respiratory and cardiovascular disease.

**Surface water:** Water located on the surface of the Earth in water bodies such as lakes, rivers, streams, ponds, wetlands, and the ocean.

**Tails:** In the uranium enrichment process, tails refers to gas with a reduced concentration of the uranium-235 isotope.

**Threatened Species:** Plant and wildlife species that are likely to become endangered in the foreseeable future.

**Toxic Substances Control Act (TSCA):** A federal law authorizing the U.S. Environmental Protection Agency to secure information on all new and existing chemical substances and to control any of these substances determined to cause unreasonable risk to public health or the environment. This law requires that the health and environmental effects of all new chemicals be reviewed by the EPA before such chemicals are manufactured for commercial purposes.

**Uranium:** A radioactive element with the atomic number 92 and, as found in natural ores, an atomic weight of approximately 238. The two principal natural isotopes are uranium-235 (0.7 percent of natural uranium), which is fissile, and uranium-238 (99.3 percent of natural uranium), which is fissionable by fast neutrons and is fertile. Natural uranium also includes a minute amount of uranium-234.

**Visual Resource Management (VRM):** A process devised by the Bureau of Land Management to assess the aesthetic quality of a landscape and to design proposed activities in a way that would minimize their visual impact on that landscape. The process consists of a rating of site visual quality followed by a measurement of the degree of contrast between the proposed development activities and the existing landscape.

**Visual and Scenic Resources:** Natural or developed landscapes that provide information for an individual to develop their perceptions of the area. The size, type, gradient, scale, and continuity of landforms, structures, land use patterns, and vegetation are all contributing factors to an area's visual character and how it is perceived.

**Volatile Organic Compounds (VOCs):** Organic compounds that easily volatilize or evaporate and can break down through photodestructive mechanisms. VOCs contribute to air pollution, especially the generation of tropospheric ozone (O<sub>3</sub>).

**Waste management:** The planning, coordination, and direction of functions related to generation, handling, treatment, storage, transportation, and disposal of waste. It also includes associated pollution prevention and surveillance and maintenance activities.

**Waste minimization:** An action that economically avoids or reduces the generation of waste by source reduction and recycling; or reduces the toxicity of hazardous waste, improving energy usage.

**Water resources:** This term includes both freshwater and marine systems, wetlands, floodplains, and ground water.

**Well field:** Area containing one or more wells that produce usable amounts of water.

**Wetlands:** Land or areas exhibiting the following characteristics: hydric soil conditions; saturated or inundated soil during some part of the year and plant species tolerant of such conditions; also, areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, under normal circumstances, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.





**APPENDIX J  
PUBLIC COMMENTS ON THE DRAFT  
ENVIRONMENTAL IMPACT STATEMENT**



**APPENDIX J  
PUBLIC COMMENTS ON THE DRAFT  
ENVIRONMENTAL IMPACT STATEMENT**

**J.1 Introduction**

The U.S. Nuclear Regulatory Commission (NRC) staff published a notice in the Federal Register requesting public review and comment on the Draft Environmental Impact Statement (Draft EIS) on September 8, 2005 (70 FR 53396) in accordance with Title 10, Parts 51.73, 51.74, and 51.117 of the U.S. Code of Federal Regulations (10 CFR § 51.73, 51.74, and 51.117). The official public comment period began with publication of the Environmental Protection Agency's Notice of Availability on September 9, 2005 (70 FR 53657). The NRC staff established October 24, 2005 as the deadline for submitting public comments on the Draft EIS, consistent with the cited NRC regulations. Approximately 15 commenters (one commenter submitted letters and statements from 8 individuals and one commenter provided two submittals) provided nearly 25 documents (i.e., letters, facsimiles, and e-mails) to the NRC. In addition, oral comments were received from 17 individuals at a public meeting conducted by the NRC staff on September 29, 2005.

**Public Participation**

Public participation is an essential part of the environmental review process. This section discusses the process for public participation during the NRC staff's development of the EIS for the proposed American Centrifuge Plant (ACP). The NRC conducted an open, public EIS development process consistent with the requirements of the National Environmental Policy Act of 1969 (NEPA) and the NRC's regulations (detailed discussions follow). The NRC held a public scoping meeting early in the environmental review process (January 18, 2005) and a public meeting on the Draft EIS during the public comment period (September 29, 2005). The NRC provided a 48 day public comment period for agencies and the public to review the Draft EIS and provide comments. This EIS considers and addresses the nearly 300 individual comments the NRC staff identified from letters, facsimile transmittals, and e-mails received from approximately 15 individuals and from oral comments given by approximately 17 individuals.

**Initial Notification and Notice of Formal Proceeding**

Upon receipt of USEC's application for the proposed ACP and completion of an initial acceptance review, the NRC published a notice in the Federal Register (69 FR 61411) of receipt of the application and notice of hearing on October 18, 2004.

**Public Scoping**

The NRC's public scoping process for the EIS began on October 15, 2004, with the publication in the Federal Register (69 FR 61268) of a Notice of Intent to prepare an EIS (NOTE: An amended Notice of Intent was published on December 29, 2004 (69 FR 78058) that described a revised meeting time and location). As part of this process, the NRC conducted a public scoping meeting in Piketon, Ohio, on January 18, 2005. At this meeting, the NRC staff provided a description of NRC's role, responsibilities, and mission; gave a brief overview of its environmental and safety review processes; discussed how the public could effectively participate in the environmental review process; and solicited input from the general public on environmental concerns related to the proposed ACP. The NRC postponed the originally scheduled public scoping meeting in Piketon, Ohio from November 15, 2004 to January 18,

2005 after removal of public documents from the NRC public reading room and website for several weeks in November 2004 due to security concerns. Due to this delay, the public scoping comment period was extended from December 6, 2004 until February 1, 2005.

### **Issuance and Availability of the Draft EIS**

On September 8, 2005, in accordance with NRC regulations, the NRC staff published a Notice of Availability for the Draft EIS in the Federal Register (70 FR 53396). In the notice, the NRC staff provided information on how to obtain a free copy of the Draft EIS. Additionally, copies of the Draft EIS were mailed to approximately 70 individuals including Federal, Tribal, State, and local government officials as well as members of the general public. An electronic version of the document and supporting information was made accessible through the NRC's project-specific web site (<http://www.nrc.gov/materials/fuel-cycle-fac/usecfacility.html>) and through the NRC's Agencywide Documents Access and Management System database on the NRC's web site.

### **Public Comment Meeting**

On September 29, 2005 in Piketon, Ohio, the NRC staff conducted a public meeting to receive oral comments on the Draft EIS from members of the public. The NRC staff selected the city of Piketon as the location for the meeting because it is a few miles from the proposed ACP site. The NRC staff advertised this meeting in the local and regional newspapers including the Portsmouth Daily Times and the Columbus Dispatch as well as on several radio stations including WXIZ.

Seventeen people provided oral comments during the meeting. A certified court reporter recorded the oral comments and prepared a written transcript. The transcript is provided in Appendix K of this EIS. The transcript is part of the public record for the proposed project and was used in the development of the comment summaries contained in Appendix J.

### **Comments Received on the Draft EIS**

As discussed above, the NRC staff received both oral and written comments on the Draft EIS during the comment period. The NRC staff identified approximately 300 comments in the more than 18 letters, facsimiles, and e-mails received and from the oral comments.

### **Comment Review**

The NRC staff reviewed each comment letter and the transcript of the public meeting. Comments relating to similar issues and topics were grouped, as permitted by NRC regulations in 10 CFR § 51.91 and the Council on Environmental Quality's NEPA regulations at 40 CFR § 1503.4(b). Appendix J presents the comments, or summaries of comments, along with the NRC staff's corresponding responses. When comments have resulted in a modification to the Draft EIS, those changes are noted in the staff's response. In cases for which the comments do not warrant a detailed response, the NRC staff provides an explanation as to why no further response is necessary. In all cases, the NRC staff sought to respond to all comments received during the public comment period.

Appendix J provides summaries of all substantive comments received on the Draft EIS. The NRC staff prepared responses for each of the comments or for summaries of comments.

## **Major Issues and Topics of Concern**

The majority of the comments received specifically addressed the scope of the environmental reviews, analysis, and issues contained in the Draft EIS, including existing conditions, potential impacts, proposed mitigation, and the NRC's environmental review process. However, other comments addressed topics and issues that were not part of the review process for the proposed action. Those comments included questions about the NRC's safety evaluation of the proposed uranium enrichment facility, security concerns, general statements of support or opposition to nuclear power, and observations regarding past USEC activities.

## **Comments on Out-of-Scope Topics**

Some commenters raised issues that were not related to the NRC staff's environmental review of USEC's application to construct, operate, and decommission the proposed ACP. These issues are identified below. Because these issues did not directly relate to the environmental effects of the proposed action and were outside the scope of the NEPA review of the proposed action, the NRC staff did not prepare detailed responses to these comments.

## **Public Hearing**

By law, a license to construct and operate the proposed ACP cannot be issued until completion of a hearing before the NRC's Atomic Safety and Licensing Board. Notice of the hearing, including guidance on certain aspects, was provided by the Commission in a notice published in the Federal Register on October 18, 2004 (69 FR 61411). Thereafter, a Licensing Board comprised of three administrative judges was established to conduct the hearing. Mr. Geoffrey Sea and Portsmouth/Piketon Residents for Environmental Safety and Security were granted standing by the Commission on May 12, 2005 (CLI-05-11). The Licensing Board made a decision on October 7, 2005 that neither intervenor had submitted an admissible contention on the proposed ACP. Currently, this ruling has been appealed to the NRC Commission. Nonetheless, the Licensing Board will conduct a mandatory hearing. Following completion of these hearings, the Licensing Board will issue a final decision as to whether the requested license should be issued. The evidence submitted during the hearing and the decisions of the Licensing Board are publically available except to the extent that they contain proprietary or sensitive security information.

## **Public Participation in the NRC Environmental Review Process**

The NRC's environmental review began with the receipt and docketing of an application, which is described above. Pursuant to 10 CFR § 51.60, an applicant for an NRC license to construct and operate a uranium enrichment facility must submit an environmental report to the NRC with the application. In support of its licensing decision for a uranium enrichment facility, the NRC is required under 10 CFR § 51.20(b)(10) to prepare an EIS, and pursuant to 10 CFR § 51.26, to issue a Notice of Intent to prepare the EIS, which is published in the Federal Register. In the Notice of Intent, the NRC staff described, among other things, the scoping process proposed for the requested action. A public meeting on the scoping process was held in Piketon, Ohio on January 18, 2005 to receive both oral and written comments from interested parties. Pursuant to 10 CFR § 51.28, the NRC staff invited designated persons to participate in the scoping process, including any person who requested to participate.

Once the NRC staff has completed the scoping process, defined the proposed action, and determined the scope of the EIS, the staff prepares a Draft EIS. During the development of the Draft EIS, NRC sought

input from a number of sources, including State government agencies, Tribal governments, and individuals identified as consulting parties. Pursuant to 10 CFR § 51.74, the NRC staff then made the Draft EIS publicly available, published notice of the Draft EIS's availability in the Federal Register, and requested public comment on it. As specified in 10 CFR § 51.73, the minimum public comment period is 45 days. The NRC staff also distributed copies of the Draft EIS to the persons or organizations identified in 10 CFR § 51.74 including the U.S. Environmental Protection Agency (EPA), certain State and local agencies, Indian Tribes, and, upon written request and to the extent copies are available, to any other person. After receipt and consideration of public comments on the Draft EIS, the NRC staff prepares a Final EIS pursuant to 10 CFR § 51.90 and 51.91.

#### **NRC Safety Review Process**

The NRC staff evaluates a license application to determine whether an applicant has demonstrated compliance with the regulatory requirements which pertain to the type of license being sought. In the case of the present license application from USEC to construct, operate, and decommission a uranium enrichment facility, the NRC staff evaluated the application against the Commission's regulations found at 10 CFR Part 70. The NRC staff's evaluation of an applicant's demonstration of compliance with the regulations is documented in a Safety Evaluation Report. The NRC staff evaluates an applicant's attempt to demonstrate compliance with the regulations by reviewing the license application against the regulations. Requests by the NRC staff for additional information from the applicant are made publicly available. However, there is no requirement for a formal public comment resolution process for Safety Evaluation Reports.

#### **Commenter and Comment Identification**

The NRC staff received 15 comment documents (one commenter submitted letters and statements from 8 individuals and one commenter provided two submittals). The NRC staff assigned an identification number to each commenter, which will aid the reader in locating comments submitted by individual commenters and the NRC staff's corresponding responses. Comment numbers beginning with the letters PMT refer to comments summarized from the transcript of the public meeting held in Piketon, Ohio on September 29, 2005. All remaining comment numbers reflect written comments received during the public comment period on the Draft EIS (e.g., 001).

<b>Commenter Name</b>	<b>Affiliation</b>	<b>Commenter Number</b>	<b>Section(s)</b>
Arnold, E.D.	Member of the Public	012	J.7
Arnold, Kathy	Member of the Public	PMT-015	J.4, J.7, J.9, J.11
Baker, Deborah	Member of the Public	PMT-002	J.2, J.4, J.11, J.19
Beegle, Charles W.	Member of the Public	010-2	J.11
Beekman, Blaine	Member of the Public	PMT-013; 011	J.3, J.11
Cheznik, Michael T.	United States Department of Interior	013	J.11
Cimprich, John and Vickie	Member of the Public	001	J.2
Colley, Vina	Member of the Public	PMT-003	J.2, J.4, J.7, J.11, J.19
Cowan, Frank	Member of the Public	010-8	J.19
Feight, Andrew	Member of the Public	PMT-017	J.11, J.19
Galanti, Maria	Ohio Environmental Protection Agency	005	J.9, J.10, J.11, J.15
Hancock, John	Member of the Public	010-5; 010-8	J.19
Kaniatobe, Karen	Absentee Shawnee Tribe of Ohio	010-6	J.19
Kennedy, MarJean	Governor's Office	PMT-011	J.2, J.10
Kennedy, Roger G.	Member of the Public	010-4	J.19
King, Thomas	Member of the Public	008	J.8, J.10, J.11, J.17
Kite, Fred	Member of the Public	PMT-001	J.3
Manuta, Dr.	Member of the Public	PMT-007	J.3, J.11, J.14, J.18, J.19
Marida, Pat	Central Ohio Sierra Club	PMT-014; 009	J.7, J.11, J.19
McCosker, Loraine	Member of the Public	004	J.2, J.4, J.7, J.9, J.11, J.19
Newman, Judy on behalf of Congressman Ted Strickland	State Elected Official	PMT-012	J.3
Pope, Chief Hawk	Shawnee Nation, United Remnant Band	010-7	J.19
Proctor, Robert N.	Member of the Public	010-1	J.8, J.9
Puchstein, Jean	Member of the Public	PMT-006	J.2, J.4, J.7, J.9, J.11
Rainey, Carol	Member of the Public	PMT-008; 006	J.2, J.11

Commenter Name	Affiliation	Commenter Number	Section(s)
Sea, Geoffrey	Member of the Public	PMT-010; 010 <sup>a</sup>	J.6, J.8, J.11
Snyder, David	Ohio Historic Preservation Office	002	J.9, J.10, J.11
Swain, Lorry	Member of the Public	PMT-004; 007	J.2, J.4, J.11, J.19
Tinianow, Jerome C.	Audubon Ohio	010-3	J.19
Toelle, Steven A.	USEC	015	J.5, J.9, J.10, J.11, J.13, J.14, J.15, J.16
Wahley, Lois	Member of the Public	PMT-009	J.6, J.9
Walker, Nancy	Member of the Public	PMT-016	J.11
Weiner, Alan	Member of the Public	PMT-005	J.9, J.11, J.19
Westlake, Kenneth A.	United States Environmental Protection Agency	014	J.5, J.6, J.7, J.8, J.9, J.10, J.11, J.13, J.18
Young, Elisa	Member of the Public	003	J.2, J.4, J.11, J.19

Notes:

<sup>a</sup> Commenter number 010 submitted as part of their comments a series of attachments from other commenters which are numbered 010-1 through 010-8.

## J.2 General Opposition

### Comment: PMT-002-4

A commenter stated that although the proposed ACP at Piketon apparently has a better than average Occupational Safety and Health Administration safety record, a whistleblower was reportedly fired and the commenter questioned whether this would lead to safety concerns possibly not being openly discussed and addressed at the plant or by NRC.

*Response: In evaluating applications, the NRC conducts a safety review, which is documented in a Safety Evaluation Report. The purpose of a Safety Evaluation Report is to evaluate the safety of an applicant's proposed action. NRC encourages any safety concerns to be openly discussed and addressed at all times. The proposed ACP would only be licensed if the NRC finds that public health and safety and the environment would be adequately protected.*

*Additionally, operation of the proposed ACP would be subject to inspections and reviews of operating procedures and required reports. Thus, the NRC would continue to review compliance with applicable NRC requirements, should NRC grant a license and the proposed ACP be constructed and operated.*

### Comment: PMT-002-7; PMT-003-1; PMT-003-2; PMT-003-8

Several commenters expressed concern over liability and sovereign immunity issues. Commenters asked who would be responsible for compensating workers after an illness such as cancer was discovered, which may occur long after a company has been at the site. They questioned whether the liability resides with the U.S. Department of Energy (DOE), USEC, NRC or companies, and noted that many smaller companies are out of business by the time an illness is determined. The commenters stated that there are



ill workers currently not being compensated. The commenters also challenged NRC to sign a legal document stating the proposed plant would not cause harm to workers or the community.

*Response: The NRC shares the commenters' concerns about worker health and safety. The NRC occupational health and safety review is designed to limit exposure to radiological and non-radiological materials. Further, the proposed ACP would only be licensed if the NRC finds that public health and safety would be adequately protected. Section 4.2.12 of the EIS addresses the potential impacts to worker health. The analysis indicates that impacts associated with occupational exposures in the workplace should be small.*

**Comment: PMT-006-5; 001-1; 004-9; 007-5; 003-10; 006-4**

Commenters expressed their opposition to granting an NRC license to USEC for the proposed project. Commenters stated their general belief that safety issues are not adequately addressed in the Draft Environmental Impact Statement and enriched uranium is not a safe product. Therefore, NRC should deny issuing a license to USEC for the proposed ACP at Piketon because the potential benefits do not outweigh the potential damage. Another commenter stated that no license should be granted because the site has not yet been cleaned up from operation of the gaseous diffusion plant and that the plant is not healthy for the environment of southern Ohio or anywhere else.

*Response: The proposed ACP would only be licensed if the NRC finds that public health and safety and the environment would be adequately protected. The conclusions regarding environmental impacts provided in section 4.2.12 of the Draft EIS have not changed. Safety issues that are not within the scope of the EIS are addressed in the NRC's Safety Evaluation Report.*

### **J.3 General Support**

**Comment: PMT-007-2; PMT-007-6; PMT-011-3; PMT-012-1; PMT-013-1**

Several commenters expressed general support for the proposed ACP. One commenter viewed NRC involvement and licensing process as an improvement compared to the gaseous diffusion "era" when little to no information was provided to workers. One commenter noted the potential benefit of power generation that does not use carbon-bearing chemicals. One commenter stated the facility would be beneficial to the economy and expressed support about the deployment of advanced enrichment technology in southern Ohio. Several commenters praised NRC involvement and wanted to ensure that NRC regulators were getting correct information.

*Response: The NRC acknowledges the comments in support of the proposed action.*

### **J.4 NEPA Process**

**Comment: PMT-001-1**

A commenter questioned when would an NRC license be granted if the Final EIS were issued by April 2006.

*Response: The NRC Commission has issued an order for a 30-month review process from the submittal of the application to the final decision. Based on this 30-month schedule, a final decision on the license application would be made in February 2007. The NRC would only approve the license application after the EIS and Safety Evaluation Report are complete and the Atomic Licensing and Safety Board has completed its hearing process, and it has been concluded that the construction, operation, and decommissioning of the proposed ACP would meet its environmental and safety requirements.*

**Comment: PMT-002-3**

A commenter requested the names of the Judges who will oversee the hearing process for the license application.

*Response: The Atomic Licensing and Safety Board conducts hearings for the NRC and performs some other regulatory functions. On October 7, 2004, the board for the proceeding was announced, and includes the following members: The Chief Administrative Judge is Lawrence G. McDade. The two Associate Chief Administrative Judges are Richard E. Wardwell and Paul B. Abramson.*

**Comment: PMT-006-1**

A commenter questioned if all scoping comment letters were going to be made available in their entirety instead of in a summary format.

*Response: The letters that were submitted during the scoping period are a matter of public record and are available from NRC's public document room which is available online at <http://www.nrc.gov/reading-rm/adams/web-based.html>. Select the "Web-based access" link and on the following webpage, select the "Begin ADAMS Search" link. To find all publicly available documents type in "Docket 07007004" and click the "Search" link. This search may be narrowed by selecting the "Advanced Search" link, typing in "07007004" in the Docket Number field and any other appropriate keyword related to the subject of interest in the various fields that are present.*

**Comment: PMT-015-4; 004-2**

Commenters expressed concern that per 40 CFR 1503, the NRC staff has been negligent to respond in a satisfactory manner to the scoping comments submitted by opponents of the proposed ACP on the Draft EIS.

*Response: All comments received during the scoping process are a matter of public record and are available from NRC's public document room which is available online at <http://www.nrc.gov/reading-rm/adams/web-based.html>. Select the "Web-based access" link and on the following webpage, select the "Begin ADAMS Search" link. To find all publicly available documents type in "Docket 07007004" and click the "Search" link. This search may be narrowed by selecting the "Advanced Search" link, typing in "07007004" in the Docket Number field and any other appropriate keyword related to the subject of interest in the various fields that are present.*

*Section 1 of the EIS identifies the issues raised by public scoping comments that relate to implementation of the proposed action. Issues determined to be within the scope of the EIS were studied in detail. A summary of scoping comments also is provided in Appendix A Section 2. As required under the NRC's regulations at 10 CFR 51.29, the NRC has considered all scoping comments from the public and prepared a concise summary of the determinations and conclusions reached.*

**Comment: 003-2**

A commenter requested that a separate EIS be conducted that would address additional depleted uranium tailings that may be generated by USEC. The commenter noted the EIS states that additional tailings generated by ACP would be processed on site, and questioned whether this activity has been approved. The commenter questioned if an additional 200,000 tons either from Ohio or New Mexico (in the Louisiana Energy Services application) would be enough to trigger an additional EIS because the conversion facility is not constructed or operational. The commenter also noted NRC has not provided a formal response to this query.

*Response: NRC performs environmental reviews for each of our licensing and regulatory actions and actively seeks public input on environmental impacts during the reviews.*

*In accordance with NEPA, its implementing regulations, and NRC regulations for implementing NEPA, NRC reviewed the impacts of reasonable foreseeable future actions associated with the development of the proposed ACP.*

*As stated in Section 2.1.4.3 Facility Operation, USEC proposes to transport the depleted UF<sub>6</sub> generated at the proposed ACP to this new UF<sub>6</sub> conversion facility on the DOE reservation in Piketon. This plan is based on Section 3113 of the 1996 United States Enrichment Corporation Privatization Act that states the DOE "shall accept for disposal low-level radioactive waste, including depleted uranium if it were ultimately determined to be low-level radioactive waste, generated by [...] any person licensed by the Nuclear Regulatory Commission to operate a uranium enrichment facility under Sections 53, 63, and 193 of the Atomic Energy Act of 1954 (42 U.S.C. 2073, 2093, and 2243)." On January 18, 2005, the Commission issued its ruling that depleted uranium is considered a form of low-level radioactive waste (NRC, 2005). The Commission also stated that disposal of depleted uranium tails at a DOE facility represents a plausible strategy for the disposition of depleted uranium tails (NRC, 2005).*

*In addition, DOE analyzed the impacts of the operation of a conversion facility in the "Final Environmental Impact Statement for the Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at the Portsmouth, Ohio site." DOE/EIS-0360, Oak Ridge Operations, Office of Environmental Management, U.S. Department of Energy, June, 2004. Should a new conversion facility be developed an environmental review in accordance with NEPA would be completed. DOE has maintained that, with routine facility and equipment maintenance, periodic equipment replacements, or upgrades, the conversion facility could be operated safely beyond the 18-year planned life-time period to process the additional depleted UF<sub>6</sub> from the proposed ACP. In addition, DOE indicates the estimated impacts that would occur from prior conversion facility operations would remain the same when processing the proposed ACP wastes. The overall cumulative impacts from the operation of the conversion facility would extend proportionately with the increased life of the facility (DOE, 2004a).*

**Comment: 003-11**

A commenter requested additional time to review the Draft EIS and submit comments.

*Response: The NRC reviewed the comments requesting additional time to comment and concluded that the participation process had provided sufficient time and opportunities for the public to bring forward issues and concerns for the NRC's consideration. The NRC provided a 48-day comment period on the Draft EIS. A 45-day period is generally provided under NRC regulations (10 CFR § 51.73). In view of the NRC staff efforts to solicit public involvement in the EIS scoping process, and public meeting held during the comment period, the NRC staff concluded that an additional extension of the comment period was not warranted. The NRC received hundreds of written comments from 15 commenters plus 17 public commenters at the public meeting by the October 24, 2005, comment period closing date. Additional information on the opportunity for comment during the public comment period is provided in section J.1.*

## **Role of the NRC**

### **Comment: PMT-003-4**

A commenter questioned who would regulate special nuclear material and transuranic waste at the site.

*Response: The NRC is responsible for regulating the use of special nuclear material which consists of enriched uranium and plutonium. USEC's possession limits for these two radionuclides are provided in Table 1.2-1 of the ACP License Application. Transuranic wastes are regulated by the EPA which develops environmental standards and Federal radiation protection guidance for offsite radiation due to the disposal of spent nuclear fuel and high-level and transuranic radioactive wastes. (<http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/radwaste.html>)*

### **Comment: PMT-004-2**

A commenter questioned whether the NRC has ever not licensed an applicant for any type of facility, other than Louisiana Energy Services, which was denied in a couple of places, but is still under application.

*Response: Throughout the NRC's regulatory history, there have been cases where an application has not been approved. An application will be approved only after it has undergone technical and environmental review and has successfully demonstrated that it satisfies the NRC's regulatory requirements. If deemed necessary, the NRC will impose additional conditions on a license for the license applicant to improve safety or to meet regulations. In some instances this has resulted in the applicant withdrawing their application. With regard to Louisiana Energy Services, an application has never been denied. Louisiana Energy Services withdrew the application for a site in Louisiana, and is currently under review for a site in New Mexico.*

## **J.5 Introduction and Background**

### **Comment: 014-42**

A commenter suggested that (Introduction, Section 1.5 Applicable Regulatory Requirement, Pages 1 -11 through 1-33) Executive Directive and Presidential Orders that make specific requirements on all Federal Agencies that would apply or impact the ACP project need to be included.

*Response: Section 1.5.2 addresses all the applicable Executive Orders that were identified as having an impact on the proposed actions of this EIS.*

### **Comment: 014-43**

A commenter noted that (Introduction, Table 1-3, Pages 1-20 through 1-29) Table 1-3 is incomplete and suggested that all potential applicable requirements for the construction of the ACP have not been included and need to be thoroughly re-evaluated.

*Response: The NRC conducted a complete review of state, local and federal requirements for the construction and operation of the ACP. No further requirements were identified in the preparation of the Final EIS.*

### **Comment: 014-47**

A commenter noted that (Page 1-4, Line 23) the Draft EIS states that the Portsmouth Gaseous Diffusion Plant is currently in "cold standby" mode (possible to restart in 18 to 24 months). The commenter suggested the Final EIS should include a schedule for when the facility will be placed into "cold iron"

mode (unable to be restarted) and become ready for decontamination and demolition work to proceed.

*Response: The purpose of this EIS is to evaluate the potential environmental impacts of the construction, operation, and decommissioning of the proposed ACP. Thus, an evaluation of the status of the Portsmouth Gaseous Diffusion Plant is beyond the scope of this analysis.*

**Comment: 015-1**

Commenter suggested changing “municipal” to “public” on line 30 of page 1-13.

*Response: The NRC staff revised the text to reflect the commenter’s suggestion.*

**Comment: 015-02**

Commenter suggested changing “United States Enrichment Corporation” to “USEC Inc.” on lines 23 and 26 of page 1-35.

*Response: The NRC staff revised the text to reflect the commenter’s suggestion.*

## **J.6 Purpose and Need**

**Comment: PMT-009-1**

A commenter wanted to know how much fuel from the proposed ACP would be produced, enough to supply five power plants, 10, or 100.

*Response: The amount of enriched fuel that would be produced by the ACP would depend on the market for commercial nuclear power reactor fuel. The USEC Environmental Report indicated that it plans to produce 3.5 million separative work units (SWUs) initially with the capability of up to 7.0 million (SWUs) annually if the market warrants. According to USEC, it takes on the order of 100,000 SWU of enriched uranium to fuel a typical 1,000 megawatt commercial nuclear reactor for a year. Thus, the ACP at maximum capacity (i.e., 7 million SWU) could produce enough nuclear fuel to supply 70 commercial reactors for a year.*

**Comment: PMT-010-1**

A commenter noted the Draft EIS states that one of the main justifications for the proposed ACP is that Paducah would be shut down and yet, the document states that Paducah would be needed to stay in operation to meet the total domestic demand for enriched uranium. The commenter suggested that acquiring cleaner technology and more efficient technology as the document purports is irrelevant if Paducah is not shut down.

*Response: The Draft EIS does not state that Paducah needs to stay in operation to meet future demands. At the initial licensed capacity of 3.5 million SWUs, the proposed ACP would provide roughly 29 percent of the U.S. enrichment needs. Additionally, the NRC is evaluating the Louisiana Energy Services’ proposed National Enrichment Facility as part of a separate proposed action with an output of an additional 3 million SWUs (25 percent). The combined output from the proposed ACP and National Enrichment Facility (6.5 million SWUs or 54 percent of U.S. demand) could offset the current output from the aging Paducah Gaseous Diffusion Plant (which currently supplies 14 percent of U.S. demand) and allow the Paducah plant to be retired. In addition, if USEC were to expand to a 7 million SWU capacity, USEC could contribute up to 58 percent of U.S. enrichment needs, in addition to the 25 percent that Louisiana Energy Services could produce.*

**Comment: 014-5**

A commenter noted that (Page xix, line 41 and Page 1-5, Line 34) the justification of the rationale used for the Purpose and Need of the proposed project is insufficient and asked NRC to re-evaluate the aspect related to national security. The Draft EIS states, the commenter noted, that the proposed ACP is needed because only one uranium enrichment plant currently operates in the United States, the Paducah Kentucky Gaseous Diffusion Plant (Paducah Plant). A supply disruption with the Paducah Plant would leave the nation's commercial nuclear reactors fully dependent on foreign sources for enriched uranium—a situation which could impact national security. However, the Draft EIS also states that the Paducah Plant would be shut down, decontaminated, and decommissioned after ACP begins operating. Therefore, ACP would not satisfy the national security facet of the purpose and need of the proposed project, because the project would merely replace, instead of supplement, the nation's only operating uranium enrichment plant.

*Response: The EIS does state that by 2020, the U.S. is estimated to need about 393 gigawatts or 393,000 megawatts of new generating capacity, and that enriched uranium will have to come from one or more new sources, such as the proposed ACP, to fulfill the shortfall in supply that may exist after that time. The shortfall is based on the projected growth in demand combined with the potential closure of the Paducah plant. The proposed action would help meet U.S. energy supply and national security goals by providing an additional reliable and economical domestic source of enriched uranium and to replace existing aging and less efficient uranium enrichment facilities.*

*Currently the Paducah Gaseous Diffusion Plant supplies approximately 14 percent of the U.S. enrichment needs. At a 3.5 million SWU capacity the proposed ACP would provide approximately 29 percent of the U.S. enrichment needs and at a 7 million SWU capacity would provide approximately 58 percent of the U.S. enrichment needs. In addition the NRC is evaluating the Louisiana Energy Services' National Enrichment Facility as part of a separate proposed action (NRC, 2005) with a proposed capacity of 3.0 million SWU or 25 percent of the U.S. enrichment needs. Combined these proposed facilities could provide up to 83 percent of future U.S. enrichment needs, thus reducing the dependence on foreign suppliers of enriched uranium.*

**Comment: 014-6**

A commenter (Page 1 -2, Line 38 and footnote of Page 4-53) suggested there is a lack of a justification in the Draft EIS for the need to enrich uranium up to 10 percent by weight of uranium-235. According to the Draft EIS, the commenter stated, the license issued by NRC would authorize USEC Inc. (USEC) to produce enriched uranium up to 10 percent by weight of uranium-235. However, the Draft EIS also states that most power plants use enriched uranium with less than 5.5 percent of uranium-235 by weight, and that it would be unlikely for USEC to enrich uranium up to the higher weight. Finally, the Draft EIS states that, of the cylinders used to ship enriched uranium, none of them are certified to ship uranium enriched to higher than 5 percent by weight of uranium-235. Given that it would not be feasible for USEC to enrich uranium above 5 percent by weight of uranium-235 (for civilian use), the commenter suggested that NRC should explain why the proposed license would authorize a higher level of enrichment. If the project proponents foresee a scenario under which USEC would need to enrich uranium up to 10 percent of uranium-235, then that scenario should be documented in the Purpose and Need Section of the Final EIS. The commenter urged NRC to reconsider the limit of uranium enrichment cited in its license for USEC.

*Response: The NRC staff evaluates a license application to determine whether an applicant has demonstrated compliance with the regulatory requirements which pertain to the type of license being sought. In the case of the present license application from USEC to construct, operate, and decommission a uranium enrichment facility, the NRC staff evaluated the application against the*

*Commission's regulations found at 10 CFR Part 70. The NRC's mandate is to ensure the safe use of nuclear materials and, as such, it must consider the issuance of licenses to applicants who wish to conduct operations involving these materials. Because USEC submitted an application for a license to enrich uranium up to 10 percent by weight of uranium-235, the NRC staff must evaluate that application as submitted.*

*The NRC is analyzing both the safety and environmental impacts of issuing a license that would allow enrichment to 10 percent. USEC has stated that they wish to maintain the operational flexibility for future business opportunities. Even if USEC demonstrates that they can safely enrich to 10 percent they would not do so until customers are found and then USEC would have to receive NRC approval for the larger shipping casks for transporting the product in a cost-effective manner as noted on page 4-53 of the EIS.*

**Comment: 014-7**

A commenter noted (Executive Summary, Purpose and Need For the Proposed Action, Page xx, paragraph 1) the description appears to be incomplete and does not address the range or possibilities of materials that can be reasonably assumed to be produced at the proposed ACP citing the type and range of enrichments that have been conducted in past operations at the gaseous diffusion facility at the site.

*Response: As described in Section 1.2, page 1-2 of the EIS, the proposed ACP would produce only low-enriched uranium for shipment to commercial nuclear power fuel fabricators; expected product recipients are listed in Section 2.1.4.3, page 2-27. The production of highly-enriched uranium for the Department of Defense is not considered part of the proposed action and is not under consideration in the NRC licensing review (see Section 1.3.1).*

**Comment: 014-8**

A commenter noted that (Introduction, Section 1.3.2 The Need for Domestic Supplies of Enriched Uranium for National Energy Security, page 1-5, paragraph 1) it is unclear whether future inclusion of additional nuclear power plants and their needs for enriched fuel is taken into account. The commenter suggested to include at least one or two new plants and their potential needs to assure that a "more representative range" of possible customers for this facility's output is evaluated.

*Response: At a capacity of 3.5 million SWUs, the proposed ACP would provide roughly 25 percent of the projected U.S. enrichment needs and allow the Paducah plant to be retired. However, as noted in the EIS, the USEC Environmental Report indicated that it plans to produce up to 7.0 million separative work units (SWUs) annually. This would allow the ACP to be a larger contributor to the nation's nuclear fuel needs and would help compensate for the addition of one or two new power plants. In addition, the NRC is evaluating the Louisiana Energy Services' National Enrichment Facility as part of a separate proposed action that would generate approximately 3 million SWUs (NRC, 2005).*

## **J.7 Scope of the Environmental Analysis**

**Comment: PMT-003-3; PMT-015-1; 004-1; 009-3**

Commenters suggested that the Draft EIS is not the result of an independent investigation and uses data that may not be accurate. Commenters cited the results the Piketon and Portsmouth Residents for Environmental Safety and Security analyses of contamination in Big Run Creek Water and questions DOE, USEC and Ohio EPA data from offsite sampling locations. The commenter urged NRC to conduct an independent investigation and conduct a critical analysis, and not rely on USEC or contractors at the facility, and suggested not to rely solely on the USEC application.

*Response: The NRC has conducted an independent analysis of environmental impacts associated with the proposed action. The Energy Reorganization Act of 1974 established the NRC as an independent government agency whose mission is the protection of public health and safety and the environment from the commercial uses of nuclear materials. As an independent Federal agency, the NRC reports to Congress rather than the Executive Branch.*

*The NRC regulates licensees by conducting a thorough and independent review of each application for a license, consistent with its congressional mandate and the NRC's regulations for safety and environmental review. These regulations establish an independent review process to consider factual issues and contentions brought before the NRC. The NRC staff completed the environmental review described in the EIS and that review was consistent with NEPA as well as the Council on Environmental Quality implementing regulations (40 CFR Part 1500-1508) and the NRC's implementing regulations (10 CFR Part 51). Those regulations specify the procedures for reviewing potential environmental impacts and soliciting public review of the draft results and recommendations.*

*Throughout this review process, the NRC's only relationship with the applicant is the formal and open exchange of factual information about the application, safety evaluation, and environmental report. This exchange is completed through a process in which the applicant submits the license application, the NRC reviews the application and issues requests for additional information, and the applicant responds to the requests for additional information. All requests for additional information and responses are documented and are publicly available.*

*For the proposed ACP, the NRC staff were required to prepare an EIS. The EIS was based on the best scientific information available about the potential environmental impacts. This EIS was completed by the NRC staff and their consultants, independently of the applicant. When the applicant provided information, the NRC reviewed and verified the information, and conducted its own analysis of potential impacts. If comments on the Draft EIS provided specific corrections or additional information, the staff evaluated, considered, and addressed this information in this EIS, as appropriate.*

**Comment: PMT-003-5; PMT-015-1**

A commenter suggested that the Draft EIS may not have adequately captured the costs of the proposed ACP, is not an independent investigation and is not fully open to public scrutiny due to relying on classified and proprietary information.

*Response: Certain information that represents security or business proprietary concerns has been withheld from the EIS pursuant to 10 CFR 2.390. Although this information is not available to the public, it is reviewed and evaluated by the NRC in the Safety Evaluation Report and the EIS and will be considered in the NRC's final decision.*

**Comment: PMT-006-3**

A commenter questioned the results of the Draft EIS analysis and the use of broad categories - small, medium, and large - to describe environmental effects. The commenter cited page xxii, and noted that no mention is made of centrifuges failing and the commenter questioned whether radiological impacts from routine transportation and transportation accidents is a "small" impact. The commenter indicated that NRC had done little in the way of independent investigation of the USEC application.

*Response: The EIS specifically did evaluate the impacts of failed centrifuges in section 4.2.12.3. A much more detailed evaluation of the potential impacts of centrifuge failure is contained in the Safety*



*Evaluation Report. Section 4.1 of the EIS describes the process of determining the significance of potential environmental impacts.*

*Based on the Council of Environmental Quality's regulations and NRC guidance provided in NUREG-1748, each environmental impact is to be assigned a significance level of small, moderate, or large.*

*A discussion of NRC's approach to conducting an independent review is provided in the response to comment numbers PMT-003-3; MPT-015-1; 004-1; and 009-3 in this appendix.*

**Comment: 012-1**

A commenter suggested the Draft EIS seems to omit any information or analysis about the product of the Centrifuge Facility, and the impacts of its use, and therefore, NRC cannot provide the favorable finding as described in the Draft EIS.

*Response: The purpose of this EIS is to evaluate the potential environmental impacts of the construction, operation, and decommissioning of the proposed ACP. As the EIS indicates, the enriched uranium produced by the facility would be ultimately used in commercial nuclear power plants, which are licensed by NRC and are also subject to a NEPA review.*

**Comment: 014-1**

A commenter stated the Draft EIS appears to evaluate this project as a generic case and recommended the Final EIS be focused on site-specific analyses, impacts, and mitigation. Some of the general descriptions, the commenter stated, of how the materials, source materials, product materials, and the waste materials will be handled and controlled at DOE's Portsmouth, Ohio Reservation (Portsmouth Reservation) appear to be incomplete and fragmented, which the commenter said made it difficult to properly evaluate whether or not requirements under other Federal regulations can be met with the necessary degree of completeness to authorize this project.

*Response: The EIS is an analysis of the environmental impacts associated with the proposed action and is necessarily site-specific and based on anticipated construction and operational activities. For example, in Section 4.2.13 Waste Management Impacts, NRC analyzes the impacts associated with construction and operation. The waste management associated with construction analyzes site-specific impacts including the refurbishment of specific buildings, volumes of specific types of waste (sanitary, low-level radioactive, and recyclable), and the use of specific landfills, while the waste impacts associated with operation analyzes the use of specific depleted uranium storage cylinders, specifies the number of cylinders, the locations of the onsite storage yards, and reviews various long-term storage options. Further, aside from any NRC license issued to the applicant, the applicant is still responsible for complying with all other Federal, State, and local regulations and requirements. Tables 1-2 and 1-3 list the regulations that would apply for the construction and operation of the ACP. Granting a license does not excuse USEC from its obligations to comply with other Federal and state requirements.*

**Comment: 014-9**

A commenter noted (Page 2-1, Line 44) the scope of the Draft EIS does not include decommissioning and related activities of the Paducah, Kentucky Gaseous Diffusion Plant and should. The scope, the commenter suggested, should include the cessation of all uranium enrichment operations at Paducah because the start of ACP's uranium enrichment operations and the cessation of uranium enrichment operations at the Paducah Plant are closely related.

*Response: As discussed in Section 2.1 of the EIS, cessation of uranium enrichment activity is included, but decommissioning of the Paducah Gaseous Diffusion Plant, changes to any other activities at that site, or any alternate uses of the site in the future are considered out of the scope of this analysis. The decommissioning of the Paducah facility would be the subject of future DOE decisions and NEPA analysis which is beyond the scope of licensing the proposed ACP. These actions would be the subject of other decisions by agencies such as the DOE, and other environmental reviews under NEPA.*

**Comment: 014-10**

A commenter suggested the Final EIS should discuss the former Portsmouth, Ohio gaseous diffusion plant, and any ACP interactions with it, considering that the Portsmouth plant is either in cold standby or cold iron and that the ACP will be in close proximity to it.

*Response: The EIS discusses the Portsmouth Gaseous Diffusion Plant appropriately (e.g., use of ancillary facilities and cumulative impacts) but does not discuss the infrastructure of the plant because the operation of the proposed ACP is not dependent on this infrastructure.*

**Comment: 014-11**

A commenter (Introduction, Section 1.2, The Proposed Action, Page 1-2, paragraph 5) noted the potential range of produced materials does not include the possibility of production for the Department of Defense. If this is potentially a reasonably assumed product, the commenter suggested it needs to be included for evaluation.

*Response: As described in Section 1.2, page 1-2 of the EIS, the proposed ACP would produce only low-enriched uranium for shipment to commercial nuclear power fuel fabricators; expected product recipients are listed in Section 2.1.4.3, page 2-27. The production of highly-enriched uranium for the Department of Defense is not part of the proposed action and is not under consideration in the NRC licensing review.*

**Comment: 014-12**

A commenter suggested (Introduction, Section 1.4, Scope of the Environmental Analysis, Page 1-7, paragraph 3) the scope of the environmental analysis may not meet the actual needs to be addressed for the new facility to be created and put into operation. The scope may need to be expanded to assure that all of the environmental issues are adequately addressed.

*Response: The EIS analyzes impacts and actions considered to be within the scope of the proposed action as described in section 1.2. As described in Section 1.4.1, a public scoping process was used by the NRC to help identify the relevant issues to be discussed in detail and to help identify issues that are beyond the scope of the EIS, that do not warrant a detailed discussion, or that are not directly relevant to the assessment of potential impacts from the proposed action. Therefore, the NRC staff believes that the scope of the EIS adequately considers issues related to the proposed action that could have short- or long-term impacts on the environment.*

**Comment: 014-13**

A commenter stated (Introduction, Section 1.4.4 Issues Outside the Scope of the EIS, Page 1-9) that this section artificially narrows the scope of this evaluation to exclude security issues relevant to this facility. Safety and Security, Credibility and Terrorism must be addressed in any project of this type. The Draft EIS is incomplete and inadequate to properly address these issues.

*Response: Safety and security issues associated with the proposed ACP will be evaluated in the NRC staff's safety review. The results of that evaluation will be documented in the Safety Evaluation Report.*

*Any facility licensed by the NRC is required to fully comply with NRC regulations and license conditions, including those that relate to security.*

*Additionally, in The Matter of Private Fuel Storage, LLC (Independent Spent Fuel Storage Installation), 56 NRC 340 (2002), the Commission held that it is not appropriate to address issues of terrorism within the context of NEPA. But, as stated in Commission Memorandum and Order CLI-02-24 (dated 12/18/2002), although the NRC has declined to consider terrorism in the context of NEPA, the NRC is devoting substantial time and attention to terrorism-related matters. For example, as part of fulfilling its mission to protect public health and safety and common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting vulnerability assessments of commercial uses of radioactive material. The NRC has assessed potential vulnerabilities of radioactive dispersal devices, dirty bombs, and other diversion type activities. The NRC has issued interim compensatory measures and a number of other orders imposing enhanced security requirements on its licensees. Also, the NRC has acted to increase security awareness in its applicants.*

**Comment: 014-14**

A commenter (Page 2-2, Line 26) suggested the Final EIS should identify: 1) all of the uranium enrichment projects expected for the facility; 2) all of the projects that the facility is capable of performing; 3) whether this facility will be reprocessing feed materials from spent nuclear fuel; and 4) whether this Final EIS encompasses all of the activities that an enrichment facility may be called to perform.

*Response: NRC regulations for implementing NEPA require consideration of only those activities that are reasonably foreseeable under the proposed action. Section 1.2 and Section 2.1.4 provide details on the proposed action and the expected activities under each of the phases of the proposed action. Any potential activities of an enrichment facility that are possible but not within the scope of the proposed action, are out of the scope of this analysis. USEC intends to use natural uranium in the form of UF<sub>6</sub> for the proposed ACP. The intention is to not introduce feedstock contaminated with significant concentrations of other nuclides into the process. Feed material that meets the American Standards for Testing and Materials specification for recycled feed may be used, and may contain small quantities of radionuclides such as uranium-236 and technetium-99.*

**Comment: 014-15**

A commenter suggested that (Page D-5) considering the amount of depleted uranium that will be generated by ACP operations, and since it's a credible option, the Final EIS should also assess the transportation of depleted uranium and other radioactive wastes to Andrews, Texas, and the location of another disposal facility that should have an Agreement State license for disposal within the next year.

*Response: NRC identified and evaluated reasonable transportation points and corridors, including Gainesville, Florida; Clive, Utah; and the Nevada Test Site for processing and disposal of low-level radioactive waste. The analysis indicated that there would be no significant impacts. The sites analyzed in the EIS reasonably represent a range of radioactive waste disposal sites and present results that are representative of the impacts associated with the transportation of depleted uranium and other low-level radioactive wastes.*

## **J.8 Agencies and Persons Consulted**

### **Comment: PMT-010-5**

A commenter said NRC was not fulfilling its obligation under section 106 of the National Historic Preservation Act because NRC had not included persons, including the owner of the Rittenour home, who asked to be consulted on the project. In addition, the commenter suggested that NRC needs to include a letter written to NRC from the owner of the Rittenour home in the Draft EIS.

*Response: A letter from the owner of the Rittenour home was included in a petition for intervention, but did not include a request to be consulted on the project. The letter describes the writer's property as "the major portion is on the west side of State Route 23 and goes to the Scioto River."*

### **Comment: 008-22**

A commenter stated that Appendix B of the Draft EIS contains several form letters to Indian tribes asking them about "specific knowledge of any sites" that they believe "have traditional religious and cultural significance." The text indicates that the Absentee Shawnee reported knowledge of such a site -- the Scioto Township Works -- though the documentation expressing this concern, supposed to be in Appendix B, is not there. In any event, the letters do not reflect any sort of real consultation with the tribes; they are mere formletters that do not seem to have been followed up in any way. The commenter suggested NRC review the findings of the Tenth Circuit Court of Appeals in *Pueblo of Sandia v. United States*, 50 F3d 856 (10th Cir. 1995), as well as pertinent Advisory Council, National Register, and EPA guidance, and initiate real consultation with tribes.

*Response: A letter from the Absentee Shawnee was included in a petition for intervention, but no specific information was included. The NRC staff made several attempts to establish consultation ties with the Absentee Shawnee Tribe (see response to Comment 008-11 in Section J.10) but never received any response. The Ohio Historic Preservation Office has received all Section 106 correspondence and did not object to NRC's efforts in its letter dated October 5, 2005, included in Appendix B.*

### **Comment: 008-23**

The commenter stated that Appendix B also includes correspondence with the State Historic Preservation Officer in which the State Historic Preservation Officer suggests a variety of representations, studies and consultations that NRC should undertake. It is not clear what, if anything, NRC has done in response to these suggestions.

*Response: The NRC responded to the suggestions in the February 2005 letter from the State Historic Preservation Officer by including information in the EIS about previous ground disturbance in the area of proposed new construction, considering public concerns expressed in the petition for intervention and provided in scoping meetings, and explaining the basis for its conclusions that the project would have no effect on historic properties. Appendix B has been updated to include all available consultation correspondence, including the Ohio Historic Preservation Office letter dated October 5, 2005, which reaffirms Ohio Historic Preservation Office's interpretation that the proposed ACP will not adversely affect historic properties.*

### **Comment: 008-24**

The commenter stated that Appendix B also contains a letter to the Advisory Council on Historic Preservation in which NRC mentions, rather in passing, that it intends to "use the NRC's NEPA review processes for Section 106 purposes," and later indicates that the former will be used "in lieu of" the latter. The commenter indicated that this suggests an attempt by NRC to comply with 36 CFR 800.8(c) and substitute its NEPA compliance for completion of standard Section 106 review, but the commenter

suggested that NRC has done what 36 CFR 800.8(c) requires in order to effect such a substitution. It has notified the Advisory Council of its attempt to substitute, however the commenter indicated that there is no evidence that NRC has similarly notified the State Historic Preservation Officer. The notification to the Advisory Council came only very late in the NEPA process, the commenter suggested, and in such a manner (a short, vague paragraph buried in the middle of a longer missive) that it is easy to imagine the Council misunderstanding its intent. More importantly, NRC has engaged in virtually none of the consultation with interested parties required by 36 CFR 800.8(c), and there are, as indicated above, many questions about the quality of its efforts to identify and address historic preservation issues. The commenter suggested that NRC should not substitute NEPA compliance for standard Section 106 review, and initiate proper consultation with all concerned parties in accordance with 36 CFR 800.4.

*Response: The NRC notified the State Historic Preservation Officer of its intent to coordinate NEPA and National Historic Preservation Act compliance in a December 2004 letter, included in Appendix B of the Draft EIS. The commenter is referred to the response to comment 008-11 in Section J.10 for descriptions of NRC's consultation efforts with tribes. The commenter is referred to the response to comment PMT-010-4 in Section J.11 regarding a request for consulting party status.*

**Comment: 008-25**

The commenter stated that beyond properly complying with Section 106 of the National Historic Preservation Act, NRC should attend to Section 110(d) of the same statute, to the requirements of the Archaeological and Historic Preservation Act of 1974, the American Indian Religious Freedom Act, the Native American Graves Protection and Repatriation Act and its implementing regulations (43 CFR 10), Executive Order 13175, and Executive Order 13352, and to the requirement of 40 CFR 1508.27(b)(3) and (8) that effects on cultural resources -- NOT only National Register eligible historic properties -- be considered in determining the significance of environmental impacts.

*Response: Section 110(d) applied to this case requires that the NRC, consistent with its mission and mandates, carry out its licensing process in accordance with the purposes of the National Historic Preservation Act and give consideration to projects and programs that will further the purposes of the Act, which are to expand the preservation of historic resources on federal and private lands. The Archeological and Historic Preservation Act of 1974 emphasizes preservation of archaeological and historical sites and data. As indicated in the EIS, NRC has not identified threats to preservation of historic resources by the proposed project.*

*The American Indian Religious Freedom Act and the Native American Graves Protection and Repatriation Act and its implementing regulations set forth policy and requirements that a federal agency shall avoid interference with exercise of Native American religious practices, effects to or access to religious sites, and shall consult with tribes to identify and avoid impacts to places and things of traditional cultural value, including cultural items, as defined under the Native American Graves Protection and Repatriation Act. The NRC has addressed these in its consultation effort. Executive Order 13175 applies to consultation in the context of agency policymaking and is not applicable to this NRC process. Executive Order 13352 mandates efforts by the Departments of the Interior, Agriculture, Commerce, Defense and the Environmental Protection Agency to facilitate cooperative conservation, to take into account the interests of persons with ownership of lands and to properly accommodate local participation in Federal decision making. Although the order does not apply to the NRC specifically, the NRC has received and taken into account the interests of persons with ownership of nearby lands in its review. The paragraphs of the regulations implementing NEPA that the commenter cites mention the need to consider "proximity to historic or cultural resources" and the degree to which an action "may cause loss or destruction of significant scientific, cultural, or historical resources." The EIS did evaluate*

*possible effects on cultural resources outside the construction zone and area of operations of the proposed plant, but identified no likelihood of change in the existing conditions of these resources that would be associated with construction or operation of the plant.*

**Comment: 014-37**

A commenter suggested that (Alternatives, Section 2.4 Comparison of Predicted Environmental impacts, Table 2-8, Page 2-60) the National Emission Standards for Hazardous Air Pollutants 40 CFR 61 Subpart H evaluation has not been submitted for determination of appropriateness and to demonstrate potential compliance status of this type of facility to the regulating agency. However, the Draft EIS characterized impacts as "SMALL." The commenter stated that until this determination is made under Subpart H, classifying impacts, is premature. The commenter encouraged NRC to involve EPA and other appropriate Federal, agencies earlier in the determination process.

*Response: As described in Section 4.2.12.3 and Appendix C of the EIS, the NRC staff have determined that public doses from emissions of radioactivity to the atmosphere from the ACP would be well below both the 10 CFR 20 dose limits of 100 millirem per year (approximately 1 millirem per year), and the 10 CFR 20.1101(d) dose constraint of 10 millirem per year. For this reason, staff estimates that the public dose impacts would be "SMALL."*

*Aside from the question of the anticipated level of public dose impact, the question of whether USEC, Inc. must either request a permit from EPA or show EPA by analysis that a permit is not required pursuant to EPA regulations in 40 CFR Part 61, Subpart H, for the DOE-owned ACP is a matter which USEC must address with EPA, not NRC. NRC has no role in EPA's determination on this matter.*

**Comment: 014-50**

A commenter noted that (Introduction, Section 1.5.5 Cooperating Agencies, Page 1-19) the Draft EIS states that during the scoping process, no Federal, State, or local agencies were identified as potential cooperating agencies in the preparation of the Draft EIS. The commenter said the Draft EIS, however, does not address whether there was any contact with other regulating Agencies at any level that could have been considered cooperating Agencies. The commenter suggested all of the current Federal, as well as State and Local regulators for this site would have been potential Cooperating Agencies in the development of this document and process.

*Response: NRC did not request any agencies to be a cooperating agency in the preparation of the EIS. In accordance with NEPA, NRC consulted with several Federal and State agencies as described in section 1.5.6, and none of the agencies consulted requested or indicated interest in being a cooperating agency in the preparation of the EIS.*

**Comment: 014-51**

A commenter (Introduction, Section 1.5.6 Consultations, Page 1-19) noted that when the NRC was first given some regulatory authority at this site, a consultative procedure was to have been used with U.S. EPA, to assure that the site could be "certified" for their regulation. A similar process, the commenter suggested, should have been used with all current regulating Agencies of this facility prior to preparation of this document.

*Response: As indicated in Section 1.5.6, and in accordance with NEPA and cross-cutting Acts and regulations, NRC consulted with Federal and State regulatory agencies throughout the development of the EIS.*

**Comment: 001-1-1**

Another commenter argued that a member of the public who has done important work evaluating the history and significance of the Piketon site should be consulted in any effort to assess the potential impact of the centrifuge plant construction.

*Response: NRC engaged members of the public, to include those who have done important work evaluating the history of the Piketon site through hosting public scoping and comment meetings. In addition, in accordance with the National Historic Preservation Act, NRC consulted with the State Historic Preservation Officer, Federally recognized tribes, and a member of the public who is familiar with the local historic setting.*

**J.9 Proposed Action and Alternatives**

**Proposed Action**

**Comment: PMT-006-2**

A commenter stated that the Draft EIS glossary defines special nuclear material, plutonium, uranium-233, or uranium enriched in the isotope, ores containing 0.05 percent uranium or thorium, regulated under the Atomic Energy Act. In general, this includes all materials containing radioactive isotopes concentrations greater than the natural and the byproduct tailings from the formation of this concentrated material, and byproduct materials is defined as the tailings or waste products produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content. The commenter noted that these very broad definitions seem to include any and all radioactive materials that USEC will be authorized to possess and use if NRC grants this license, and suggested that the NRC include a list of the nuclear material that will not be used at the site, such as weapons-grade material.

*Response: Source material and special nuclear material are accurately defined in the EIS glossary (Appendix I) in accordance with the definitions in 10 CFR Part 20, 40 and 70. The purpose of the glossary is to depict the terminology used in the EIS. The use of weapons-grade material is not part of the terminology used for the proposed action.*

**Comment: PMT-009-2**

A commenter wanted clarification on the purpose of the Megatons-to-Megawatts program, and whether dismantled Russian nuclear warheads would be used as feed material at the ACP. The commenter also wanted confirmation that the plant would not use material from dismantled U.S. warheads as feed material.

*Response: The EIS clearly states the proposed action is for the NRC to issue a license that would authorize USEC to possess and use special nuclear, source material, and byproduct material at the proposed ACP, a gas centrifuge uranium enrichment facility proposed to be located on the DOE reservation near Piketon, Ohio. The proposed action is not part of the Megatons- to-Megawatts program, which is discussed in section 1.3.1, nor does the proposed action involve dismantlement of U.S. warheads.*

**Comment: PMT-005-4**

A commenter asked about the potential of recreational opportunities on the surrounding waterways, such as the Mill Creek and along the Ohio and Scioto rivers, and urged that these waterways be kept or made clean.

*Response: The EIS assesses the potential impacts on surface and ground water quality and water use due to the proposed action and alternatives. Impacts to local receiving waters from proposed ACP facility operation wastewater discharges, including action levels will be based on discharge monitoring as described in section 6.1.4. The cumulative impact of the proposed action on local water resources is expected to be small as described in section 4.3.4 as all discharges for operation would have to meet EPA and State National Pollutant Discharge Elimination System standards, as well as DOE and NRC standards, which are designed to protect human health and the environment. During site preparation and construction (section 4.2.6.1), cumulative impacts could result in a moderate short-term cumulative impact on surface water quality due to increased erosion and storm water flows (not taking into account USEC's proposed Best Management Practices to mitigate surface water impacts) during operations. During operations, no liquid discharges of licensed radioactive materials are anticipated from the proposed ACP as described in section 4.2.6.2. Any effluents potentially containing radioactive material would have to meet NRC standards in 10 CFR Part 20 prior to being discharged or would have to be disposed at a licensed facility.*

**Comment: PMT-015-2**

A commenter stated that the Draft EIS offers "bad advice" by suggesting, for example, on page 2-18, that the Gas Centrifuge Enrichment Plant documents from the 1980s be destroyed. This would make it more difficult, the commenter stated, to determine what contaminants have historically polluted the groundwater at the site, thereby, impeding cleanup.

*Response: Any Gas Centrifuge Enrichment Plant records relating to contaminants are the property of the DOE (DOE). These records are retained by DOE and housed in appropriate storage locations in accordance with DOE requirements and environmental regulations.*

**Comment: PMT-015-8**

A commenter suggested that USEC has not adequately explained why it requires the license of 10 percent enrichment. The commenter noted that a competitor in New Mexico has only asked for a five percent license and the power industry does not require fuel enriched above five percent.

*Response: The National Enrichment Facility that Louisiana Energy Services has proposed to build near Eunice, New Mexico is being evaluated by NRC in a separate proposed action.*

*The NRC staff evaluates a license application to determine whether an applicant has demonstrated compliance with the regulatory requirements which pertain to the type of license being sought. In the case of the present license application from USEC to construct, operate, and decommission a uranium enrichment facility, the NRC staff evaluated the application against the Commission's regulations found at 10 CFR Part 70. The NRC's mandate is to ensure the safe use of nuclear materials and, as such, it must consider the issuance of licenses to applicants who wish to conduct operations involving these materials. Because USEC submitted an application for a license to enrich uranium up to 10 percent by weight of uranium-235, the NRC staff must evaluate that application as submitted.*

**Comment: 002-3**

A commenter noted that the Draft EIS provides information on the size of the Reservation in several places. For instance, on Page 2-2 the Reservation is described as encompassing 3,700 acres with 1,300 acres inside the perimeter loop road while on Page 3-1 (and also Page 3-5) the report states that within the Reservation there are 750 security-fenced acres with 550 acres in the central area surrounded by the Perimeter Road.



*Response: Perimeter Road encompasses 1,300 acres. Within Perimeter Road there are approximately 750 security fenced (i.e. controlled access) acres, 550 acres are occupied by the Gaseous diffusion plant, and approximately 200 acres would be occupied by the ACP facilities. Not all of these areas are continuous. Inconsistencies describing the size of the Reservation were corrected throughout the EIS.*

**Comment: 004-3**

A commenter stated the annual number of feed cylinders is different on page 2-22 than it is on page 4-47.

*Response: The proposed number of shipments of feed cylinders to the proposed ACP is 1,100 annually. This number has been changed in Table 4-10.*

**Comment: 005-5**

A commenter stated the Draft EIS (Page 2-14, Section 2.1.3.2 Secondary Facilities) does not discuss the potential to utilize additional buildings currently leased by USEC, Inc. The commenter questioned what other facilities may be used including those currently leased by USEC, Inc. to support the centrifuge program.

*Response: All facilities proposed to support the proposed action are discussed in the EIS.*

**Comment: 005-6**

A commenter asked (Page 2-29, Solid Waste Handling, Storage, and Transport, Line 30) what the NRC regulatory requirements for the management of low level mixed wastes are and where are they cited in the CFR.

*Response: Low level mixed waste is regulated under the Resource Conservation and Recovery Act (RCRA). As stated on page 2-30 of the EIS, "low level mixed waste is exempted from the storage requirements of the RCRA as defined in Ohio Administrative Code (OAC) 37455-103. Low level mixed waste is eligible for this conditional exemption as it is a hazardous waste and would be generated and managed by USEC as described in 40 CFR Part 266, Subpart N and OAC 3745-266."*

**Comment: 005-7**

A commenter suggested (Page 2-30 and 2-31, Management and Disposal of Depleted UF<sub>6</sub> from Facility Operation, line 45) that if USEC-ACP and DOE have reached agreement concerning the management of UF<sub>6</sub> cylinders, the information should be discussed. Additionally, the USEC-ACP and DOE should discuss the potential to insert a fourth process line within the conversion facility to limit the amount of time needed to complete the conversion process for the number of cylinders USEC will create over time. The DOE and USEC should be proactive in this matter and associated cost should be examined in this EIS.

*Response: As stated in Section 2.1.4.3 Facility Operation, USEC proposes to transport the depleted UF<sub>6</sub> generated at the proposed ACP to this new UF<sub>6</sub> conversion facility on the DOE reservation in Piketon. This plan is based on Section 3113 of the 1996 United States Enrichment Corporation Privatization Act that states the DOE "shall accept for disposal low-level radioactive waste, including depleted uranium if it were ultimately determined to be low-level radioactive waste, generated by [...] any person licensed by the Nuclear Regulatory Commission to operate a uranium enrichment facility under Sections 53, 63, and 193 of the Atomic Energy Act of 1954 (42 U.S.C. 2073, 2093, and 2243)." On January 18, 2005, the Commission issued its ruling that depleted uranium is considered a form of low-level radioactive waste. The Commission also stated that disposal of depleted uranium tails at a DOE facility represents a plausible*

*strategy for the disposition of depleted uranium tails (NRC, 2005).*

*In addition, DOE analyzed the impacts of the operation of a conversion facility in the "Final Environmental Impact Statement for the Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at the Portsmouth, Ohio site." DOE/EIS-0360, Oak Ridge Operations, Office of Environmental Management, U.S. Department of Energy, June, 2004.*

**Comment: 014-21**

A commenter observed (Page 2-12, Line 48) the Draft EIS states that UF<sub>6</sub> cylinders may be stored in any storage yard. The commenter suggested it should be clarified whether all of the cylinders will have comparable management and security whether they are depleted uranium or enriched product. The commenter questioned whether there will be any long-term staging of enriched materials for subsequent blending made between UF<sub>6</sub> cylinders that are tails/waste (suitable for processing and disposal), UF<sub>6</sub> product, and UF<sub>6</sub> materials that support production. Otherwise, mixing these UF<sub>6</sub> materials up in any of the storage yards seems to provide an opportunity for negative impacts related to UF<sub>6</sub> management.

*Response: There are seven cylinder storage yards that would support the ACP. The ACP cylinder storage yards would provide storage for feed uranium, depleted (tails) uranium, and enriched (product) uranium. These cylinders may be stored in any storage yard regardless of use, although it is anticipated that cylinders of a certain type will be routinely stored in a particular yard. For example, the X-745G-2 yard is identified as the storage yard typically used for tails cylinders. All storage yards will have management and security appropriate to the material being stored. It is possible that USEC could mix product to achieve a desired enrichment (e.g., USEC could blend 4 percent enriched product with 6 percent product to achieve a 5 percent product). In its license application, USEC is seeking authorization to enrich uranium up to a maximum level of 10 percent. No mixing or blending of materials contained in cylinders will take place in any of the storage yards. Any classified low-level mixed waste will remain on-site and be managed in accordance with the rules in Ohio Administrative Code 3745-266 until shipments can be scheduled to an approved Treatment, Storage, Disposal, Recycling Facility.*

**Comment: 014-22**

A commenter noted (Page 2-19, Line 29) the Draft EIS text and Table 2-3 provide information that approximately 8,000 cubic meters of low-level waste will be generated during refurbishment and construction activities. The commenter suggested the Final EIS should discuss its waste disposition, where the low-level waste is being shipped for processing and disposal, and whether any of this low-level waste is considered "mixed waste" under RCRA.

*Response: Section 4.2.13.1 of the EIS states that low-level mixed waste generated during the site preparation activities would be shipped to a licensed low-level radioactive waste disposal facility, such as Envirocare in Utah, which is subject to regulatory controls to limit radiological releases and exposure. Low-level mixed wastes anticipated to be generated during operation of the proposed ACP are described in section 2.1.4.3. Any low-level mixed waste generated will remain on-site and be managed in accordance with the rules in Ohio Administrative Code 3745-266 until shipments can be scheduled to an approved Treatment, Storage, Disposal, Recycling Facility.*

**Comment: 014-23**

A commenter suggested (Page 2-27, Line 18) this section of the Final EIS should discuss: 1) at what point the depleted uranium tails are considered a waste or a product; 2) who has the authority to make the determination that the depleted uranium tails are waste (especially considering that DOE may be the

recipient of these materials); 3) at what time the waste determination is made; 4) how much tailings/waste is expected to be generated annually; 5) whether there will be sufficient capacity on-site to process the tailings/waste for use or disposal; and 6) the disposal options currently available and potentially available in the future for the off-site storage or disposal of the tailings/waste.

*Response: A complete discussion of the depleted uranium tails is provided on page 2-30 through 2-34 of the EIS as well as on pages 4-75 through 4-78. The NRC has no authority to make a classification as to whether the tails are a waste or a resource. Section 3113(a) paragraph 4 of the USEC Privatization Act states that DOE must take title/possession of the depleted uranium tails if requested, regardless of whether a determination as to the material being a waste or resource has been made. For NEPA purposes, the NRC staff considers this material as waste due to the large volume of depleted uranium that is currently in storage in the United States. As discussed in the EIS on page 4-76, DOE is required to take title to the depleted uranium if requested. A 7 million SWU plant would produce 19,040 metric tons of depleted uranium tails annually (page 2-34 of NRC EIS). DOE has previously considered the long-term disposal of depleted uranium from their conversion facilities as noted on page 4-77 of the NRC EIS. Included in the DOE analysis were the two disposal sites: Envirocare of Utah and the Nevada Test Site.*

**Comment: 014-24**

A commenter observed (Page 2-30, Line 45) the United States has produced depleted UF<sub>6</sub> since the early 1950s as part of the process of enriching natural uranium for both civilian and military applications. DOE's Paducah Depleted UF<sub>6</sub> conversion facility will process that site's estimated 450,000 metric tons of depleted UF<sub>6</sub> over a 25 year processing period. DOE's Portsmouth Depleted UF<sub>6</sub> conversion facility will process that site's estimated 250,000 metric tons of depleted UF<sub>6</sub> that is currently stored in about 16,000 cylinders on the Portsmouth Reservation, as well as process an additional 4,800 cylinders that will be transferred from the Oak Ridge East Tennessee Technology Park facility to the Portsmouth Reservation; the overall processing period is expected to be 18 years. DOE expects the conversion of all its stored depleted UF<sub>6</sub> to cost approximately \$2.6 billion, excluding costs for the decontamination and decommissioning of the conversion facilities.

The Draft EIS states that 571,000 metric tons of depleted UF<sub>6</sub> will be generated during ACP operations, in 30 years generating as nearly as much depleted UF<sub>6</sub> as DOE has over nearly 50 years. The commenter stated this is a large amount of depleted UF<sub>6</sub> material that should be fully characterized in the Final EIS. Detailed information should be provided on depleted UF<sub>6</sub> management and disposal including: how long the ACP-generated depleted UF<sub>6</sub> will be stored on site prior to conversion; whether the Portsmouth Depleted UF<sub>6</sub> conversion facility has the capacity to process ACP-generated depleted UF<sub>6</sub> in an expedient timeframe; whether there are off-site facilities that have the capacity to process ACP-generated Depleted UF<sub>6</sub>; cost data, financial responsibilities and liabilities; and any NRC requirements for financial assurance or surety funds that will ensure that depleted UF<sub>6</sub> and other wastes generated due to ACP activities are properly managed, processed and disposed, without the cost passed on to other federal agencies and the public. Specifically, the commenter stated the Final EIS should include and address the following:

a) Detailed information on the Portsmouth Depleted UF<sub>6</sub> conversion facility since conversion of Depleted UF<sub>6</sub> is really an integral part of the overall enrichment process, with conversion of the mostly unmarketable depleted UF<sub>6</sub> being necessary for the long-term stability and management of that waste stream. Does the Portsmouth Depleted UF<sub>6</sub> conversion facility have adequate capacity to process the depleted UF<sub>6</sub> that the ACP will generate, in addition to the depleted UF<sub>6</sub> already in DOE's inventory? Is there off-site Depleted UF<sub>6</sub> conversion capacity in case that the Portsmouth Depleted UF<sub>6</sub> conversion facility cannot meet demand?

b) Section 3113 of the 1996 United States Enrichment Corporation Privatization Act that states the DOE “shall accept for disposal low-level radioactive waste, including depleted uranium if it were ultimately determined to be low-level radioactive waste, generated by [...] any person licensed by the Nuclear Regulatory Commission to operate a uranium enrichment facility under Sections 53,63, and 193 of the Atomic Energy Act of 1954 (42 U.S.C. 2073, 2093, and 2243).” If the gas centrifuge facility proposed by Louisiana Energy Services near Eunice, New Mexico is licensed by the NRC, is DOE obligated to accept its waste and Depleted UF<sub>6</sub>? Could accepting Louisiana Energy Services wastes impact the capacity of the Portsmouth Depleted UF<sub>6</sub> conversion facility and the ACP's ability to deal with the depleted UF<sub>6</sub> that it generates?

c) How long is the ACP-generated depleted UF<sub>6</sub> expected to be stored or accumulate on the Portsmouth Reservation prior to its conversion and off-site disposal? Information should be provided on a total inventory and per cylinder basis.

d) Considering the number of depleted UF<sub>6</sub> cylinders stored on the Portsmouth Reservation, and the number that will be generated by the ACP, is the Portsmouth Reservation the most suitable environment for the long-term storage of depleted UF<sub>6</sub>, whether prior to or after conversion?

e) What are all of the facilities available for the off-site storage and/or disposal of the post-conversion depleted UF<sub>6</sub>, both currently available and anticipated for licensing in the future? Will they have the capacity to accept all of the post-conversion depleted UF<sub>6</sub> generated as a result of ACP and historic ACP operations? Are there any issues that could affect DOE's ability to dispose of post-conversion Depleted UF<sub>6</sub> off-site from the Portsmouth reservation?

f) The Portsmouth Depleted UF<sub>6</sub> conversion facility is stated to have an operating life of 18 years, while the ACP is expected to operate for 30 years. Where will the ACP-generated depleted UF<sub>6</sub> be converted after operation of the Portsmouth depleted UF<sub>6</sub> conversion facility ceases? Does DOE have an obligation to operate a conversion facility to accommodate depleted UF<sub>6</sub> generated by the ACP and other enrichment facilities licensed by the NRC?

*Response: a) DOE has stated that, with routine facility and equipment maintenance, periodic equipment replacements, or upgrades, the Portsmouth conversion facility could be operated safely beyond the 18-year planned life-time period to process the additional depleted UF<sub>6</sub> from the proposed ACP (DOE Portsmouth site specific EIS, 2004a). In addition, DOE indicates the estimated impacts that would occur from prior conversion facility operations would remain the same when processing the proposed ACP wastes. The overall cumulative impacts from the operation of the conversion facility would extend proportionately with the increased life of the facility. The NRC believes that this added inventory of depleted UF<sub>6</sub> coming from the proposed ACP should not change the nature or magnitude of the impacts from the DOE conversion facility operations, but it would extend those impacts for some additional years.*

*b) Under the USEC Privatization Act, DOE must accept the depleted uranium tails if Louisiana Energy Services requests such transfer under the USEC Privatization Act. However, Louisiana Energy Services has stated that its preferred disposal option is to utilize a private deconversion facility. If Louisiana Energy Services does use the DOE option, however, DOE would have options for the management of depleted UF<sub>6</sub> conversion from outside sources. DOE could apply both the Paducah and Portsmouth conversion facilities to process the depleted UF<sub>6</sub> from the proposed National Enrichment Facility. The Portsmouth conversion facility could process 129,600 metric tons (142,860 tons) of depleted UF<sub>6</sub> waste from 2024 to 2036 at its planned capacity of 10,800 metric tons (11,800 tons) per year. The Paducah conversion facility could process 71,500 metric tons (78,815 tons) of depleted UF<sub>6</sub> from 2031 to 2036 at*

*its planned capacity of 14,300 metric tons (15,800 tons) per year. Combined, both DOE conversion facilities could process over 200,000 metric tons (220,500 tons), which exceeds the 197,000 metric tons (217,000 tons) from the proposed National Enrichment Facility. Therefore, DOE could process the depleted UF<sub>6</sub> prior to the end of the proposed National Enrichment Facility license of 2036 if DOE processed only the proposed National Enrichment Facility wastes. If DOE must also process USEC-generated depleted UF<sub>6</sub>, which would amount to 571,000 metric tons (629,420 tons) then DOE would have to install additional conversion lines at either or both the Paducah and Portsmouth conversion facilities to complete the conversion prior to the end of both the proposed ACP and National Enrichment Facility licenses, 2039 and 2036, respectively.*

*c) Detailed numbers are not available for the exact length of time depleted uranium cylinders would be stored on site prior to conversion and disposal. The DOE could take title to the depleted uranium and store the tails onsite until conversion capacity is available. If it is assumed that all USEC tails are converted at the Portsmouth conversion facility it would extend this facility's operating life from 2024 to 2077 at its planned capacity of 10,800 metric tons (11,800 tons) per year.*

*d) Section 3.14 of the EIS addresses waste management issues at the DOE reservation at Piketon, Ohio. All of the depleted uranium is the responsibility of DOE under memoranda of agreement between USEC and DOE. The depleted uranium stored at the DOE reservation is managed in accordance with applicable requirements, including those found in 40 CFR Part 266 and the Ohio Administrative Code 3745-266. The depleted uranium generated by operation of the ACP would be added to the existing inventory. As noted in EIS section 4.2.13, DOE has begun construction of a facility at the DOE reservation to convert depleted uranium into a more stable form for long-term storage and disposal. Impacts to the public associated with depleted uranium conversion and disposal are MEDIUM to SMALL. Impacts associated with storage are SMALL. As noted in EIS section 2.4, Table 2-8, overall waste management impacts are expected to be SMALL.*

*e) As discussed above, DOE has previously analyzed at least two disposal sites for the depleted uranium tails after the tails have been converted to a more stable form. The two sites previously analyzed were Envirocare (DOE's proposed disposition site) and the Nevada Test Site (DOE's optional disposal site). Additionally, the NRC reviewed the DOE's analysis and looked at the licensing requirements of Envirocare as well as the capacity impacts at Envirocare, approximately 11 percent of remaining capacity.*

*f) Under the USEC Privatization Act, DOE must accept the depleted uranium tails as waste if USEC requests such transfer under the USEC Privatization Act. DOE could apply both the Paducah and Portsmouth conversion facilities to process the depleted UF<sub>6</sub> from the proposed National Enrichment Facility. Additionally, DOE has stated that, with routine facility and equipment maintenance, periodic equipment replacements, or upgrades, the Portsmouth conversion facility could be operated safely beyond the 18-year planned life-time period to process the additional depleted UF<sub>6</sub> from the proposed ACP (DOE Portsmouth site specific EIS, 2004).*

**Comment: 014-25**

A commenter observed (Page 2-48, Line 23) the Draft EIS states: "The NRC staff has determined that unless USEC can demonstrate a use for uranium in the depleted tails as a potential resource, the depleted UF<sub>6</sub> generated by the proposed ACP should be considered a waste product." The commenter noted the Final EIS should state who has the authority to make the waste determination: NRC, DOE or USEC? The Final EIS should state when that determination is required to be made, or whether that determination should be made immediately upon depleted UF<sub>6</sub> generation. The Final EIS should define "depleted

uranium” in terms of its uranium-235 content for the purposes of management and waste disposition. The commenter questioned that although depleted uranium is commonly referred to as uranium having a percentage of uranium-235 smaller than the 0.7 percent found in natural uranium, does that definition hold true for the purposes of management and waste disposition, and DOE's acceptance of depleted uranium materials generated by NRC-licensed enrichment plants.

*Response: The NRC has no authority to make this classification. Currently, there is no specific regulatory requirement for when this determination must be made. Section 3113(a) paragraph 4 of the USEC Privatization Act states that DOE must take title/possession of the depleted uranium tails if requested, regardless of whether a determination as to the material being a waste or resource has been made. The NRC does not have the regulatory authority to set a precise definition for depleted uranium relative to the USEC Privatization Act, nor does the Act itself place specific limits on uranium-235 in depleted uranium.*

**Comment: 014-31**

A commenter suggested (Page 2-28, Line 20) considering the emissions from the former gaseous diffusion plant, the processing of recycled material and the processing of former Russian materials, ACP emissions should also be analyzed for transuranic radionuclides routinely.

*Response: USEC intends to initially use natural uranium in the form of UF<sub>6</sub> for the proposed ACP. Feed material that meets the American Standards for Testing and Materials specification for recycled feed may be used in the future, and may contain small quantities of radionuclides such as uranium-236 and technetium-99. Based on USEC's license application, no transuranic elements such as plutonium, americium, or neptunium are expected to be processed by the ACP in other than trace quantities. USEC does plan on analyzing effluents for technetium-99 because of the isotope's historic presence on the reservation. Analysis of expected dose from air releases of isotopes of the transuranic elements can not be performed in the EIS because there is no expected release source of the isotopes from the ACP.*

**Comment: 014-32**

A commenter observed (Page 2-28, Line 20) that the Draft EIS states that recycled feed may be used, and that four radionuclides will be analyzed, in the ACP emissions routinely, although this paragraph discusses five radionuclides (uranium-234, uranium-235, uranium-236, uranium-238 and technetium-99). The commenter suggested that the Final EIS should clearly state which radionuclides will be analyzed, as well as any non-radioactive hazardous emissions.

*Response: Feed material that meets the American Standards for Testing and Materials specification for recycled feed may be used, and may contain radionuclides such as uranium-236 and technetium-99. Due to historic contamination of the nuclear feed cycle and of the site, however, technetium-99 may eventually appear in some gaseous effluents. The radionuclides anticipated to be present in liquid effluents are, uranium-234, -235, -238, and technetium-99 due to historic contamination of the site. Consequently, ACP emissions will be analyzed for these four nuclides routinely.*

**Comment: 014-44**

A commenter stated (Alternatives, Section 2.1.4.3 Facility Operations, Air Emissions Monitoring and Treatment Systems, Page 2-28, paragraph 3) that the appropriate regulations should include 40 CFR 61, Subpart H for this facility. The commenter noted this facility is subject to this regulation and must meet all of the requirements of this rule before construction of this project can begin.

A commenter stated (Alternatives, Section 2.1.4.3 Facility Operations, Liquid Effluent Collection and Treatment Systems, Page 2-29, paragraph 4) the appropriate regulations have not included 40 CFR 61, Subpart H for this facility. The commenter noted this facility is subject to this regulation and must meet all of the requirements of this rule before construction of this project can begin.

*Response: The EIS states the applicability of the National Emission Standards for Hazardous Air Pollutants regulations of 40 CFR Part 61, Subpart H in several locations. The commenter is referred to Table 1-3, Section 4.2.4.1, 4.2.4.2, Section 4.2.12.3, and Section 4.3.2 which specifically reference the appropriate National Emission Standards for Hazardous Air Pollutants regulations of 40 CFR 61 Subpart H. For clarity, a reference to 40 CFR 61 Subpart H was added in Section 2.1.4.3.*

**Comment: 014-48**

A commenter stated that (Page 2-6, Line 1) under DOE's RCRA Corrective Action activities, various facilities across the Portsmouth Reservation had their environmental assessment and restoration activities "deferred" until the time when the gaseous diffusion plant decontamination and decommissioning work is performed. The commenter stated the Final EIS should state whether any of the facilities under Table 2-1 are considered "deferred," and if so, whether RCRA corrective actions have been performed at those facilities. This table should also state which facilities will have NRC-licensed activities occurring.

*Response: The purpose of Table 2-1 is to list the facilities and their size that would be associated with the ACP. Section 2.1.4.1, Refurbishment, Site Preparation, and Construction states that all construction activities would comply with all applicable permits; therefore, should any of the facilities be considered "deferred" the applicable RCRA corrective actions would be completed at such facilities, as appropriate, prior to construction of the ACP.*

**Comment: 014-49**

A commenter stated (Page 2-7, Line 2) the Final EIS should list and describe the primary facilities, and areas leased by DOE for the proposed ACP.

*Response: A list of primary facilities along with descriptions were provided in the EIS from pages 2-7 through 2-13. All facilities are leased from DOE.*

**Comment: 015-03**

A commenter suggested changing "48X source cylinder" on lines 13 and 23 of page 2-10 to "10-ton source cylinder," as shown on page 105 of the License Application, Revision 1.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-04**

A commenter suggests changing "The X-7725B building..." on line 47 of page 2-14 to "The X-7725C building..." as shown on page 2-5 of the Environmental Report.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-05**

A commenter suggests adding clarity to the text so that it cannot be misinterpreted as saying that the vent monitors have the capacity to monitor hydrogen fluoride gas in realtime. The commenter indicates that the text should state that the "gas flow monitoring instrumentation with local readouts" refers to total gas flow and accumulated radioactivity in the sample traps on lines 40-42 of page 2-27.

*Response: NRC agrees with the commenter that the sentence referring to the "gas flow monitoring instrumentation with local readouts" could be misinterpreted to imply a real-time effluent release monitoring system as opposed to an integral readout for those instruments. The follow-on sentence on lines 42 and 43 of page 2-27 of the EIS should reduce much of that potential for misinterpretation, as it explicitly refers to additional analytical instrumentation that will continuously monitor, sample, and alarm if UF<sub>6</sub> should escape in the effluent gas stream. Section 9.2.1.2.1 of the USEC's License Application provides the reference for these airborne effluent monitoring systems. The EIS text was revised to include the word "integral" before the phrase "gas flow monitoring."*

**Comment: 015-06**

A commenter noted that the description of the emission control systems on lines 43 to 2 on pages 2-27 and 2-28 is correct only for the X-3346, X-3356, and X-3366 buildings (the feed and withdrawal buildings). The commenter explained that the process building emission controls do not directly connect to process gas piping, do not have cold traps, and the alumina traps can be bypassed by the Evacuation Vacuum system.

*Response: NRC agrees with the commenter that the description on pages 2-27 and 2-28 of the EIS is most applicable to the feed and withdrawal buildings. In particular, the air emissions monitoring and treatment systems in the process buildings do not include cold traps. It is also true that the EV system can be used to bypass the alumina traps, but the USEC License Application on page 9-4, section 9.2.1.2.1, states that this mode of alignment for the system is only used during the initial pump down of the centrifuges prior to their exposure to UF<sub>6</sub>. If this protocol is adhered to then this bypass should not be a potential release pathway for UF<sub>6</sub> during operation. The EIS should therefore not be concerned with this potential system alignment when describing the airborne emissions control systems. The EIS text was revised to provide greater clarification.*

**Comment: 015-07**

A commenter pointed out that the liquid effluent As Low As Reasonably Achievable goal USEC proposed in the License Application is different than that for gaseous radioactive effluent releases, and is ten percent of the value presented (0.05 mrem/year) on lines 32-36 of page 2-29.

*Response: For liquid effluents, the applicant proposes an As Low As reasonably Achievable goal of 10 percent of the air effluent goal, or 0.05 mrem/year to the most exposed member of the public. This is much less than the 10 mrem/year goal recommended in NRC Regulatory Guide 8.37, Regulatory Position C.1.2. This change has been made in section 2.1.4.3.*

**Comment: 015-08**

A commenter suggested that lines 40 to 43 of page 2-29 should state, "Satellite accumulation areas would be established throughout the proposed ACP as necessary... Waste is then moved to the XT-847 Waste Management Staging Facility to be sampled and measured..."

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-09**

A commenter suggested changing "OAC 37455-103" to "OAC 3745-51-03" on line 33 of page 2-30.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*



**Comment: 015-10**

A commenter suggested changing "19,040" to "19,030" and changing "(21,000 tons)" to "(20,980 tons)" on line 33 of page 2-34 as indicated on page 4-130 of the Environmental Report, Revision 5.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-11**

A commenter suggested changing "42,800" to "41,105" and "571,200" to "512,730" on line 34 of page 2-34 as indicated on page 4-130 of the Environmental Report, Revision 5.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-12**

A commenter suggested changing "(630,000 tons)" to "(535,200 tons)" on line 35 of page 2-34.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-13**

A commenter suggested changing "\$1,433 million" to "\$1,842 million" and delete the footnote on line 39 of page 2-34, reflecting Revision 5 of the Decommissioning Funding Plan that assumes \$4.83/kg U for disposal cost of tails.

*Response: The NRC staff has revised the text of the EIS to reflect a tails disposal cost as \$1.8 billion.*

**Alternatives Considered but Eliminated**

**Comment: PMT-015-6; 014-16**

Two commenters stated the Draft EIS does not adequately address alternatives. One commenter suggested the potential benefits of cleaning the site and using Enterprise Zone incentives to reindustrialize the site. Another alternative, the commenter suggested, would be to locate laser isotope separation units at major power stations. A commenter stated the Final EIS should either (1) document a detailed analysis for the Paducah site, or (2) offer a more thorough justification for why the Paducah site was not studied in detail in the Draft EIS.

*Response: As discussed in Section 2.3 of the EIS, USEC undertook a site selection process to identify viable locations for the proposed ACP. The purpose of the NRC staff's review of USEC's site selection process is to determine whether an alternative site the applicant considered is obviously superior to the proposed ACP. The staff specifically considered Paducah site in Section 2.3.1. The NRC staff has determined that the ACP site selection process has a rational, objective structure and appears reasonable and that none of the candidate sites were obviously superior to the USEC preferred site in Piketon, Ohio; therefore no other site was selected for further analysis.*

**Comment: PMT-017-1**

A commenter encouraged the Federal government to consider the alternative of developing the site as an historic site.

*Response: NRC evaluated a range of reasonable alternatives in the EIS. However, the alternatives considered were those that satisfied the purpose and need for the facility, which is to produce enriched*

uranium. Because the potential development of the site as an historic site would not satisfy the need for the facility, it was not considered a reasonable alternative.

**Comment: 002-2**

A commenter noted that on Page 2-42, the Draft EIS states that Alternate Locations B and C within the Reservation were graded during construction of the Gaseous Diffusion facility. The commenter suggested the majority of both of these areas lie outside of the area that was disturbed by previous construction, and therefore, supports the selection of Location A as the preferred site.

*Response: As discussed in Section 2.3 of the EIS, USEC undertook a site selection process to identify viable locations for the proposed ACP. The purpose of the NRC staff's review of USEC's site selection process is to determine whether an alternative site the applicant considered is obviously superior to the proposed ACP. The staff specifically considered alternate locations within the Piketon site in Section 2.3.2. The NRC staff has determined that the ACP site selection process has a rational, objective structure and appears reasonable and that none of the candidate sites were obviously superior to the USEC preferred site in Piketon, Ohio; therefore no other site was selected for further analysis.*

**Comment: 014-17**

A commenter noted that the Draft EIS states: "The DOE-USEC Agreement stipulates that USEC deploy the ACP at either the DOE reservation in Piketon or Paducah. Also, no other sites offered the unique combination of (1) readily accessible environmental data; (2) past history and experience in uranium enrichment; and (3) the availability of skilled labor with uranium enrichment industry experience." The commenter asked whether the DOE-USEC Agreement was the appropriate legal means for determining the location of the ACP in the absence of an EIS. Considering that the Piketon plant ceased enrichment operations in 2001, the ACP would not begin operations until 2009, and that the gas centrifuge facility proposed by Louisiana Energy Services near Eunice, New Mexico would be located at a "green field" site where there have been no prior enrichment operations, are the three reasons provided for siting the ACP at Piketon truly valid for the purposes of an EIS?

*Response: The reasons stated in the DOE-USEC agreement are not within the NRC's regulatory authority. As discussed in Section 2.3 of the EIS, USEC undertook a site selection process to identify viable locations for the proposed ACP. The purpose of the NRC staff's review of USEC's site selection process is to determine whether an alternative site the applicant considered is obviously superior to the proposed ACP. The staff specifically considered alternate locations within the Piketon site in Section 2.3.2. The NRC staff has determined that the ACP site selection process has a rational, objective structure and appears reasonable and that none of the candidate sites were obviously superior to the USEC preferred site in Piketon, Ohio; therefore no other site was selected for further analysis.*

**Comparison of Predicted Environmental Impacts**

**Comment: 010-1-2**

A commenter strongly challenged the Draft EIS statement that "the impacts to historic and cultural resources identified onsite and around the site's perimeter would be small" (p. 2-38) and stated the document does not address the impacts in a way that is "historically responsible." The commenter suggested that substantial potential exists for the development of historical attractions, tourism, and sites of economically sustained commemoration at Sargents.

The commenter suggested several reasons for the Federal government to seriously consider the site's historical importance. The commenter cited the three historic homes of the Barnes, Sargent and Rittenour

families, the Scioto River history, the site's "unique" geological features, the passenger pigeon history (centered on the Barnes home), and the long-standing Native American presence, including a number of significant prehistoric earthworks as historically significant. The commenter also noted that there is no national memorial to the passenger pigeon and there are no current plans for building X-326. The commenter stated the building and operating of a uranium enrichment plant over the fence-line from the Barnes Home would severely impact prospects for a public center for education, tourism, and long term commemoration. Among the impacts listed by the commenter: fences; roads; traffic; security surveillance (including security gates and closed access to some roads); restrictions on movement; diminishment of attractiveness to visitors; risk of terrorist attack (keeping people away); compromises from noise; diminishment of the aesthetics of the site, public worries (real or justified) to the dangers of uranium enrichment near such a site; vulnerability of buildings, land and people to catastrophic accidents, toxic emissions and potential damage from decontamination activities.

*Response: The NRC staff considered the effects of construction and operations activities on the attributes that contribute to the historic significance and cultural values of historic structures and archaeological sites near the proposed ACP facility within the reservation fence-line as well as houses, other historic structures, archaeological sites and earthworks beyond the fence-line. The analysis found that constructing and operating the ACP "over the fence-line from the Barnes Home" would not harm the cultural, historical or architectural values of the Barnes Home or other individual sites, structures and places that may be linked in the future by an effort to commemorate and promote tourism associated with local history. The NRC staff also considered the potential impacts from land use changes, but did not identify any land use conflicts with existing zoning or formal development plans.*

#### **General Comments**

##### **Comment: 015-14**

A commenter suggested changing "United States Enrichment Corporation" to "USEC Inc." on lines 13,16, 19, 22, and 25 of page 2-64.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

##### **Comment: 015-15**

A commenter suggested changing "NRC Docket No. 70-2004" to "NRC Docket No. 70-7004" on lines 14, 17, and 20 of page 2-64.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

##### **Comment: 015-16**

A commenter suggested changing the text on line 27 of page 2-88 to read as, "...activity would involve a filament winding process, which will not..."

*Response: The NRC staff has revised the text in Chapter 4 to reflect the commenter's suggestion.*

## **J.10 Affected Environment**

### **Historic and Cultural Resources**

#### **Comment: 008-2**

One commenter asked NRC to explain the basis for the definition of the term cultural resources (Section 3.3). The commenter stated that the definition is important since it limits the range of phenomena upon which impacts are analyzed. The commenter stated that it does not appear that the definition is based on any United States or international guidance. The commenter noted that NRC should look at the concerns expressed and recommendations provided by the United Nations Educational, Scientific, and Cultural Organization in its Convention for the Safeguarding of the Intangible Cultural Heritage -- 2003.

*Response: The definition is not intended to be exclusive of intangibles such as those identified in the cited convention (oral traditions, performing arts, social practices, knowledge and practices concerning nature, traditional craftsmanship). By pursuing consultation with tribes that might have information or concerns, NRC attempted to identify elements of intangible cultural heritage that might be affected by ACP construction or operation, but no further information was provided by the tribes that provided initial expressions of concern. NRC described the proximity to the DOE reservation boundary of the kill site and exhibition site of the last passenger pigeon and considered the effects of ACP construction and operation on those locations in its analysis.*

#### **Comment: 008-3**

A commenter stated that the review process under Section 106 of the National Historic Preservation Act is inaccurately characterized as a process “done in consultation with the State Historic Preservation Officer (page 3-5);” later, passing reference is made to “provid(ing) Indian tribes the opportunity to identify concerns.” The commenter stated that, in fact, the Section 106 regulations (36 CFR 800) make it abundantly clear that the process is done in consultation with the State Historic Preservation Officer, Tribal Historic Preservation Officers, Indian tribes, and other interested parties. The commenter indicated that the failure of NRC to engage in such consultation is at the heart of the Draft EIS' inadequacies. The commenter suggested that NRC re-read the Section 106 regulations and relevant guidance from the Advisory Council on Historic Preservation and the Secretary of the Interior, and recast the discussion in the EIS to accurately reflect their direction.

*Response: The NRC staff agrees with the commenter that the Section 106 consultation potentially involves multiple parties. The NRC staff has attempted to consult with many Indian tribes with possible ties to southern Ohio as indicated by the Ohio Historic Preservation Office and the National Park Service. The NRC takes its Section 106 responsibilities seriously. The text of the EIS (sections 3.3.5 and 1.5.6.2) was updated to reflect the NRC's efforts at communicating and consulting with the various tribes.*

#### **Comment: 008-4**

A commenter stated that page 3-6 of the Draft EIS discusses an “area of potential effects” defined by the NRC staff for the project. The commenter believed the Area of Potential Effect appears to be based solely on the potential for direct and selected indirect physical effects and sees no evidence that direct or indirect visual, auditory, olfactory, or other non-physical effects were given any consideration, nor any evidence that cumulative effects on “cultural resources” of any kind were considered, in defining the Area of Potential Effect. The commenter requested that NRC reconsider the Area of Potential Effect with reference to all types of potential effects.

*Response: The Area of Potential Effect was selected to include the potential for effects that would alter the feeling or setting of cultural resources. This is why the Area of Potential Effect extends beyond the direct footprints for new construction which fall into two areas within the perimeter road, and includes the entire DOE reservation. Noise and visual effects of construction and operations, including associated vehicular traffic, were considered in the evaluation.*

**Comment: 008-5**

A commenter noted that the discussion of historic properties is overwhelmingly weighted toward specific archaeological sites and historic structures. The commenter argued that, particularly given the proximity of the project site to the Scioto Township Works, and the extensive cultural landscape modifications represented by such earthworks, it seems strange that so little consideration seems to have been given to cultural landscapes, and to relict landforms that may reflect such landscapes amid the damage caused to the area in the past by the DOE Reservation. The commenter requested that NRC consider attempting a more coherent, landscape-based approach to analysis of the area's historic properties.

*Response: As indicated in the EIS, the Scioto Township Works at its closest is within 250 meters from the reservation boundary and approximately 1 kilometer from the Perimeter Road, within which construction and operations activities will take place. As also indicated therein, the earthworks had suffered substantial damage by 1902 and the 1997 archaeological survey report indicated that "recent gravel quarrying and cultivation has destroyed virtually all of this earthwork complex." The EIS demonstrates that no ground disturbing effects will extend to land this far from the ACP and there will be no noticeable change to the visual or aural setting during operations. Thus, this remnant landform and others that might be linked in a historic or cultural landscape analysis will not be harmed by the ACP. Because of the distance of these from the Area of Potential Effect, consideration of a landscape that includes them and others even more distant is outside the scope of the EIS analysis.*

**Comment: 008-6**

A commenter indicated that page 3-9 of the Draft EIS describes unidentified "(i)nvestigators" who determined that 22 of the 36 previously unidentified archaeological sites "did not meet National register eligibility criteria." The commenter questioned the basis for these determinations, and the "investigator's" qualifications to make them. The commenter also asked how Indian tribes and other interested parties were consulted in the course of these evaluations. The commenter had the same questions pertaining to the evaluation discussed in the final paragraph on page 3-9.

*Response: The investigators were professional archaeologists working as contractors to the DOE under the direction of the authors of the reports cited in the text, i.e., Schweikert 1997, DuVall and Associates 2003.*

*The reports cited in the Draft EIS provide professional evaluations of eligibility with reference to National Register of Historic Places Criterion D. The bases for the reports' determinations of ineligibility include site integrity, potential informational value, and site type. Some of the sites were sparse lithic scatters with no culturally diagnostic artifacts and others were considered ineligible site types (cemeteries and isolated finds were not considered eligible under Criterion D). The reports did not indicate any consultation with tribes, but did indicate contact and coordination with the Ohio Historic Preservation Office. The NRC provided information from the Schweikert report in its initial consultation letters to tribes and local government agencies and provided copies of the report to those parties that requested it.*

**Comment: 008-7**

A commenter asked NRC to explain how it has completed its responsibilities under the Archaeological and Historic Preservation Act of 1974 (16 USC 469-469c-2) with respect to the individual archaeological sites discussed in section 3.3.3, and with respect to the prehistoric cultural landscape of which they are arguably parts.

*Response: As discussed in 4.2.2, the NRC determined that none of these sites would be adversely affected by its action in licensing the project. None of these sites fall within the construction footprint and so are not within the area of potential effect for direct effects. The vast majority of new construction falls entirely on lands that were previously cleared and graded during construction of the Portsmouth Gaseous Diffusion Plant in the 1950s.*

**Comment: 008-8**

A commenter asked how interested parties were consulted during the evaluation of the Gaseous Diffusion Plant discussed on page 3-10.

*Response: The evaluation of the Gaseous Diffusion plant was carried out by the DOE and their contractor. The NRC is not aware of the specifics of how DOE consulted interested parties. It is noted that the Ohio Historic Preservation Office expressed the opinion that the proposed ACP would not adversely affect the Portsmouth Gaseous Diffusion Plant historic property (see Ohio Historic Preservation Office letter on page B-3).*

**Comment: 008-9**

A commenter requested that NRC address the possible impacts of the proposed ACP on the landscape in the area of the location where the last passenger pigeon was killed, arguing that the location would likely be eligible for inclusion in the National Register of Historic Places.

*Response: As indicated in Section 4.2.2, ACP-related construction and operations activities will not change the existing setting or feeling of the DOE reservation or lands outside it. New construction would be consistent with existing buildings and facilities, and operation of the ACP would not result in noticeable changes in auditory environment from processing noise.*

**Comment: 008-10**

A commenter indicated that the discussion of the Barnes House is confusing in section 3.3.4. The commenter stated that if it is adjacent to the boundary of the reservation, it would seem that it must be subject to at least possible visual, auditory, or other non-physical effects, and impacts on its use, if not long-term physical impacts. The commenter asked for an explanation as to why NRC has not evaluated its eligibility for the National Register, and considered possible effects on it. The commenter further asked for an explanation of the relevance of the Ohio Historic Preservation Office's recommendation to the property owner regarding nomination of the site for the National Register of Historic Places.

*Response: The NRC assumed that the property is eligible for the National Register for purposes of its analysis based in part on the feedback from members of the public and the letter from the Ohio Historic Preservation Officer. The potential impacts to the Barnes Home were considered in the context of its assumed eligibility under Criteria A and C, as described on page 4-6 of the Draft EIS. The Draft EIS neglected to state explicitly that the topography (rolling hillside with trees) between the Barnes Home and the construction locations within the Perimeter Road means that a person in the Barnes Home would not see the new construction. Furthermore, the new construction is consistent with the existing setting and feeling of the DOE reservation and the Portsmouth Gaseous Diffusion Plant Historic District within it; so*

*even a person viewing the ACP from the fence line behind the Barnes Home would not see a landscape setting and feeling different from present conditions.*

**Comment: 008-11**

This commenter noted that Section 3.3.5 of the Draft EIS states that the Absentee Shawnee Tribe has indicated a concern about the Scioto Township Works and perhaps other earthworks in the area, but there is no evidence that the Tribe has been consulted about this concern. The commenter stated that there are copies of letters to various tribes appended to the Draft EIS (Appendix B), but these do not represent consultation; they merely inquire about whether the tribes have “specific knowledge of any sites that you believe have traditional religious and cultural significance.” The commenter requested that NRC review pertinent guidance from the Advisory Council on Historic Preservation, the National Register of Historic Places, and the U.S. Environmental Protection Agency’s Interagency Native American Environmental Justice Task Force, and explain the consultation with potentially concerned Indian tribes with reference to such guidance.

*Response: The staff has attempted to consult with many Indian tribes with possible ties to southern Ohio as indicated by the Ohio Historic Preservation Office and the National Park Service. The NRC agrees that the initial letters do not constitute consultation; rather they are the first step in finding additional information and consulting parties. The NRC staff followed up the letters with numerous phone calls to elicit information from the Tribes regarding their interest in participating in the Section 106 consultation process. The vast majority of these tribes indicated that they had no specific information or were not interested. Though the Absentee Shawnee never responded to our letter or phone messages the NRC designated them a consulting party based on a letter submitted on their behalf. The NRC also designated the Seneca Nation as a consulting party based on their interest in the project. The NRC is well aware of its responsibilities under the National Historic Preservation Act and the commenter’s reference to various tribal consultation guidance. The NRC takes these responsibilities very seriously as noted by the amount of staff effort that was expended in seeking information in this Section 106 consultation process. However, the NRC can not force a tribe to participate. After the initial letters were sent to the tribes, a follow-up phone call in June 2005 was placed to each tribe that had not responded or electronic communication was continued with some tribes that requested such methods. This process was repeated in August 2005. Through these various phone and electronic communications the NRC was able to determine that 13 of 15 recognized tribes either had no additional information or no interest in participating in the Section 106 process. The Seneca Nation expressed interest and the Absentee Shawnee never responded. The NRC staff’s efforts to communicate and consult with the various tribes is consistent with the guidance the commenter references.*

**Comment: 008-12**

A commenter stated that the purpose of Section 3.3.6 of the Draft EIS is unclear. The commenter asked for an explanation of what information this section, as opposed to those sections preceding it, is supposed to convey. The commenter also asked for clarification of the phrase “potential historic property,” and a description of properties that are not “potentially” historic.

*Response: The purpose of Section 3.6.6 is to present a list of properties identified as historic properties (properties listed on the National Register) as well as properties that NRC would consider to be eligible for Register listing in its assessment of project effects. NRC has revised the section heading to read "Historic Properties and Properties Considered Eligible for Listing on the National Register."*

## Climatology, Meteorology, and Air Quality

### **Comment: 014-20**

A commenter expressed concern about the use and/or disposal of chlorofluorocarbons at the Portsmouth Reservation. The commenter stated there was a large use of chlorofluorocarbons at the reservation, and that a significant amount of the Nation's chlorofluorocarbons emissions came from the reservation. Therefore, the commenter suggested the Final EIS should describe the types and amounts of chlorofluorocarbons at the reservation, and it should describe the planned use and/or disposal of chlorofluorocarbons at the reservation. The commenter requested that this discussion describe how chlorofluorocarbons management will comply with the Clean Air Act.

*Response: USEC has indicated that it will not use Freon TA (or other chlorofluorocarbons).*

### **Comment: 014-38**

A commenter observed (Affected Environment Section 3.5 3.1 Current Emissions at the DOE Reservation, Radiological Emissions, Page 3-20) that the regulations for the radionuclide National Emission Standards for Hazardous Air Pollutants are dose standards from emissions, so the notation of the becquerel and/or curie emissions is misleading. A variety of radionuclides are potential contributors, each with different doses associated with each becquerel or curie amount. The standard is a maximum dose to the potential Maximally Exposed Individual of 10 millirem per year in excess of background exposures. The 2004 values should be referenced, since this is an annual compliance demonstration and earlier demonstrations are not relevant to the current compliance status of the Portsmouth Reservation.

*Response: Using the released activity as a number can be misleading when trying to compare that to a dose-based standard, but in all cases for the Portsmouth site the values are well below the regulatory limits in the National Emission Standards for Hazardous Air Pollutants during the period of 2001-2003. According to the DOE Site Environmental Report for 2003 (DOE, 2004b), DOE emissions of radionuclides to the air in 2003 comprised a total of 0.00016 curies. This resulted in a maximum estimated dose of 0.0066 millirem. DOE also estimates the dose attributable to airborne releases from those facilities leased to USEC, the gaseous diffusion facilities and associated support buildings. The maximum estimated dose resulting from airborne releases in 2003 at the USEC operated facilities was approximately 0.033 millirem, providing a total maximum estimated dose from all sources of 0.04 millirem per year. The comparable value for 2002 was 0.031 millirem per year, consistent with the estimate for 2003. Both of these values are far below the 10 millirem per year limit in the National Emission Standards for Hazardous Air Pollutants rule. Based on the similarity of results for the period 2001-2003, which reflect a negligible dose well below regulatory limits, NRC does not believe changes were needed in the EIS.*

## Geology, Minerals, and Soil

### **Comment: 015-17**

A commenter noted that technetium-99 is misspelled on line 19 of page 3-24.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*



## Water Resources

### **Comment: 015-18**

A commenter noted that the Draft EIS is misleading when it states on line 40 of page 3-25 that Little Beaver Creek receives “treated process wastewater...ditch).” The commenter indicated that “process wastewater” is not received there, and the only treatment the water (except the groundwater) receive is a settling period in the X-230J-7 East Holding Pond; thus no decontamination solutions, or a comparable material are discharged to the creek.

*Response: The text of the EIS has been changed to reflect this comment.*

### **Comment: 015-19**

A commenter suggested deleting the word “process” on line 40 of page 3-25.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

### **Comment: 015-20**

A commenter suggested changing “612” to “012” on line 49 of page 3-25.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

### **Comment: 015-21**

A commenter suggested changing “19 permits” to “19 permitted outfalls” on line 15 of page 3-27.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

### **Comment: 015-22**

A commenter suggested changing “19 permits” to “19 permitted outfalls” on line 16 of page 3-27.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

### **Comment: 015-23**

A commenter suggested changing “permits” to “permitted outfalls” on line 28 of page 3-27.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

### **Comment: 015-24**

A commenter suggested changing “1” to “001” on line 5 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

### **Comment: 015-25**

A commenter suggested changing “2” to “002” on line 7 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-26**

A commenter suggested changing "0.125" to "003" on line 9 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text on page 3-28 to reflect the commenter's suggestion.*

**Comment: 015-27**

A commenter suggested changing "4" to "004" on line 11 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-28**

A commenter suggested changing "5" to "005" on line 13 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-29**

A commenter suggested changing "0.375" to "009" on line 15 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-30**

A commenter suggested changing "0.4167" to "010" on line 17 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-31**

A commenter suggested changing "11" to "011" on line 19 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-32**

A commenter suggested changing "0" to "012" on line 21 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-33**

A commenter suggested changing "0.042" to "013" on line 22 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-34**

A commenter suggested changing "0.125" to "015" on line 23 of page 3-28 in the Outfall Column.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-35**

A commenter suggested deleting "manganese" from the Parameters column on line 7 of page 3-30.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-36**

A commenter suggested adding “Cadmium” to the Parameters column on line 7 of page 3-30.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-37**

A commenter suggested deleting “Fluoride, manganese,” from the Parameters column on line 9 of page 3-30.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-38**

A commenter suggested adding “Cadmium, mercury,” to the Parameters column on line 9 of page 3-30.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-39**

A commenter suggested changing “weekly composite” to “monthly grab” on line 8 of page 3-31.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-40**

A commenter suggested adding “are taken quarterly” to the end of the sentence on line 11 of 3-31.

*Response: This information has been updated to reflect the correct information pertaining to sampling.*

**Comment: 015-41**

A commenter suggested adding “are taken quarterly” to the end of the sentence on line 15 of page 3-31.

*Response: This information has been updated to reflect the correct information pertaining to sampling.*

**Ecological Resources**

**Comment: 005-8**

A commenter noted (Page 3-36, Section 3.8 Ecological Resources, line 1) that all ecological resources should be managed appropriately. The ACP should limit disturbance to only those areas in and around the facilities needed for production.

*Response: The purpose of Section 3.8 is to define the ecological resources potentially affected by the proposed action. Section 4.2.7, Ecological Impacts, discusses the potential impacts which would be limited to only those areas in and around the facilities needed for production.*

**Comment: 005-9**

A commenter noted (Page 3-40, Section 3.8.3 Rare, Threatened, and Endangered Species, line 42) Ohio EPA has recently completed a stream survey of the creeks and streams surrounding the facility. The commenter suggested the EIS should include the recent data in the report for evaluations.

*Response: NRC consulted with the Ohio Department of Natural Resources, Division of Wildlife and Division of Natural Areas and Preserves and with the U.S. Fish and Service to identify both State and*

*Federally-listed threatened and endangered species. Through the publication and review of the EIS, the Ohio EPA and the Ohio Department of Natural Resources, Division of Wildlife and Division of Natural Areas and Preserves and with the U.S. Fish and Service all had the opportunity to comment on the Draft EIS. Those agencies did not indicate any deficiencies in the data that would alter the analysis or conclusions.*

**Comment: 015-42**

A commenter suggested changing “X-611a” to “X-611A” on line 34 of page 3-40.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-43**

A commenter suggested changing “X-611b” to “X-611B” on line 35 of page 3-40.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-44**

A commenter suggested deleting the Q1 and Q4 on line 37 of page 3-41 in Table 3-12 since they are not used.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Environmental Justice**

**Comment: 014-45**

A commenter (Affected Environment Section 3.10.2 Low-Income Populations, Table 3-25, Page 3-59) observed there appears to be a typographical error in the Weighted Average Threshold for “One Person” in the table. The commenter suggested this needs to be clarified for any type of comparability.

*Response: NRC has revised the text accordingly.*

**Comment: 008-20**

A commenter asked why the environmental justice analysis gave no consideration to disproportionate adverse environmental impacts to the cultural interests of such minority groups as the Absentee Shawnee and other tribes. The commenter suggested that NRC review pertinent EPA guidance and address these impacts.

*Response: The NRC staff used both demographic data and scoping to identify minority and low-income populations. The analysis used to identify the location of minority and low-income persons and the results are presented in Section 3.10 of the EIS. The environmental justice guidance provided by the Executive Order 12898, the NRC, or the Council on Environmental Quality requires that any disproportionate impacts to minority and low-income populations near the site be identified and addressed. The NRC staff also examined environmental pathways to determine if any minority or low income populations appear to be disproportionately at risk. None of the impacts that were greater than SMALL were found to disproportionately affect minority or low income populations as detailed in Section 4.2.9 of the EIS.*

## Public and Occupational Health

### **Comment: 014-46**

A commenter stated (Affected Environment Section 3.13.1 Background Radiological Exposure, Page 3-65 paragraph 1) the standard is a maximum dose to the potential Maximally Exposed Individual of 10 millirem per year in excess of background exposures. The 2004 values should be referenced since this is an annual compliance demonstration and earlier demonstrations do not reflect the current compliance status of the facility. The commenter stated that neither of the new proposed facilities at the Portsmouth Reservation has submitted information to demonstrate their potential compliance status in an opening status to date. The estimates provided cannot be considered to be adequate until such time as they have been fully evaluated.

*Response: Data from 2002 and 2003 show no significant changes in the compliance status for the site under National Emission Standards for Hazardous Air Pollutants. USEC included expected operating releases in their license application to NRC, and these numbers were used by the NRC staff to model the expected maximum doses from operation of the ACP. These results are discussed in Chapter 4 of the EIS. Future compliance for the ACP will be demonstrated by an annual National Emission Standards for Hazardous Air Pollutants report filed by USEC.*

### **Comment: 015-45**

A commenter suggested changing "healthy work effect" to "healthy worker effect" on line 24 of page 3-69.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

## Waste Management

### **Comment: 014-26**

A commenter observed (Page 3-71, Line 42) the Draft EIS states: "Section 3113(a) of the USEC Privatization Act (Public Law 42 104-134) requires DOE to accept low-level radioactive waste, including depleted uranium that has been determined to be low-level waste, for disposal, upon the request of, and reimbursement of costs by, the United States Enrichment Corporation. To date, this provision has not been invoked, and the form in which the depleted uranium would be transferred to DOE has not been specified."

The commenter stated the Final EIS should state who makes the low-level waste determination. Considering that during its operation the ACP is expected to generate about 571,000 metric tons of depleted UF<sub>6</sub>, nearly as much as DOE generated during its 50 years of enrichment operations, the Final EIS should clearly specify how ACP will manage depleted UF<sub>6</sub> throughout the full term of the NRC license, including the form in which the depleted uranium would be transferred to DOE. The Final EIS should describe an implementable and legally defensible disposition path for all of the wastes that the ACP will generate.

*Response: On January 18, 2005, the Commission issued its ruling that depleted uranium is considered a form of low-level radioactive waste. The Commission also stated that disposal of depleted uranium tails at a DOE facility represents a plausible strategy for the disposition of depleted uranium tails. The tails most likely will be transferred to DOE in the form of depleted UF<sub>6</sub>.*

**Comment: 014-27**

A commenter observed (Page 3-75, Line 5) the Draft EIS states: "Classified/sensitive waste is any waste considered as such for security reasons. These materials may be classified due to configuration, composition, contamination, or contained information. Classified waste may be categorized as non-hazardous waste or as low-level radioactive depending upon its point of and method of generation."

A commenter stated the ACP will be a commercial facility operating on leased federal property for commercial production purposes. The Final EIS should state and describe: 1) who will have the authority at the ACP to make "classified/sensitive" determinations; 2) third party federal reviews of the "classified/sensitive" waste determinations that are made; 3) whether any of the "classified/sensitive" wastes are exempt in any way from U.S. Environmental Protection Agency, Ohio Environmental Protection Agency, or NRC regulatory authority; 4) whether it is possible for ACP personnel to make "classified/sensitive" waste determinations; 5) whether ACP personnel will have authorities delegated to it by DOE, such as under the Atomic Energy Act; 6) whether there will be activities at the ACP that are subject to DOE oversight and exempt from NRC regulation; and 7) why a commercial facility with a civilian mission would generate "classified/sensitive" wastes requiring "classified/sensitive" determinations. Also, the Final EIS should state whether RCRA-regulated mixed wastes could be generated that are considered classified.

*Response: The classified/sensitive waste is primarily classified machine parts from the ACP process equipment and secondarily documents and electronic or other media containing classified/sensitive information. The machine parts may be radioactively contaminated (i.e., low-level waste), but are not expected to be a hazardous waste. The documents and media are normal office waste except for the classified/sensitive information and will be disposed of as such, following destruction in accordance with the ACP Security Program.*

*There is no regulatory time limit associated with accumulation and disposal of classified/sensitive waste. Classified material that is to be shipped off-site to an approved facility for disposal is placed in, and accumulated within, approved secure storage containers or attended until such time that the shipping off-site is deemed necessary (i.e., until an economically practical amount for a shipment to a disposal facility is available). The current generation rate for classified/sensitive waste is very low, so it is anticipated that a single shipment may require an extended period to accumulate. Consequently, the storage time could range from a month to years before USEC Inc. accumulates enough classified waste to fill a single disposal container. Classified/Hazardous waste will have a 90-day accumulation time limit. Shipments of low-level mixed waste will occur approximately every 90 days. Any classified Low-level mixed waste will remain on-site and managed in accordance with the Low-level mixed waste rules in Ohio Administrative Code 3745-266 until shipments can be scheduled to an approved Treatment, Storage, Disposal, Recycling Facility.*

**Comment: 014-28**

A commenter observed (Page 3-75, Line 12) the Draft EIS states: "Classified waste is stored onsite prior to disposal in classified offsite disposal facilities." The Final EIS should state the duration that classified waste is stored on site prior to offsite disposal and who has the regulatory authority for classified waste generated by ACP personnel or any other personnel at the USEC-leased areas.

*Response: Classified wastes would be stored in accordance with the appropriate security and regulatory requirements and would be disposed at an appropriate site in accordance with regulatory requirements.*

**Comment: 015-46**

A commenter suggested changing "16,190" to "16,109" on line 38 of page 3-74 in Section 3.14.3.1 in order to be consistent with Table 3-31.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-47**

A commenter suggested changing "XT847" to "XT-847" on line 13 of page 3-74.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-48**

A commenter suggested changing "United States Enrichment Corporation" to "USEC Inc." on lines 33, 36, and 42 of page 3-80.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-49**

A commenter suggested adding "NRC Docket No. 70-7003" before the date on line 34 of page 3-80.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**General Comments**

**Comment: PMT-008-1**

A commenter asked what happened with the centrifuge plant in the seventies and were there environmental impacts then.

*Response: Section 2.1 briefly discusses the former gas centrifuge plant that was developed in the 1970's in terms of dismantling the former facility and disposing of the material. The environmental impacts of the development and operation of the former gas centrifuge plant were discussed in the Final Environmental Statement, Portsmouth Gaseous Diffusion Plant Expansion, Piketon, Ohio. (ERDA-1549, September 1977, section 5.1.3 pages 5-8 through 5-39).*

**J.11 Environmental Impacts**

**Historic and Cultural Resources**

**Comment: PMT-010-2**

A Commenter expressed frustration over the description of the Barnes home in the Draft EIS as qualifying under criteria A and C, and then not explaining from where those criteria came.

*Response: The National Register eligibility criteria are listed in the second paragraph of Section 3.3.*

**Comment: PMT-010-4**

A commenter expressed concern that he was not made a consulting party with respect to historic and cultural resources review during the development of the Draft EIS even though the commenter had made his interests known to the NRC starting in December 2004. The commenter noted that he had information that he would make available to the NRC and would also be happy to give NRC a tour of his property.

*Response: The NRC used the information supplied by the commenter in its analysis of effect on historic properties. For example, the commenter provided extensive scoping comments in February 2005 as well as multiple submittals to the NRC's Atomic Safety and Licensing Board in the ongoing formal hearing. The commenter requested to be a consulting party on August 9, 2005. The NRC, as required by the Section 106 regulations, consulted with the Ohio Historic Preservation Office who concurred with making the commenter a consulting party. The NRC transmitted notice of the commenter's consulting party status in a formal letter dated September 6, 2005. Further attempts were made to solicit information from the commenter in emails dated October 24, November 23 and December 7, 2005.*

**Comment: PMT-010-4-1**

A commenter noted that there were only three properties listed in the Draft EIS as being historic properties. The commenter stated that information submitted to the Atomic Safety and Licensing Board with detailed information about all the historic properties in the affected area, including the Sargent Home, and the Rittenour home.

*Response: The NRC focused its identification and evaluation effort on the Area of Potential Effect (see box on page 4-5). The Sargent home and Rittenour home fall outside the Area of Potential Effect.*

**Comment: PMT-010-4-2**

A commenter stated that the importance of the Rittenour estate were the numerous Indian earthworks. The commenter noted that one of the earthworks, a long, linear earthwork seized by DOE in 1983 by eminent domain and is one of the places where DOE and then USEC has placed their water field from which they will draw the water to supply ACP. The commenter stated that the Draft EIS lacks data on the earthworks located on the water field site, called the Gas Centrifuge Enrichment Plant water field down along the Scioto river. The commenter indicated that there is a statement available from three experts certifying that there is an earthwork there, right underneath the wells from which USEC will draw water.

The commenter stated that the problem in the Draft EIS analysis is that it follows the USEC model of analyzing only the overall water usage of the plant. The commenter stated that the real question is what is the impact of water usage at the earthworks site where the earthworks are located. The commenter stated that the National Historic Preservation Act mandates that studies be done when such a cultural resource is found on Federal land. The commenter argued that part of the Section 106 review that the Draft EIS completely neglects and overlooks is the requirement to mandate studies of the hydrological impacts on those cultural resources that have been identified on Federal land.

*Response: The commenter is referred to Sections 4.2.2.2 and 4.2.6.2 of the Draft EIS for discussion of the potential that subsidence and associated alterations in ground surface would occur around water wells used to supply ACP operations. It is also noted that, subsequent to publication of the Draft EIS, the NRC received a statement from Mr. Blaine Beekman, a local resident and President of the Piketon Chamber of Commerce, who described construction of three levees along the Scioto River after a 1959 flood (see comment 011-1 in the Water Resources section). Two levees were constructed to protect agricultural fields. One, in and around the area of the Gas Centrifuge Enrichment Plant well field, was constructed in the 1980s and 1990s of quarry overburden to clear space for additional excavation and to protect the lower terrace against flooding for future quarrying activities.. From this information, it appears that the earthworks of concern to the commenter are flood control levees constructed within the past 50 years. The NRC agrees with the commenter that Section 106 does require identification of historic properties and a good faith effort to carry out appropriate identification efforts within the Area of Potential Effects The NRC does not agree that it is required to either fund or carry out further studies if*



*adequate information is available to identify historic properties. The NRC believes adequate information is available about these flood control levees to determine that they are not historic properties. It is still the NRC's position that there would be no effect on these structures from continued pumping at this DOE well field.*

**Comment: PMT-017-2**

A commenter stated that the extinction of the passenger pigeon is an incredible historical tale and right here, in Pike County, at the site of the Barnes house, and on that property, is where that last bird was shot, and that makes this location quite important in the history of the environment of the United States, the history of Pike County, the history of southern Ohio, the history of Ohio, the history, really, of our nation. The commenter noted that the Draft EIS states that there are no large impacts on historic and cultural resources. The commenter believes that the proposed ACP would have a large impact and that the facility will continue to desecrate Native American sacred spaces.

*Response: The NRC does not disagree with the commenter about the importance of the passenger pigeon extinction; however, there is no evidence, either through the NRC's review or presented by the commenter, that there are any possible effects on the attributes that would make the passenger pigeon kill site eligible for the National Register. The existing DOE Gaseous Diffusion Plant is part of the cultural landscape and has been for over 50 years. The proposed ACP would not change that landscape as all proposed structures are similar in stature, color, shape, to the existing Portsmouth Gaseous Diffusion Plant. The proposed ACP would serve the exact same purpose as the Portsmouth Gaseous Diffusion Plant and operations activities would not be noticeably different from previous activities at the plant, when viewed or heard from outside plant buildings. With regard to Native American concerns, as indicated on pages 3-9 and 4-9 of the Draft EIS, the distance of the Scioto Township Works from the construction area and the fact that new operations activity would not be noticeably different lead to the conclusion that ACP construction and operations would not change the existing setting and feeling of this site that was mentioned in a letter from the Absentee Shawnee Tribe of Oklahoma.*

**Comment: 002-1**

A commenter stated that throughout the discussions of cultural resources and consultation with the Ohio Historic Preservation Office, the Draft EIS offers the impression that there is concurrence that there will be no historic properties affected by the proposed and cumulative project development. The commenter noted: 1) the inset table on Page xxii defines "Small" as "...effects that are not detectable or are so minor that they would neither destabilize nor noticeably alter any important attribute of the resource;" 2) Table 2-7 (Page 2-38), presents the finding that the impacts to historic and cultural resources would be small. This finding is repeated in Table 2-8 (Page 2-50); 3) on Pages 4-5 and 4-6, the Draft EIS states that there is concurrence with the OHPO on a finding of "no effect" for the undertaking and that the impacts would be "SMALL." The commenter stated that it was the intent of the letter dated May 20, 2004, to set forth as part of ongoing consultation the commenter's interpretation that the proposed project would not adversely affect historic properties. That is, there are historic properties in the Area of Potential Effects, but the proposed project will not diminish the qualities and characteristics that make them significant. The commenter believed that the changes will be noticeable and in some ways the immediate impacts from the proposed undertaking are perhaps more along the lines of MODERATE as compared to SMALL impacts. The commenter stated that from a philosophical perspective, as the Gaseous Diffusion technology is replaced there will be changes to the Cold War buildings but since science is not static we shouldn't expect our recognition of significance based on science and technology to require static preservation.

*Response: NRC did not intend to imply that there are no historic properties in the Area of Potential Effects. We agree that there are historic properties within the APE, and we agree with the commenter*

*that "the proposed project will not diminish the qualities and characteristics that make them significant," or, as the regulations specify in the definition of "effect" at 800.16(i), there will be no project-related "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register."*

*The document has been changed to reflect commenter's interpretation that the proposed project would not adversely affect historic properties.*

*The characterization of impacts on a scale from SMALL to LARGE is a departure from National Historic Preservation Act Section 106 evaluation of effect, referring rather to Council on Environmental Quality guidance as explained on DEIS page 4-1. NRC believes that under those definitions, "important" attributes equate to "characteristics of a historic property qualifying it for eligibility for the National Register," or, in the terms of the commenter, "the qualities and characteristics that make a property significant." Thus a characterization of MODERATE would apply if an undertaking were to noticeably alter "important" attributes, that is, attributes that qualify a property for the National Register. Given the commenter's statement that "there are historic properties in the Area of Potential Effects, but the proposed undertaking will not diminish the qualities and characteristics that make them significant," NRC believes that the characterization of a SMALL level of impact under the CEQ guidance is appropriate.*

**Comment: 002-5**

The commenter noted that on Page 3-7, the Draft EIS states that an initial archaeological survey of the DOE reservation was completed in 1952 and reportedly found no evidence of archaeological materials with reference to a 1977 Environmental Impact Statement. The commenter requested a copy of relevant portions of this 1977 document. The commenter suggested that it might be helpful to include copies of selected portions in the Final EIS report for this undertaking. The commenter further stated that it can be difficult to compare meaningfully work completed in 1952 when there was no authority to take into account effects of undertakings on historic properties with work being conducted today (and since 1986) under authority of the National Historic Preservation Act of 1966, as amended, and its implementing regulations at 36 CFR 800.

*Response: NRC agrees that it is difficult to rely on early work as a basis for archaeological inventory but included the 1952 information in the EIS for completeness.*

**Comment: 002-6**

A commenter stated that there are several places where the Draft EIS refers to sites, buildings, structures, and districts with potential National Register eligibility. For instance, the Draft EIS states that identified archaeological sites that have not yet been fully evaluated for National Register eligibility (and refers to them as potentially eligible) be treated as eligible for inclusion in the National Register (Page 4-5 - inset text box). There are also references to the potentially eligible Barnes Home and potentially contributing elements within the historic district. The commenter believed that there is a slight and subtle shift in the meaning of the word potential differentiating potential effects and potential impacts from potential significance and potential eligibility, and that this shift in meaning could lead to some confusion if not clarified. Regarding the 14 identified archaeological sites that have not been fully evaluated for National Register eligibility, the commenter suggested that NRC consider language that establishes the specific measures that will be taken to protect the sites from effects during this undertaking until such time as sufficient information is available to complete the evaluation; that is, treat them as archaeological sites that are being protected not as historic properties that are being protected. For the Barnes House, and for the listed Scioto Township Works I archaeological site, the commenter suggested assessing the potential

for the undertaking to have effects based on those qualities and characteristics that are known and understood to contribute to the importance of these properties recognizing that we may have a better understanding of these properties in the future.

*Response: The NRC agrees that the use of "potential historic properties" appeared to confuse readers, and the heading of Section 3.3.6 will be revised to read "Historic Properties and Properties Considered Eligible for Listing on the National Register." The NRC chose to treat unevaluated sites as if they were Register-eligible in order to provide decision makers with a conservative estimate of project effects. As indicated in the evaluation, there are no expected direct effects on these sites, and indirect effects of worker vandalism would be controlled through standard best management practices. Thus, the ACP project will have no effect on these unevaluated sites, and the DOE and State Historic Preservation Officer can continue to define what is needed to complete their evaluation. NRC attempted in its impact assessment for the Barnes Home and the listed Scioto Township Works site to address precisely what the commenter suggests, the qualities and characteristics currently known to contribute to their importance (architectural and associational qualities of the Barnes Home; informational values and traditional cultural values of the Scioto Township Works). The basis for NRC's finding that the project would not alter the characteristics currently known to qualify the sites for listing or eligibility for the National Register - the distance of the sites from project-related changes from existing conditions - should encourage those who expect that the understanding of these properties will be improved in the future, for it means that this project is unlikely to jeopardize other characteristics that may come to be known as significant.*

**Comment: 002-7**

A commenter stated that the Draft EIS carefully considers the use of existing wells and finds that this will not result in changes to the ground around the wells and will not result in increased maintenance activities around the wells that has the potential to adversely affect historic properties. The commenter further noted that if the wells immediately west of the Reservation are on an embankment that is part of an earthwork complex dating to some 2,000 years ago and if this archaeological site meets National Register criteria, the commenter would agree with NRC's inclusion of this area with the project's finding, that the use of the existing wells will not adversely affect historic properties, provided that sufficient safeguards and conditions are in place to continue consultation if future work is proposed around these wells, or becomes necessary around these wells, that would have the potential to adversely affect historic properties. The commenter recommended that NRC develop appropriate conditions to provide for preservation the areas around the wells until such time as these areas can be more fully evaluated.

*Response: Subsequent to publication of the Draft EIS, the NRC received a statement from Mr. Blaine Beekman, a local resident and President of the Piketon Chamber of Commerce, who described construction of three levees along the Scioto River (see comment 011-1 under Water Resources). Two levees were built to protect agricultural fields after a 1959 flood. The embankment to which the commenter is referring was constructed of quarry overburden dumped between the DOE wells and the riverbank to free space for more excavation and to protect the adjacent terrace for future quarrying. Thus it appears that there is no need for additional evaluation of the embankment around the wells. It is still the NRC's position that there would be no effect on this embankment from continued pumping at this DOE well field.*

**Comment: 002-8**

The commenter is in general agreement with the conclusions and findings presented in the Draft EIS. Within the integrated NEPA review process, this reaffirms the commenter's interpretation that the proposed ACP undertaking will not adversely affect historic properties. The commenter noted that there

are some places in the Draft EIS where it would be helpful for the documentation to provide greater clarity and precision to facilitate the discussion of archaeological sites, architectural properties and other kinds of cultural resources, within the overall assessment of effects. The commenter believes it would also be helpful to reinforce language that establishes conditions to restrain effects from rising to adverse levels.

*Response: For greater clarity, the NRC staff has created a summary table of the historic properties and properties considered eligible for listing on the National Register, and the historic values associated with them. All of these properties were evaluated within the overall assessment of effects regardless of whether or not they are actually listed on the National Register.*

*The NRC has established no formal conditions for USEC regarding effects on historic and cultural resources; however, USEC would only be licensed to conduct activities in the form described in Chapter 2 of the EIS. In other words, site preparation and construction would only be permitted in the southwest quadrant of the central area of the DOE reservation and in the cylinder storage yard area just north of the Perimeter Road in the northeast part of the DOE reservation. Operations activities would only take place in the primary and secondary facilities described in Chapter 2. The net result is that USEC's proposed action would not cause ground disturbance in areas where there are properties potentially eligible for the National Register under Criterion D, and would not cause any change in feeling or setting in areas where there are properties potentially eligible under Criteria A or C.*

**Table J-1 Historic Properties and Properties Considered Eligible for Listing on the National Register**

Resource Name	Description of Historic Value
Portsmouth Gaseous Diffusion Plant Historic District	This site is eligible for listing on the National Register under Criterion A, "associated with events that have made a significant contribution to the broad patterns of our history." The specific buildings and other elements that contribute to the district's eligibility under Criterion A and the precise boundaries of the district have not yet been defined.
Prehistoric lithic scatter (33 Pk 210)	This site was thought to be eligible for listing on the National Register under Criterion D, "have yielded, or may be likely to yield information important in prehistory or history." However, further archaeological survey results indicated that the site does not meet this criterion and thus is not Register-eligible (DuVall & Associates, 2003; DOE, 2003a). For the purposes of this impact analysis, however, the site was treated as if it were eligible.
Thirteen historic farmsteads	These sites may be eligible for listing on the National Register under Criterion D, "have yielded, or may be likely to yield information important in prehistory or history," but a final determination has not been made. For the purposes of this impact analysis, the site was treated as if it were eligible.
Scioto Township Works	This site is listed on the National Register under Criterion D for its archaeological values. In addition, the Absentee Shawnee Tribe has indicated that this site has cultural values.
Barnes Home	This site may be eligible for listing on the National Register under Criterion A for the historical significance associated with the Sargent's Passenger Pigeon and Criterion C for the property's architectural significance. However, a final determination has not been made. For the purposes of this impact analysis, the site was treated as if it were eligible.
Bailey Chapel	Portsmouth Gaseous Diffusion Plant Historic District

**Comment: 008-13**

A commenter stated that Section 4.2.3; Page 4-5 again includes NRC's definition of Area of Potential Effect but provides no justification for the definition (denying the possibility of other-than-physical impacts). The commenter again asked NRC to reconsider its Area of Potential Effect definition with reference to contemporary best practice.

*Response: The Area of Potential Effect was selected to include the potential for effects that would alter the feeling or setting of cultural resources. This is why the Area of Potential Effect extends beyond the direct footprints for new construction which fall into two areas within the perimeter road, and includes the entire DOE reservation. Noise and visual effects of construction and operations, including associated vehicular traffic, were considered in the evaluation.*

**Comment: 008-14**

A commenter stated that Section 4.2.2.1 of the Draft EIS first suggests that various activities could have effects on historic properties by destroying or altering contributing elements of the Gaseous Diffusion Plant, but then vaguely implies that such effects will be "properly controlled" and hence will have "no effect." The commenter argued that this is not a possible determination under the Section 106 regulations. The regulations permit "conditional" determinations of "no adverse effect," but not conditional determinations of "no effect" (strictly speaking, determinations of "no historic properties subject to effect"). The commenter stated that if actual procedures are to be put in place, developed in consultation with the SHPO and other interested parties, by which to "properly control" damage or destruction of historic properties and their elements, then perhaps a determination can be made that there will be no adverse effect, but not no effect. The commenter suggested that NRC review the requirements contained in 36 CFR 800.5 and reconsider this section of the EIS.

*Response: The NRC did not include conditions in its conclusion that there would be no direct or indirect effect on the contributing elements of the Portsmouth Gaseous Diffusion District. Language in the second sentence of Section 4.2.2.1 has been clarified to remove the reference to "control" of construction activities. Nevertheless, in response to Comment 002-1, NRC has changed the finding in the FEIS to "no adverse effects on historic properties." Please see the response to Comment 002-1 for discussion of the change.*

**Comment: 008-15**

A commenter suggested that NRC's determination with respect to the archaeological sites continues to express ignorance of any cultural landscape values or traditional cultural values that may be ascribed to the landscape by Indian tribes or others. The commenter requested that NRC review the pertinent regulations and guidance and reconsider this analysis.

*Response: The EIS demonstrates that no ground disturbing effects will extend to land outside of the construction footprint and there will be no noticeable change to the visual or aural setting during operations. Thus, Scioto Township Works and other earthworks that might be linked in a historic or cultural landscape would not be harmed by the ACP. Because of the distance of these from the Area of Potential Effect, consideration of a landscape that includes them and others even more distant is outside the scope of the EIS analysis.*

**Comment: 008-16**

A commenter stated that on page 4-6 of the Draft EIS, NRC concludes that there will be no effect on the Scioto Township Works, but it does so (a) without any clear definition of the actual boundaries of the Works or their possible relationship to other cultural landscape features, and (b) without any consultation

with the Absentee Shawnee or other tribes that may (and in the case of the Absentee Shawnee, say they do) ascribe cultural significance to the Works and other landscape features in the area. The commenter requested that NRC review pertinent Advisory Council, National Register, and EPA guidance and reconsider this casual dismissal of effects on the site.

*Response: Distance to the closest portion of the Scioto Township Works is specified on pages 3-9 and 4-5 of the EIS. The NRC staff has attempted to consult with many Indian tribes with possible ties to southern Ohio as indicated by the Ohio Historic Preservation Department and the National Park Service. The NRC staff sent letters and made phone calls to elicit information from the Tribes regarding their interest in participating in the Section 106 consultation process. The vast majority of these tribes indicated that they had no specific information or were not interested. Though the Absentee Shawnee never responded to our letter or phone messages, the NRC designated them a consulting party based on a letter submitted on their behalf. No further comments were received from the Absentee Shawnee Tribe of Oklahoma after the initial letter submitted as part of a petition for intervention, although two letters were sent to the attention of the Ohio Historic Preservation Office at the address provided on the initial letter.*

**Comment: 008-17**

A commenter expressed concern over the discussion of the Barnes Home. The commenter stated that NRC has provided no evidence that it has performed any sort of analysis of the Barnes Home's eligibility – suggesting instead that it is the property owner's responsibility to nominate the place to the National Register. The commenter argued that NRC has developed no basis whatever to say anything about the eligibility of the Barnes Home, the elements that may contribute to that eligibility, or the effects of the project (direct, indirect, or cumulative) on such elements. The commenter requested that NRC develop such a basis, in consultation with interested parties and in a manner consistent with pertinent guidance.

*Response: As indicated on EIS page 3-10, correspondence from the Ohio Historic Preservation Office indicated that the property may be eligible under criteria A and C. Information about the property was also provided as part of a submittal in support of an intervention. Although it is not the responsibility of NRC staff to nominate it, the staff treated it as eligible for purposes of analysis.*

**Comment: 008-18**

A commenter noted that Section 4.2.2.2 of the Draft EIS seems to be predicated on the assumption that the only possible “indirect” effects of facility operation would be vandalism by workers within the facility boundaries. Please explain the rationale for this assumption. The commenter asked if there will be no other long-term indirect or cumulative effects on the local environment that might alter historic properties, and why should vandal workers stay within the fence? The commenter also questioned why NRC considers only the “information values” of the Scioto Township Works, considering that the Absentee Shawnee Tribe, at least, has indicated concerns that may well go beyond information values?

*Response: Section 4.2.2.2 is a series of paragraphs exploring potential operations effects to different site types. Sources of effects are identified as regular presence of operations personnel on the DOE reservation and movement of trucks in and out and within the reservation. Of these sources, it is expected that truck movements would not affect archaeological sites, workers might. The NRC considered both the effects on information values at Scioto Township Works, and also effects on existing setting or feeling of the site; please see the entire first paragraph on page 4-7 of the EIS.*

**Comment: 008-19**

A commenter noted that throughout the discussion of impacts on historic and cultural resources, potential impacts are referred to as "SMALL." The commenter asked what this means with reference to (a) the significance of impacts under NEPA and (b) the criteria of adverse effect found in 36 CFR 800?

*Response: The characterization of impacts on a scale SMALL to LARGE is a departure from National Historic Preservation Act Section 106 evaluation of effect, referring rather to Council on Environmental Quality guidance as explained on EIS page 4-1."*

**Comment: 008-26**

The commenter argued that NRC simply dismissed the potential impacts to cultural resources in the Draft EIS, making a determination that no significant impacts would occur, and then writing the Draft EIS to justify this assertion.

*Response: The NRC takes its responsibilities under National Historic Preservation Act and related guidance very seriously. The NRC believes that it identified cultural resources within the area of potential effect and objectively evaluated possible project-related impacts. As discussed in 4.2.2, the NRC determined that its action in licensing the project would have no effect as defined at 36 CFR 800.4.d.1 on cultural resources within the Area of Potential Effect.*

**Comment: 010-2-1**

A commenter stated that no analysis was ever done on the potential historic properties in the area in accordance with the National Historic Preservation Act.

*Response: The NRC identified both properties listed on the National Register and properties that may be eligible for listing. The NRC focused its identification effort to the Area of Potential Effect, which excluded some historic structures in the surrounding area that some of the commenters brought to NRC's attention.*

**Comment: 010-2-2**

A commenter stated that the existing site has been a detriment to the community and enlarging it will continue that degradation. The commenter went on to state that, in the process, it will destroy more Hopewell Indian relics and more of the early history of Ohio will be lost.

*Response: The analysis did not identify Hopewell Indian sites in any area where there will be ground disturbance. As discussed in 4.2.2, the NRC determined that none of the archaeological sites discussed in the EIS would be adversely affected by its action in licensing the project.*

**Visual and Scenic Resources**

**Comment: PMT-010-3**

A commenter disagreed that the Draft EIS states there are no aesthetic or visual impacts to the commenter's personal property.

*Response: As indicated in Section 4.2.2, ACP-related construction and operations activities will not change the existing setting or feeling of the DOE reservation or lands outside it. New construction would be consistent with existing buildings and facilities, and operation of the ACP would not result in noticeable visible changes. The topography (rolling hillside with trees) between the Barnes Home and the construction locations within the Perimeter Road prevents a direct line of sight between the Barnes*

*Home and the new construction sites. Furthermore, since the new construction is consistent with the existing setting and feeling of the DOE reservation and the Portsmouth Gaseous Diffusion Plant Historic District within it, a person viewing the ACP from the fence line behind the Barnes Home would not see a landscape setting and feeling different from present conditions.*

#### **Climatology, Meteorology, and Air Quality**

##### **Comment: 014-29**

A commenter (Page 4-11, Table 4-1) expressed concern that modeling data for air contaminants was missing from the Draft EIS. The Draft EIS provides predicted concentrations for some criteria pollutants during site preparation and construction activities at the project site. The Draft EIS, however, omits data for ozone and lead. The commenter recommended that the Final EIS should include this information. The ozone forecast data should be presented as an 8-hour average, and the lead forecast data should be presented as a quarterly average, in order to compare the data to the National Ambient Air Quality Standards for these pollutants.

*Response: The proposed action will not emit any lead emissions to the atmosphere. Thus no modeling for lead is needed. The Piketon facility is located in an attainment region for ozone. Ozone is formed as a result of precursor emissions of nitrous oxide (NO<sub>x</sub>) and volatile organic compounds. The maximum rate of emissions that may occur is the operation of the facilities twenty-six 900 horse power diesel-powered emergency generators and daily commute and delivery truck trips. The generators are for emergency use only and will only be permitted to operate for a maximum of 500 hours per year. Total annual emissions from the operations are 143 tons per year of oxides of nitrogen and 4.9 tons per year of volatile organic compounds. These emission rates are well below the threshold amount for New Source Review trigger of 250 tons per year of any regulated New Source Review pollutant. Because ozone formation is a regional issue affected by emissions for an entire area, the small additional cumulative contribution to the county total would be unlikely to substantially alter the ozone levels of the county.*

##### **Comment: 014-34**

A commenter (Page 4-10) commended NRC for proposing mitigation measures during construction of the proposed project to reduce air quality impacts. According to the Draft EIS, the NRC staff determined that the majority of particulate emissions emitted during construction would come from construction vehicle exhaust. Therefore, in order to reduce particulate emissions from construction vehicle exhaust, NRC recommended that USEC: (1) use Tier 2 construction-related vehicles, which would reduce diesel particulate emissions by about 40 percent; and (2) use ultra-low sulfur diesel fuel. The commenter urged NRC to establish these mitigation measures in the construction contracts for the proposed project, and to document these mitigation measures in the Record of Decision.

*Response: The NRC acknowledges the commenters support for the proposed mitigation measures. However, it should be noted that the NRC is not involved in USEC's contracting process. Because the percentage reduction in particulate matter emissions due to implementation of this measure is expected to be small, and because the site is located in an area that is exempt from restrictions on emissions from fugitive dust, the NRC staff does not believe inclusion of this mitigation measure as a license condition for the proposed ACP is warranted.*

##### **Comment: 014-35**

A commenter observed (Environmental Impacts Section 4.2.4.2, Facility Operation, Radiological Emissions, Pages 4-14, 4-15) that several different isotopes are mentioned in this discussion, but emissions appear to be aggregated without a clear discussion of the relative percentages of each



radionuclide's contribution to the total emissions. Disaggregating should be done in the Final EIS, so that a more accurate determination of potential exposures can be made and evaluated for the resulting health consequences, if any, attributable to ACP.

*Response: Section 4.2.4.2 provides a description of the radiological release sources and the methods in place to monitor the releases. It also lists the expected isotopes on page 4-14, but as noted in the comment does not break them out by contribution to the total emission. The activity of the isotopes of uranium were retained as a single total in this discussion because that was necessary to compare the total uranium activity airborne concentration to the concentration limit in the applicable regulation, 10 CFR part 20, Appendix B Table 2. We agree that the contribution by isotope is important for the demonstration of compliance with the National Emission Standards for Hazardous Air Pollutants air release standards, and to estimate public health effects. The release amounts by isotope are discussed in section 4.2.12.3 as part of the analysis of Public and Occupational Health Impacts. These individual isotopic values are not important to the discussion in section 4.2.4.2; including them in this section would introduce unnecessary redundancies in the document.*

**Comment: 014-39**

A commenter observed (Environmental Impacts Section 4.2.4.1 Site Preparation and Construction. Radiological Emissions, Page 4-11 paragraph 1) the statements here regarding 40 CFR 61, Subpart H are potentially misleading as to the potential health effects from exposures, by subtly indicating that the data and standard are not based on any measured data. The commenter stated this is incorrect and should be either discussed in the Final EIS, or the Final EIS should state the standard's requirements or demonstration of compliance.

*Response: Section 4.2.4 is concerned with compliance with various air quality standards; 40 CFR Part 61 Subpart H is a dose based standard rather than an air permit limit stated in pounds or concentration. The point of paragraph 1 on page 4-11 of the EIS is simply to identify that fact. Demonstrating compliance with a standard based on radiation dose includes not just information about the amount and type of radiological source, but must also include knowledge regarding transport of the radioisotope to the receptor, the uptake methods for the receptor, and the relative effectiveness of the radioisotope in question for delivering dose for that given uptake method. In all cases, some of the knowledge required comes from measurements and is then augmented by modeling. The dose analysis for site preparation and construction is provided in section 4.2.12.2 of the EIS. Including the standard and the analysis for estimating compliance with the standard for the ACP during site preparation and construction would be redundant to the analysis in 4.2.12.2 of the EIS.*

**Comment: 015-50**

A commenter suggested revising bulletized item as "X-3356 and X-3366 Product and Tails Withdrawal Buildings;" on line 7 of page 4-14.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-51**

A commenter suggested adding "X-3366" after "X-3356" on line 25 of page 4-14.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

## Water Resources

### **Comment: PMT-015-5**

A commenter stated that the ACP models the highest possible flood using the low rate five times that of the historical flood of 1937, the highest possible flood actually reached a lower height than the 1937 flood.

*Response: The floodplain was based on the latest version of the Federal Emergency Management Agency Flood Insurance Rate Maps (ODNR, 2005).*

### **Comment: 004-5**

A commenter asked about the quality of the water as a result of the previous USEC plant at Piketon, and whether there were testing procedures and reports regarding the quality of the water.

*Response: The EIS discusses both surface water and groundwater quality within and around the Piketon facility. DOE issues an annual environmental report for the facility that includes both groundwater and surface water sampling results.*

### **Comment: 005-1**

A commenter (Page xxiii, Water Resources, line 29) requested a description of what type of best management practices would be utilized to minimize the impact to water resources from construction activities. The commenter stated the Ohio EPA has completed stream sampling from around the DOE reservation. The data should be included in the EIS to evaluate the impact potential construction activity may have upon the streams and creeks surrounding the facility. USEC must ensure that there is limited impact to the streams.

*Response: Section 3.7, Water Resources, and Section 4.2.6 Water Resource Impacts discuss the best management practices that would be used, which are further described in Section 4.2.6.1, Site Preparation and Construction. Section 3.7 presents the most recent surface water sampling results from the 2003 annual environmental report issued in 2004.*

### **Comment: 005-2**

A commenter (Page xxiii, Water Resources, line 29) requested a description of how the ACP intends to utilize a Spill Prevention and Control and Counter measure plan when they do not control all the holding ponds at the site. Please describe how coordination between USEC, DOE and UDS would be implemented to prevent a spill from leaving the site.

*Response: Details of the ACP spill control measures and an assessment of the impacts are presented in Section 4.2.6 Water Resource Impacts. Page xxiii, Water Resources is part of the executive summary and does not contain the a detailed analysis and description of the impacts.*

### **Comment: 011-1**

A commenter provided a report on the origin of a series of levees along the Scioto River in southern Pike County. There are three separate levees. The northernmost is on the Nier property at the U.S. Route 23 entrance to Piketon DOE facility. The middle levee is partially located on a DOE well field located next to the Scioto River on the old Billy Cutlip farm. The third levee extends across 10 farms beginning at the Barnes property and extending south along the river to the Will Acord farm. The northern and southern levees were built in response to 1959 floods to protect agricultural fields from future flooding. The middle levee was built for technical and economic reasons. When the DOE wells were being drilled in the

1980s, the pipeline from the river to the steam plant required the addition of concrete and ground cover over the original concrete anchors in order to hold the line in place. According to the commenter, the “result is a levy-like [sic] appearance.” Concurrently, and into the 1990s, the Standard Slag company, owners of a sand and gravel quarry on the former Cutlip farm, moved its overburden down to the river and built a levee between the wells and river to make space for expansion. At first the levee was kept mowed and it was possible to drive on it, but when Standard Slag determined that it would not be able to quarry the terrace next to the levee, the levee was no longer maintained.

*Response: This comment provides information about the age and origin of the embankment observed in one of the DOE well fields. Other commenters expressed concern that the embankment might be a Native American earthwork related to others in the area, such as the Scioto Township works; and that continued use of the well field might affect such an earthwork (see comments PMT-010-4 and 008-5). NRC addressed the potential for effects on the embankment in the Draft EIS in Section 4.2.6.2.. NRC added information received in this comment to Section 3.3.4 of the FEIS, in association with the concern expressed by other commenters.*

**Comment: 014-41**

A commenter observed (Page 6-9, Line 3) the ACP Draft EIS states that due to historical operations, The DOE reservation has multiple plumes of groundwater contamination. The Final EIS should also describe: 1) whether any of these plumes reside in areas leased for the ACP facilities; 2) whether the ACP facilities and areas have been certified as being free of environmental media contamination (soil, groundwater, etc.); 3) whether ACP operations are expected to contribute to groundwater contamination and to what extent; and 4) whether the ACP will have its own groundwater monitoring program independent of DOE's. The Final EIS should include maps of groundwater contamination at the Portsmouth complex to aid in the description.

*Response: Sections 3.7 and 4.2.6, Water Resources discuss the nature and extent of groundwater contamination and its impacts associated with the ACP.*

**Comment: 015-52**

A commenter suggested changing “012” to “013” on line 17 of page 4-21.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-53**

A commenter suggested changing “013” to “012” on line 18 of page 4-21.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-54**

A commenter suggested changing “weekly composite” to monthly grab” on line 33 of page 4-23.

*Response: The NRC staff has revised the text to reflect the correct information.*

**Comment: 015-55**

A commenter suggested adding “are taken quarterly” to the end of the sentence on line 37 of page 4-23.

*Response: The NRC staff has revised the text to reflect the correct information.*

## **Ecological Resources**

### **Comment: 003-7**

A commenter expressed concern about wildlife and groundwater contamination, and the need for better protective measures at the site. The commenter noted that a three-strand barbed wired fence surrounding the facility was not sufficient and reported that uranium had been found in the liver of a deer that had been tested from on site. The commenter also questioned what provisions were being provided for unplanned releases and whether the Draft EIS considers existing contamination in addition to what USEC may produce in the future.

*Response: NRC reviewed the impacts on wildlife in Section 4.2.7, and found that the impacts would be small. Section 4.2.7.2 states that radiological emissions associated with the ACP are safe for humans, which is adequate for the protection of wildlife. In addition, the environmental measurement and monitoring programs described in Section 6 are adequate protective measures.*

*In accordance with the requirements of Subpart H of 10 CFR Part 70, the NRC evaluated the potential consequences associated with an unplanned release in Appendix H, for the proposed ACP, and summarized the results in Section 4.2.12. When combined with the likelihood of the accident, as evaluated in the staff's Safety Evaluation Report, the NRC found that the accidents pose an acceptably low risk and would result in small to moderate impacts to workers, the environment, and the public.*

### **Comment: 005-10**

A commenter stated (Page 4-26, Section 4.2.7.2 Facility Operation, line 37) the EIS should discuss the impact to rare, threatened and endangered species should an air release or incident occur which could release hydrogen fluoride or radioactivity into the atmosphere. The EIS should also discuss deposition and potential areas of the site which would be impacted.

*Response: NRC evaluated the potential risk associated with an unplanned release in Appendix H, Accident Analysis for the Proposed ACP, and summarized the results in Section 4.2.12. NRC found that the accidents pose an acceptably low risk and would result in small to moderate impacts on workers, the environment, and the public.*

### **Comment: 013-1**

The U.S. Department of the Interior submitted a statement that it has reviewed the Draft EIS, NUREG-1834, for the Possession and Use of Source, Byproduct, and Special Nuclear Materials at USEC Inc.'s American Centrifuge Plant, Pike County, Ohio (Docket No. 70-7004). The Draft EIS adequately addresses the concerns of the Department of the Interior regarding fish and wildlife resources, as well as species protected by the Endangered Species Act. The Department of the Interior concurred with the conclusions of the U. S. Nuclear Regulatory Commission staff with respect to the potential impacts of the proposed action and its reasonable alternatives on these resources and species. The Department of the Interior had no comment on the adequacy of other resource discussions presented in the document.

*Response: The comment is noted.*

## Socioeconomics

### **Comment: PMT-002-6**

A commenter stated that the proposed ACP is not fiscally responsible and that taxpayers are ultimately subsidizing the nuclear industry.

*Response: The fiscal implications and impact on taxpayers of licensing the ACP is outside the scope of this EIS. The NRC is responsible for protecting public health and safety and the common defense and security by establishing requirements for the possession and use of radioactive materials. As part of its licensing evaluation, the NRC considers the financial qualifications of a license applicant to safely perform the activities for which the license is sought and the financial commitments the applicant is making to carry out decommissioning. The NRC, however, does not evaluate the overall profitability of the applicant's proposed activities.*

### **Comment: PMT-011-2**

One commenter discussed the positive impacts the proposed USEC plant would have on the local economy. The commenter noted that the NRC evaluated both the direct and indirect economic impacts from the plant determined that there would be small to moderate impacts. Most are positive impacts, such as jobs and tax revenues. This conclusion seems reasonable, the commenter stated, based on the understanding of USEC project.

Site preparation and construction is estimated to cost \$1.4 billion between 2006 and 2010. USEC, the commenter noted, states it will spend approximately \$1.7 billion on the plant from 2002 until its completion. The commenter noted "that's a lot of money" for the local economies here in Piketon, Chillicothe, and all of southern Ohio. It means up to 500 jobs, both direct for the reservation and indirect for contractors in the region.

In addition to the multiplier effect on the local economy, the commenter noted, these workers will be supporting our local businesses and "that's good for everyone."

The cost estimates to construct and operate the plant were based on a facility that would generate 3.5 million SWU per year, as you just heard, but the draft environmental impact statement and USEC's environmental report anticipated growing the plant's output to 7 million SWU per year and that means more machines, more jobs, and more money into your local economy. The Draft EIS does not anticipate any additional problems from increasing the plant's output to 7 million SWU.

During the site preparation, refurbishment, and construction, it is anticipated that there will be 3,362 new full-time jobs created in the local economy. There is also an anticipated increase of \$2.3 million in annual state income tax revenues and an increase of \$3.7 million in annual state tax receipts. During American Centrifuge operation, 1,500 jobs are anticipated to be created as a ripple effect into the community. The state will potentially benefit from \$1.8 million to \$2.4 million in additional annual income in sales tax receipts, respectively.

At the end of the life of the centrifuge plant, there would be a decommissioning phase. When the plant is closed, that time frame could be much longer as the experience from the gaseous diffusion plant shows. The gaseous diffusion plant began operation in 1956 and was not shut down until 2001 and it still has not

been decommissioned, but when it is, there will be jobs for that work as well. The NRC estimates that \$435 million will be spent over six years to decommission the ACP.

*Response: The NRC acknowledges the commenter's information.*

**Comment: PMT-014-1, 004-7, 007-2, 009-2**

A commenter stated the Draft EIS contains enough information for us to predict that the ACP would create 374 new jobs over the short-term building period, followed by a net loss of 1,358 jobs in the operations period.

A commenter stated that according to the Draft EIS, the ACP would cost about \$3 billion to construct the centrifuges. The Enterprise Zone program of the state of Ohio would expect about 15 thousand new jobs to be created for that scale of capital investment. The commenter stated that it appears from the Draft EIS that there would be a net loss of jobs rather than an increase in jobs while jobs would be lost at Paducah. The commenter asked NRC to clarify this discrepancy and asked whether there be an overall loss of jobs with a great capital investment.

A commenter stated that the Draft EIS claims are made about the net gain of jobs for our community if USEC is licensed to proceed with the ACP. Figures as high as a net gain of 3,000 jobs are alluded to in the Draft EIS. However, using USEC's own data, we see that after the decommissioning of the old Portsmouth Gaseous Diffusion Plant and with the operation of the proposed ACP there will actually be a net loss of jobs in the community. Even if we had no other concerns about the USEC proposal, we would have grave concerns about a project that promises to cost the community so much and pay back so little.

A commenter stated that according to calculations by Portsmouth/Piketon Residents for Safety and Security, the new facility would create a total net loss of 1,558 jobs. If the site were converted to Enterprise Zone type of manufacturing, spending the same amount of money would create 25 times the 600 jobs projected by USEC. The commenter stated the Draft EIS treats alternatives poorly. For example, there was very little discussion of the benefits of cleaning up the site and using Enterprise Zone initiatives to industrialize the site. The commenter stated the Sierra Club would like to see this type of analysis in the Draft EIS.

*Response: The commenter does not specify what baseline is being used in concluding there will be a "net loss" in jobs as a result of building and operating the ACP. It would be inappropriate to compare total employment at the ACP with total employment at the Portsmouth Gaseous Diffusion Plant because the decision to place the Portsmouth Gaseous Diffusion Plant in cold storage status was independent of the decision to build the ACP. The cessation of operations at the Paducah Gaseous Diffusion Plant will result in the termination of most operations phase jobs at that plant and the associated indirect jobs. These losses would be temporarily mitigated to some extent by the hiring of decommissioning workers in the event that the Paducah plant was to be decontaminated and decommissioned.*

*In each year between 2006 and 2010, average annual employment in the region of influence resulting from site preparation, refurbishment, and construction activities is estimated at 3,362 full-time jobs. This estimate includes both direct and indirect employment. In each year between 2004 and 2013, average annual employment as a result of centrifuge manufacturing and assembly activities is estimated at 2,130 full-time jobs. This estimate includes both direct and indirect employment. During each year of the 30-year operations phase of the ACP commencing approximately in 2011, average annual employment as a result of operations phase activities is estimated at 600 full-time jobs and 900 indirect jobs in the region of influence.*

*These are all "new" jobs which would not exist if the ACP was not built and operated.*

*Continuing DOE activities at the site may provide separate sources of employment, other than those listed above; however, it is out of the scope of the EIS to speculate on these activities.*

*It is not within the scope of the EIS to assess the labor intensiveness of the uranium enrichment industry versus other types of industry. However, it is notable that the ACP represents an upstream infrastructure industry. It is the output of such industries that create the infrastructure to support a competitive manufacturing and services sector (and the associated employment), both nationally and locally. From an economic perspective, the replacement of resource-intensive gaseous diffusion technology by state-of-the-art centrifuge technology will substantially lower the cost of nuclear fuel and thereby improve the competitiveness of the domestic manufacturing and services sectors, which support large numbers of jobs.*

*The site preparation and construction phase of the ACP is estimated to cost \$1.45 billion for a 7 million SWU capacity plant. The centrifuge manufacturing and assembly phase is estimated to cost \$1.4 billion for a 7 million SWU capacity plant.*

**Comment: PMT-016-3**

A commenter stated the Draft EIS overlooks a possibility that USEC may have misled the State of Ohio in order to win various incentives. For example, on page 7-1 of USEC's ACP Environmental Report, the commenter noted that on August 15 USEC issued requests for proposals to the Commonwealth of Kentucky and State of Ohio to site the ACP at the respective gaseous diffusion plant. Both States were offered an opportunity to provide financial or other incentives to reduce the cost of the ACP. By all accounts, the cost of the ACP as understood by the State of Ohio was \$1.5 billion; however, page 7-2 of the Draft EIS gives the cost of building the ACP and manufacturing centrifuges at \$2.872 billion.

The commenter stated the Draft EIS does not consider that the cost of the ACP is unlikely to be met by private investors. For example, in addition to the costs mentioned above, this position would cost \$2.758 billion based on 571,000 metric tons of tails for a 7 million SWU plant, and -- at \$4.83 per kilogram disposition cost, this compares with a license application's estimate of \$0.72 billion for tails disposition.

Further, the commenter indicated that decommissioning would cost \$0.435 billion, according to Draft EIS page 7-2 (estimated in the license application as \$0.130 billion). The commenter stated that USEC appears to have uniformly underestimated costs by a factor of between three and four, so the total cost, without the withheld information about running cost, is about \$6.65 billion. By comparison, when USEC went public, it raised just \$1.5 billion in its initial public offering. This was \$1.0 billion short of the \$2.5 billion required for its atomic vapor laser isotope separation program. The commenter noted the atomic vapor laser isotope separation program was cancelled.

*Response: The difference in cost estimates for construction and centrifuge manufacturing arises because the cost estimates in the Environmental Report are based on a 3.5 million SWU capacity plant, whereas the cost estimates in the EIS are for a 7.0 million SWU capacity plant.*

*Since the preparation of the Draft EIS, USEC has updated the estimate of total tails that will be generated by a 7.0 million SWU plant over the 30-year license period as well as updated the unit cost of disposal of tails. The total amount of tails generated by a 7.0 million SWU plant over the 30-year license period is now estimated at 512,730 metric tons. The unit cost of tails disposal is now estimated at \$4.83/kg U. This estimate of unit cost is expected to reflect a conservative upper bound and is higher than previously used to estimate tails disposal costs. These revisions have been recorded in the latest versions*

*of the Environmental Report, License Application and Decommissioning Funding Plan. Based on the updated estimates, NRC estimates a total tails disposition cost of \$1.8 billion (2004 dollars) and based on USEC's assumption of a 10 percent contingency. The EIS has been updated to reflect these changes. (It is important to note that the unit cost of tails disposal is cited in terms of costs per kilogram of uranium. Tails are not pure uranium. To calculate the total costs, it is necessary to apply a conversion factor which computes the amount of uranium per unit weight of tails. This conversion factor is 0.67612 kilograms uranium/kilogram tails.)*

*USEC estimates decommissioning costs at \$435 million (2004 dollars) for a 7 million SWU capacity plant; this reflects the most current and precise cost estimate available. The decommissioning cost estimate in the license application is for a 3.5 million SWU plant.*

**Comment: 006-1**

A commenter stated the plant will not have a positive impact on the economic environment. The commenter observed that given all the tax breaks USEC is being given, it will cost money. The number of jobs created will be minimal in spite of the huge financial investment. There are other healthier jobs could be created in Southern Ohio.

*Response: NRC presented its analysis in Section 7, Cost Benefit Analysis. The comment does not provide NRC with substantiated information that would alter the findings presented in Section 7.*

**Comment: 003-9**

A commenter requested information on the electricity requirements of USEC's operation. The commenter also asked whether an EIS is being conducted for the local communities for coal-fired power plants that produce the electricity. The commenter noted that the Gavin plant has been converted to residential use and is no longer available. The commenter also noted that the first centrifuge plant required took the same amount of electricity to operate as the city of Los Angeles. The commenter asked where the energy to run ACP is coming from, who is paying for any cost for construction of an electric plant, and how will the plant's operation impact communities?

*Response: The ACP, which is based on the latest centrifuge technology, will consume less than 5% as much electricity per SWU as the Portsmouth Gaseous Diffusion Plant, which was based on gaseous diffusion technology. Dedicated utilities, including power plants, were constructed in the 1950s solely to support the needs of the Portsmouth Gaseous Diffusion Plant. The ACP would continue to procure electricity through existing resources. No new power plants will be constructed. No separate EIS is being performed for the existing dedicated power plants. At the reduced levels of power required by the ACP compared to the Portsmouth Gaseous Diffusion Plant, no impact is expected to local communities. USEC will bear the cost of power generated to operate the ACP as an operational expense.*

**Environmental Justice**

**Comment: 007-4**

A commenter questioned whether the community and NRC would be having dialogue if the area were not a poor, rural, Appalachian community.

*Response: Public dialogue plays a significant role in enhancing public confidence in the NRC and its ability to carry out its mission — to protect public health and safety in commercial uses of nuclear energy. The NRC has long recognized the importance and value of public communication and involvement as a key cornerstone of strong, fair regulation of the nuclear industry. As a result, the agency*



*has sought, over time, with the assistance of members of the public and other stakeholders, to ensure full and fair consideration of issues that are brought to NRC's attention.*

**Comment: 008-20**

A commenter stated that (section 4.2.9) the section on environmental justice, gives no consideration whatever to disproportionate adverse environmental impacts on the cultural interests of such minority (and probably low-income) groups as the Absentee Shawnee and other tribes. The commenter requested NRC review the pertinent EPA guidance and address these impacts.

*Response: NRC completed its review of environmental justice impacts in accordance with EPA's guidance. Section 4.2.2, Historic and Cultural Resources Impacts found no effects on historic and cultural sites. Because there are no high and adverse human health or environmental effects associated with historic or cultural resources no minority or low-income population would be disproportionately affected.*

**Transportation**

**Comment: PMT-006-4**

A commenter noted that the Draft EIS does not mention accidents with enriched, radioactive material leaving the plant to become fuel for nuclear plants and other critical safety concerns.

*Response: Section 4.2.12.1 of the EIS describes the impacts of accidents associated with the transportation of product from the ACP. Table 4-15 provides the results of the analysis.*

**Comment: PMT-015-7**

A commenter observed the Draft EIS purports to assess unknowable risk and cited a footnote on page 4-53 stating that no 2.5 ton cylinder is currently certified to ship uranium enrichment to higher than 5 weight percent of uranium-235. The commenter stated that the Draft EIS goes on to assess the risks associated with the transport of 10 percent enriched uranium in a cylinder that does not exist.

*Response: The commenter is correct that no 2.5-ton cylinder is currently certified to ship uranium enriched to higher than 5 weight percent of uranium-235. Although it is currently believed to be unlikely, sometime in the future, a demand may be created for enriched product up to 10 weight percent of uranium-235. In the event this higher enrichment is generated at the ACP, USEC would have to gain the appropriate certification before it shipped 10 percent product in either an existing 2.5-ton cylinder or in a new 2.5-ton cylinder. The EIS's analysis of direct radiation surrounding Type 30B cylinders containing enriched product is reasonable for shipping in another type of approved 2.5-ton cylinder because direct radiation levels for such alternate containers are expected to be similar. Also, the EIS's analysis is conservative as the radioactivity levels for uranium gradually increase with enrichment*

**Comment: PMT-016-1**

A commenter stated the Draft EIS has incompetent data entry. For example, Table 4-15, estimated latent cancer fatalities from the transportation of radioactive materials for one year of operation is seriously messed up. None of the totals is the sum of its column or row. Moreover, by comparison to Table D-12 we can see that the risk to the public, whether following a cylinder on the road, living by a road where cylinders are transported, or pulling into a rest stop where a cylinder truck is, the risks have obviously been grossly understated by a factor of 10,000. The commenter stated the Draft EIS shows insufficient modeling. For example, in Tables D-12 and D-14, the trip from Piketon to Clive, Utah, indicates that the trip includes rest stops and inspection stops. The modeling is based on the WebTRAGIS system, but the

WebTRAGIS manual only mentions rest stops and inspection stops in association with road transport, not the rail transport, as indicated. So, the Piketon-Clive trip is clearly modeled for road transport, yet on page D-5, it is clearly stated that this is a trip -- is a rail trip. Furthermore, the commenter tried to register with the Oak Ridge National Laboratory WebTRAGIS system on September 23, but received no reply. The commenter suggested the system admits only classified access and that the system is, in any case, not available for public scrutiny. The commenter stated the risk analysis is, therefore, unverifiable by the public.

*Response: The total estimated number of annual latent cancer fatalities from incident free transport and accidents presented in Table 4-15 is consistent with results presented in Appendix D, however, Table 4-15 of the Draft EIS does contain a number of data entry errors, including some of the totals in the last row of the table. Table 4-15 has been revised in the EIS to correct these errors.*

*Modeling of the transport of conversion products from the ACP to a disposal site was performed using the "Rail" vehicle mode of RadTran 5.5 and input parameters appropriate for transportation by rail. Stops for rail transport were assumed to occur for purposes of classification, but were reported in the "Rest Stop" column of Table D-12. Appendix D and Table D-12 have been revised to clarify that stops made for rail transport are for purposes of classification.*

*While access to WebTRAGIS may not be available to members of the general public, information about each route used for modeling purposes, generated by WebTRAGIS, is provided in Table D-6. This information allows members of the public to verify that the route related inputs to the risk assessment modeling are reasonable.*

**Comment: 002-4**

A commenter stated the Draft EIS carefully considers the potential impacts from increased vehicular traffic and finds that the increased traffic will be small and will not introduce adverse effects. Within the limits defined in the Draft EIS, the commenter agreed with this finding provided that appropriate conditions are developed to reopen consultation if vehicular traffic increases above this level or if new construction of roads or railroads becomes necessary as a direct and foreseeable consequence of the development of this project.

*Response: NRC acknowledges the commenter's statements.*

**Comment: 003-8**

A commenter stated that there is not an adequate analysis of transportation of uranium from overseas facilities. The commenter stated that with the U.S. having only two percent of the world's uranium reserves, any meaningful examination of transport of this material should include such an analysis. The commenter noted a recent shipment from Libya, and how the material was shipped as a matter of national security. The commenter expressed concern that these transportation impacts from overseas locations are not being adequately considered.

*Response: USEC intends to use natural uranium in the form of UF<sub>6</sub> for the proposed ACP. The intention is to not introduce feedstock contaminated with significant concentrations of other nuclides into the process. Feed material that meets the American Standards for Testing and Materials specification for recycled feed may be used, and may contain radionuclides such as uranium-236 and technetium-99. The UF<sub>6</sub> would be transported to the plant in 48-inch (48X or 48Y), 10-ton or 14-ton cylinders that are designed, fabricated, packaged and shipped in accordance with American National Standards Institute N14.1, Uranium Hexafluoride-Packaging for Transport. Feed cylinders would be typically transported to*

*the site by 18-wheeled tractor-trailer trucks. It is anticipated that approximately 1,100 shipments of feed cylinders per year would arrive at the proposed ACP (USEC, 2005b). Expected feed suppliers include the Cameco Corporation (Ontario, Canada) and Honeywell Specialty Chemical Plant (Metropolis, Illinois). No uranium feed for the ACP is anticipated from overseas vendors.*

**Comment: 004-6**

A commenter noted the Draft EIS concluded that traffic on the highway near the plant would have a short term moderate impact. This is in comparison to other areas evaluated. All received a small environmental impact. The commenter asked what will the transportation problems be and will hazardous waste be transported on the highways of Ohio to the ACP. If so, the commenter stated this is unacceptable.

*Response: Transportation impacts of interest are the potentials for delays, accidents, injuries, or fatalities associated with the movements of people and goods into and out of the proposed ACP. A moderate impact was found for the potential increase in traffic accidents resulting in injuries. These impacts may occur during site preparation and construction, facility operations, and cessation of activities and decommissioning in the future. In each of these stages, raw materials and equipment would be brought to the site, wastes of various types would leave the site, and workers would travel back and forth to their places of residence. During facility operations, enriched UF<sub>6</sub> would also leave the site. Hazardous waste will not be transported to the ACP. Some hazardous waste will be generated during facility operations and it will be handled in accordance with applicable State and Federal regulations. A moderate impact was also identified for level of service based on estimated increases in traffic volumes. NRC found that a moderate impact would occur as a result of an accident involving the release of uranium. Although the health risk is low, the consequences, should such an accident occur, would be high, resulting in an overall potential health impact of moderate.*

**Public and Occupational Health**

**Comment: PMT-002-1; PMT-002-2**

A commenter asked how the potential dose to the public from the ACP compares to the dose to the public surrounding nuclear power plants? The commenter stated that cancer rates have gone up since nuclear testing has been going on in the atmosphere and the radioactivity in the air does affect cancer rates. The commenter stated that there is more radioactivity around nuclear plants and cancer rates around nuclear plants are higher than the cancer rates away from the nuclear power plants. The commenter questioned then, that if the rates are similar, it would be reasonable to expect to see the same thing at the Piketon site.

*Response: The maximum potential dose to a member of the public from operation of the ACP is expected to be approximately 0.01 millisieverts (1 millirem), of which 90 percent is predicted to come from direct gamma exposure and 10 percent is predicted to come from exposure to radionuclides emitted to the air. These results are based on conservative assumptions (see Appendix C), and it is anticipated that actual exposure levels would be less than presented here. The total annual dose from all exposure pathways would be less than the limit of 1 millisievert per year (100 millirem per year) established in the NRC's regulations in 10 CFR § 20.1301. All exposures are also expected to be significantly below the U.S. EPA limit of 0.25 millisieverts per year (25 millirem per year), as set in 40 CFR Part 190 for uranium fuel-cycle facilities. The typical average dose to nearby members of the public will be significantly less than the potential maximum; this typical average is expected to be 0.1 millirem per year or lower. This expected dose range is similar to that for nuclear plants based on the annual effluent and environmental reports submitted by nuclear power stations in North America to their regulatory bodies. The causes and risk contributors of cancer are complex, and have been the subject of decades of study and medical research. Based on the best available currently published risk factors for cancer from*

*radiation, such as the BEIR V report, the maximum possible doses expected from operation of the ACP result in a risk of approximately 1 in 1,000,000 per year. The typical expected average doses to members of the nearby public from operation of the ACP will produce risks approximately 10 times lower than the maximum.*

**Comment: PMT-003-6; 007-1**

A commenter stated that during their time of employment at the DOE facility, there were over 570 violations that were never addressed. In particular the commenter stated that there were alpha daughter isotopes in the lunchroom, and suggested that none of those workers were ever notified of this. Another commenter described USEC's safety record as "disgraceful." This commenter asked why this record was not factored into NRC's analysis.

*Response: NRC is aware of past violations. The EIS focuses on environmental impacts of the proposed action. Consideration of violations of the terms of the license are beyond the scope of this document. However, should a licensee violate the terms of its license, which includes compliance with all applicable laws and regulations pertaining to uranium enrichment operations and environmental protection, then the NRC, as the Federal oversight agency, may impose penalties, including financial and civil penalties and license revocation. Other Federal and State agencies can also impose requirements and penalties for violations of laws and regulations under their purview.*

**Comment: PMT-003-9**

A commenter indicated concern about the offsite radium-226 at the facility. The commenter questioned the veracity of the analysis being conducted at the plant, if it indicates that radium-226 is not present offsite.

*Response: The NRC staff agrees that radium-226 is certainly present in and around the ACP location. Radium-226 is a member of the decay chain for uranium-238. Because uranium-238 is a naturally occurring isotope in the soils of southern Ohio radium-226 will also be present in those soils, typically at concentrations approximating that of the uranium-238. This same uranium-238 chain is the source of the radon-222 that is ubiquitous in the homes of Ohio and that is the primary source of background radiation to most Ohioans. Many years are required for the isotopes in the uranium-238 decay chain to build in to significant concentrations. The decay chain products from naturally occurring uranium-238 have had millions of years to build in to a concentration that is essentially equivalent to that of the uranium-238. Because the enrichment facility has only been in existence for less than 60 years, there is not yet any significant build in of radium-226 or its daughters in the chain relative to the concentrations of uranium-238 that may have been deposited by releases from the enrichment facility. Hundreds or thousands of years will be required before any uranium released by the ACP will have decayed to produce sufficient radium-226 to warrant testing for this radium-226. Until that time, such tests will only identify the natural background of radium-226 resulting from decay of naturally occurring uranium-238.*

**Comment: PMT-005-3**

A commenter identified a possible typographical error in the Draft EIS indicating that the number of cancer deaths will probably be, according to the Draft EIS, higher for routine non-accident issues (0.013 deaths per year), than for accidental releases, which appears to be 0.008, or half of the number of cancer deaths.

*Response: The EIS has been revised to correct any typographical error. The EIS correctly states that the probability of cancer death from an accidental release is about one-half that of the probability of a cancer death from routine non-accident scenarios. In a case where the primary radiological hazard is*

*external exposure and the accident rate is low, the risk from incident-free transport would more likely exceed the risk from accidents. In another case where the primary radiological hazard is inhalation or ingestion and the accident rate is high, the risk from accidents would more likely exceed the risk from incident-free transport.*

**Comment: PMT-011-1**

A commenter expressed confidence that the NRC's evaluation that potentially there could only be very minimal impact to the public and occupational safety and health, especially given USEC's history of safe operation. The commenter also stated that the plant is consistently below the national average in the number of Occupational Safety and Health Administration-recordable illnesses and injuries. Further, the commenter noted that as with the gaseous diffusion plant, the centrifuge's commercial plant will also be a highly regulated facility, requiring strong safety programs in order to maintain strict compliance with all State and Federal regulations for the safety and health of the employees, as well as the public.

*Response: NRC acknowledges the commenter's statements.*

**Comment: PMT-014-2**

A commenter stated that the Draft EIS neglects to express the injury rates in several significant categories related to routine and accidental radiological exposures in both the occupational and transport categories of both the operations stage and in the decommissioning stage. The commenter further notes that the Draft EIS treatment of occupational injury rates depends on statistics from the Bureau of Labor Statistics but overlooks an important statement in a study by the Bureau that indicates that some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, are often difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measures.

*Response: Occupational injury from radiological exposure is traditionally assigned to acute exposure during radiological accidents. The only potential source of such exposures at the ACP would be inadvertent criticality incidents. Criticality control at U.S. nuclear facilities is well understood, and there have been no inadvertent criticality incidents in the U.S. at enrichment facilities. This is particularly true for a facility that only handles low enrichments such as the ACP. The primary latent illness of interest is cancer; therefore the risk values used in radiological assessments are those for the risk of inducing a fatal cancer from the given radiation dose. Note that since the EIS includes the expected radiation dose for many scenarios, an interested party can get an estimate of risk for both fatal and non-fatal cancer induction by examining reports such as BEIR V to identify a dose-to-risk conversion factor.*

**Comment: PMT-014-3**

A commenter noted that on page 4-62, the Draft EIS describes that workers may be exposed to puff releases of UF<sub>6</sub> gas which is exactly the type of puff -- of exposure that would result in a long-term latent illness. The commenter also notes that the Draft EIS does show in Table 3-29 that mortality rates in Pike County, due to renal failure, are between two and four times that of the rates in Ross County and Scioto County; however, although renal failure is associated with uranium poisoning, the Draft EIS suggests that this death rate may instead be associated with diabetes and hypertension. The commenter stated that the NRC staff has made no attempt to determine whether uranium poisoning has, in fact, caused those deaths.

*Response: Determining a causative relationship between renal failures and puff exposures at the enrichment facility would require an independent targeted study of those workers with records of puff exposures versus their rate of renal failures, and bio-sampling to determine if these persons had significant body burdens of uranium. Such a study is outside the scope of the EIS.*

**Comment: PMT-014-4; 004-4**

Two commenters stated that the Draft EIS compares potential ACP occupational injury rates to those from the broad and now obsolete Standard Industrial Classification. The commenter also argued that this is inappropriate, and the ACP occupational injury rates are projected using Piketon (i.e., DOE) operations in the years 2002 and 2003. One commenter also asked who will be responsible for the health care needs related to the uranium enrichment process of employees and residents of the Piketon area who are impacted? Will it be the responsibility of USEC or the Federal government (NRC)? Uranium is implicated in huge health risks. It appears unacceptable that the NRC approves of such a process and plant.

*Response: The 2002 North American Industry Classification System for industry classification puts uranium enrichment in NAICS code 325188, cross referenced to Standard Industrial Classification code 2819. The Bureau of Labor Statistics 2004 data for North American Industry Classification System code 32518 shows 3 fatal injuries for North American Industry Classification System code 35218, which is similar to that presented in Table 4-18 of the EIS. Health impacts to workers from uranium exposure are addressed in section 4.2.12.3 separately from industrial accident risks. It is outside the scope of this EIS to address health care coverage for USEC employees and contractors.*

**Comment: PMT-014-5; 007-1**

Two commenters stated that uranium enrichment operations at the DOE reservation in Piketon, Ohio, ceased in May, 2001, and as measured by the NRC's enforcement action notices, USEC has, by far, the worst safety record of all NRC materials licensees. Of 516 materials licensees that have been issued with NRC enforcement notices, USEC has the most, with 16, followed by Mallinckrodt Incorporated, with nine, and Westinghouse Electric, with six. The commenter noted that most other licensees have just one or two violations.

*Response: NRC is aware of past violations. The EIS focuses on environmental impacts of the proposed action. Consideration of violations of the terms of the license are beyond the scope of this document. However, should a licensee violate the terms of its license, which includes compliance with all applicable laws and regulations pertaining to uranium enrichment operations and environmental protection, then the NRC, as the Federal oversight agency, may impose penalties, including financial and civil penalties and license revocation. Other Federal and State agencies can also impose requirements and penalties for violations of laws and regulations under their purview.*

**Comment: PMT-015-3; 007-1**

Two commenters noted that the Draft EIS states that the calendar year 2003 Bureau of Labor Statistics average incidence rate of nonfatal occupational industries -- injuries and illnesses are not currently published. One commenter stated that, in fact, these statistics were published in December, 19 -- 2004, and reissued in June, 2005.

*Response: Page 4-61 of the EIS, beginning at line 6 states, "Incident rates for Total Recordable Cases and Lost Workday Cases for calendar year 2003, in units of incidents per 100 full-time equivalents, for North American Industry Classification System Code 325188 were obtained from the Bureau of Labor Statistics Publication Table 1, Incident Rates of Nonfatal Occupational Injuries and Illnesses by Industry and Case Types 2003 (BLS, 2004a). Fatality incident rates for Manufacturing (North American Industry Classification System Code 325) for calendar year 2003, in units of incidents per 100,000 full-time equivalents, were obtained from Bureau of Labor Statistics Publication National Census of Fatal Occupational Injuries in 2003 (BLS, 2004b)."*

**Comment: 003-6**

A commenter noted that the last published DOE annual report for site cleanup progress at the Piketon site documented plutonium contamination and several uranium isotopes found in fish sampled in streams known to be fishing holes for local people - all supposedly at "safe" consumption levels. The commenter was not aware that there was a safe level of plutonium for human consumption. The commenter suggested that there are many unanswered questions about the transport of materials to and from the plant as well as the operations within and the clean-up of the old plant. The commenter believes that long-term latent illnesses are understated in the report.

*Response: As discussed in section 1.5 of the EIS, all emissions, whether to the air or water, must meet Federal and State regulations to ensure the safety and health of the public. As presented in section 4.2 of the EIS, releases from the proposed ACP would be within regulatory limits and would not endanger members of the public.*

**Comment: 014-3**

A commenter stated that while the Draft EIS provides estimated latent cancer fatality data, but does not include non-fatal cancer rate data. The commenter suggested that the Final EIS should provide more comprehensive cancer rate data.

*Response: The radiological analysis used in the EIS is designed to identify the impact of the facility on occupational and public health. The analysis does so by comparing the expected radiation doses and risks to the applicable regulatory limits on dose and risk. The dose and risk limits defined by the cognizant Agencies are based on the protection of public health. The dose and risk estimates below these standards are therefore considered to have small impacts upon occupational or public health. The risk standards used are for induction of fatal cancer, so that is the risk data used in the EIS.*

**Comment: 014-4**

A commenter suggested that the Final EIS should reference the most current annual radiological emissions data for 2004.

*Response: The 2002 and 2003 site radiological emissions reports show similar results, so the 2004 data is not expected to significantly alter the values in the draft EIS.*

**Comment: 014-36**

A commenter stated that in the statement of standards that protect the health and safety of the public, 40 CFR 61, Subpart H, has been left out of the Draft EIS. The commenter stated that the reference should be properly incorporated throughout the document. The commenter also stated that this regulation was used to determine public health protection, whereas the NRC regulations deal more with occupational levels for exposures rather than a public health exposure level.

*Response: The EIS properly incorporates the National Emission Standards for Hazardous Air Pollutants regulations of 40 CFR Part 61, Subpart H. The commenter is referred to Table 1-3, Section 4.2.4.1, 4.2.4.2, Section 4.2.12.3, and Section 4.3.2 which specifically reference the appropriate National Emission Standards for Hazardous Air Pollutants regulations of 40 CFR 61 Subpart H. The NRC's regulations at 10 CFR 20, Subpart D, provide safe exposure limits for members of the public. This NRC dose limit of 100 mrem/yr considers all pathways, whereas the EPA regulation cited by the commenter, 40 CFR Subpart H, provides a dose limit of 10 rem/yr from airborne exposure pathway.*

**Comment: 015-56**

A commenter noted that no foodstuffs are being produced on the DOE reservation, thus the food sources for the on-site tenants should be adjusted to reflect this on lines 9 through 31 of page 4-61. The commenter added that CAP88-PC does allow this.

*Response: Lines 2 and 3 of page 4-65 in the EIS describe the food consumption patterns for on-site tenants. These tenants are not assumed to have any locally produced foodstuffs (food produced on the DOE reservation). They are assumed to consume foodstuffs produced within the 80 kilometer assessment radius used in the CAP88-PC model.*

**Waste Management**

**Comment: 007-3**

A commenter stated that the problem of safe, permanent storage of radioactive wastes generated over the past 50 years at the Piketon site and those wastes projected to be generated over the next 50 years at the site is still unsolved.

*Response: Sections 4.2.13.2 and 4.2.15.13 of the EIS describes USEC's plans for managing wastes generated during operation and decommissioning of the ACP. Wastes generated at the site in prior years are considered in Section 4.3.10 of the EIS.*

**Comment: PMT-005-1**

A commenter asked whether USEC or NRC determines the safety of spent fuel.

*Response: The NRC has specific regulations and requirements for both the storage and ultimate disposal of spent nuclear fuel. However, the license application in question is for the enrichment of uranium for use as a fuel in nuclear reactors. Spent nuclear fuel would not be directly generated as a result of this licensing action.*

**Comment: 003-1-3; PMT-002-8; PMT-004-3; 009-1**

Two commenters expressed a concern that there is no safe place to permanently and safely dispose of radioactive waste that would be generated at the ACP. One of these commenters also stated that the people of Nevada do not want this waste, and neither do the people of Ohio.

A commenter asked whether the approximately 200,000 tons of uranium tailings that USEC's proposed ACP facility currently under NRC licensing consideration would create would also be sent to Envirocare. The commenter also requested information on the number of facilities and the total volume of waste, existing and proposed, that is currently slated for shipment to Envirocare. A commenter also asked about environmental ability to handle the waste.

*Response: As described in section 2.1.4.3, the disposition of the depleted triuranium octaoxide ( $U_3O_8$ ) generated from the DOE conversion facilities at Paducah and Portsmouth would be either at the Envirocare site (DOE's proposed disposition site) or at the Nevada Test Site (DOE's optional disposal site). Depleted  $U_3O_8$  generated from the adjacent or offsite private conversion process would be disposed at a site licensed to accept this material. For example, under its Radioactive Materials License issued by the State of Utah, Envirocare is authorized to accept for disposal the quantities of depleted uranium oxides expected to be generated by the conversion of the proposed ACP's depleted  $UF_6$ . Further, section 4.2.13.2 describes the capacity impacts of the disposal of the converted  $U_3O_8$  on the Envirocare facility. As*



*stated, NRC estimates that the U<sub>3</sub>O<sub>8</sub> from the proposed ACP would take up approximately 11 percent of the remaining disposal capacity at Envirocare.*

**Comment: PMT-007-5**

A commenter noted that the waste material at issue, depleted UF<sub>6</sub>, once converted, is most suitable for disposal in the ground. The commenter also noted that potential spills associated with this material would not migrate offsite because it is not volatile. The only material of concern would be hydrogen fluoride. The commenter also noted that converting the tails material and subsequently disposing of it in the ground is the most environmentally responsible method for managing the waste.

*Response: NRC acknowledges the comments concerning the suitability of land disposal of converted depleted UF<sub>6</sub>.*

**Comment: PMT-010-6; 006-2; 009-1**

A commenter charged that NRC, in its Draft EIS, has gone beyond being a regulatory body and has actually solved USEC's waste problem for it. The commenter stated that while USEC did not specifically indicate where it would dispose of its waste, NRC indicated that the waste will be treated, or will probably be treated, or can be treated at the deconversion facility that's now being built on site by DOE. Two commenters questioned whether DOE can even accept the ACP waste for conversion. One commenter stated that DOE, in their reports to the community at their semiannual environmental assessment meetings has said repeatedly that the deconversion plant can not be used to treat a USEC waste, to use that facility would completely violate the letter and spirit of the USEC Privatization Act. The commenter stated that the purpose of the Privatization Act was to separate private facilities from legacy government facilities and the deconversion facility was built to treat the legacy waste that is of public responsibility and at public expense, and is not available, legally, to treat USEC's private waste. The commenter goes on to state that, barring a new act of congress to change the law, the deconversion plant is not capable and was not designed to treat all of the USEC waste. Another commenter stated that USEC is a private company and they should not be given the right to use the Conversion plant for their own economic purposes.

*Response: USEC indicated in its Environmental Report that it does not wish to foreclose potential future commercial uses of depleted uranium tails and thus was not classifying the depleted uranium tails as a waste at this time. USEC then goes on to describe a method, via the USEC privatization Act whereby they could transfer the tails to DOE for conversion and disposal. The NRC staff have elaborated on this proposal in order to fully inform the NRC's decision maker and the public as to the likely impacts of depleted uranium tails conversion and disposal as required by NEPA and the NRC's implementing regulations at 10 CFR Part 51. Section 3113(a) of the USEC Privatization Act (Public Law 104-134) requires DOE to accept low-level waste, including depleted uranium that has been determined to be low-level waste, for disposal upon the request and reimbursement of costs. DOE has stated that depleted uranium transferred under this provision of law in the future, would most likely be in the form of depleted UF<sub>6</sub>, thus adding to the inventory of material needing conversion at a depleted UF<sub>6</sub> conversion facility. DOE has stated that, "...it is reasonable to assume that the conversion facilities could be operated longer than specified in the current plans in order to convert this material" (DOE, 2004a).*

**Comment: PMT-016-2; 006-2**

Two commenters raised concerns about the use of the DOE conversion facility to address ACP waste issues. One commenter stated that the Draft EIS indicates that the DOE conversion facility is designated to operate until 2024 and to handle a capacity of 243,000 metric tons of depleted UF<sub>6</sub>, but that the ACP is designed to operate until 2040 and to generate 571,000 metric tons, thus the DOE conversion facility is designed to be decommissioned 16 years too early and to have a capacity that is less than one-third of all

ACP waste expected to be generated. One of the commenters stated that there are some scientists who believe that the conversion plant itself is not a perfect solution to the nuclear waste problem. The commenter said that even though the material in the canisters will be converted to a less dangerous form, the conversion process too will create waste, and at the present time it's not clear where it will be taken. The commenter stated that the fear is that the waste will simply stay at the Piketon site and because of this, no more uranium should be processed because the country is already dying from the existing nuclear waste.

*Response: The Piketon conversion facility is planned to operate for 18 years beginning in 2006. The existing inventory planned for conversion is 243,000 metric tons (267,862 tons) of depleted UF<sub>6</sub> (DOE, 2004a). The projected maximum amount of 512,730 metric tons (535,200 tons) of depleted UF<sub>6</sub> generated by the proposed ACP represents a significant increase in this existing inventory. Converting the depleted UF<sub>6</sub> from the proposed ACP would require DOE to significantly extend the life of the conversion facility, or to construct a second conversion facility on the site. DOE has maintained that, with routine facility and equipment maintenance, periodic equipment replacements, or upgrades, the conversion facility could be operated safely beyond the 18-year planned life-time period to process the additional depleted UF<sub>6</sub> from the proposed ACP. In addition, DOE indicates the estimated impacts that would occur from prior conversion facility operations would remain the same when processing the proposed ACP wastes. The overall cumulative impacts from the operation of the conversion facility would extend proportionately with the increased life of the facility (DOE, 2004a). Based on this, the added inventory of depleted UF<sub>6</sub> coming from the proposed ACP should not change the nature or magnitude of the impacts from the DOE conversion facility operations, but it would extend those impacts for several additional years.*

**Comment: 003-1-1**

The commenter indicated that the transcript of the conversation between the NRC and Utah Department of Radiation Control included calculations for eventual discharges into the Great Salt Lake, that Envirocare did not have to comply with the usual water regulations because the ground water was not potable beneath the landfill, and that Envirocare did not have to comply with agriculture regulations because it was not surrounded by agricultural activity (even though the transcript documented livestock grazing around the perimeter of the landfill).

*Response: The transcript noted by the commenter does indicate that Envirocare is exempted from groundwater regulations, however, it must be emphasized that the context for this exemption is the extremely saline groundwater that underlies the facility that is incompatible with any human use. The State of Utah has the regulatory oversight for Envirocare and has conducted numerous performance assessments and hydrogeological studies. These documents are available directly from the State. Likewise, the transcript only indicated the potential for livestock grazing on the surrounding land as the extremely arid environment does not support sufficient vegetation for grazing on a regular basis.*

**Comment: 003-1-2**

The commenter stated that existing waste is not just coming from Piketon, Ohio and the public does not have access to all of the applications currently under licensing consideration with the NRC. The commenter argued that in light of this the NRC has a responsibility to take inventory of this situation immediately. The commenter also stated that Envirocare should not be rubber stamped as being a feasible option for long-term storage of nuclear waste for USEC's ACP licensing - or any other proposed facilities - until this inventory is taken and that information is available to the public for public comment and input.

*Response: The NRC has two licensing actions related to uranium enrichment. Both actions are for gas centrifuge facilities, one proposed by Louisiana Energy Services at Eunice, NM and one by USEC at*

*Piketon, OH. Both actions have been publicly noticed and have provided substantial opportunity for public involvement. In the case of Envirocare and the DOE tails conversion facility at Piketon the NRC does not have a licensing role. The State of Utah has regulatory authority over Envirocare and the DOE has responsibility for the conversion facilities (both at Piketon and Paducah). In terms of document availability, three environmental impact statements were completed by the DOE for the conversion facilities following DOE's public involvement process. A programmatic EIS for handling of depleted uranium was completed in 1999 and has a document number of DOE/EIS-0269. Subsequently, two site-specific EIS's were completed in 2004 for both Paducah and Piketon with document numbers of DOE/EIS-0359 and DOE/EIS-0360, respectively. These documents can be found at: <http://www.eh.doe.gov/nepa/documents.html>. Likewise, numerous performance assessments and hydrogeological studies have been carried out by the State of Utah following their public involvement procedures and are available directly from the State.*

**Comment: 005-3**

A commenter asked the NRC to describe the agreement the ACP has with the DOE to accept the depleted UF<sub>6</sub> cylinders for the centrifuge facility. The commenter stated that currently, Ohio EPA is not aware that such an agreement exists. The commenter also stated that if the ACP anticipates that DOE will be responsible for converting all depleted UF<sub>6</sub> cylinders from the centrifuge plant, Ohio EPA should be contacted so that proper agreements are in place and orders may be modified to allow the transfer of waste material. Additionally, the commenter requested that the cost for conversion for the depleted UF<sub>6</sub> should be included in the costs of the facility.

*Response: The 2002 agreement between USEC and DOE addressed DOE taking title to depleted uranium through 2005. The parties are currently working on an agreement to replace the expired agreement under which DOE would continue to take title to depleted uranium generated by USEC operations. DOE is currently storing approximately 700,000 metric tons of depleted uranium in approximately 60,000 cylinders stored at various locations on the DOE portions of the Gaseous Diffusion Plant sites. USEC is responsible for decommissioning costs, including the approximately \$1.8 billion cost for dispositioning depleted uranium tails (as noted in Section 2.1.4.4 of the EIS). The cost for conversion of the depleted uranium tails will be included in the costs of the facility as described in Chapter 7 of the EIS (see Table 7-1).*

**Comment: 009-1**

A commenter expressed concern with the amount of radioactive material being brought to and generated at the Piketon site. The commenter requested that the Final EIS state limits to the importation of uranium and the amount of waste and tailings that will result from the ACP enrichment process. The commenter also requested a plan for disposal of the depleted UF<sub>6</sub> that will be a byproduct of the ACP. The commenter noted that there is already a very large backlog of depleted UF<sub>6</sub> waiting to be converted, since the conversion plant is behind schedule in its construction. The commenter asked that the Final EIS state how the depleted UF<sub>6</sub> from the ACP will be converted and the oxides disposed.

*Response: The proposed ACP must be decommissioned and all depleted UF<sub>6</sub> properly disposed of prior to license termination. As discussed in section 2.1.4.3 of the EIS, USEC has indicated that the depleted UF<sub>6</sub> generated at the ACP will be sent for conversion at the planned DOE conversion plant at Portsmouth, Ohio. The disposal options presented in the EIS satisfy the Commission rulings concerning a disposal strategy and the classification of depleted UF<sub>6</sub>.*

**Comment: 014-2**

A commenter stated that the Final EIS should describe what the NRC is doing to ensure that funding sufficient for the ACP's decontamination and decommissioning, as well as waste management, is in place prior to issuing a license.

*Response: As discussed in section 2.1.4.4 of the EIS, USEC is required to put in place a financial surety bonding mechanism to assure that adequate funds would be available to fully decommission the proposed ACP, including disposing of all depleted UF<sub>6</sub> generated during facility operations. Adequacy of decommissioning funding is addressed in the Safety Evaluation Report.*

**Decontamination and Decommissioning**

**Comment: 003-3; 003-10**

A commenter noted that the cost of decommissioning described in Table 7-1 (\$435 million) is not described clearly enough to determine how the value was arrived at. The commenter suggested that additional information needs to be provided to the public. This commenter noted that taxpayers have almost totally funded these costs for the former facility's operation at the DOE site to the tune of \$300,000,000 (million) annually. The commenter argued that the cost provided in the Draft EIS would not be sufficient. The commenter also stated that taxpayers need solid assurance that they will not be left holding the bag if the facility is shut down, or does not have sufficient funding set aside to cover decontamination and decommissioning costs and long term storage and monitoring of radioactive waste it is responsible for generating. The commenter asked how much taxpayer funding is currently being spent to do this work at Paducah and other sites. The commenter further requested that these funds be in place prior to issuance of a license.

*Response: Decontamination and decommissioning costs were estimated as the sum of the costs incurred for various activities including: planning and preparation; decontamination and/or dismantling of radioactive facility components; restoration of contaminated areas of facility grounds; final radiation survey; site stabilization and long-term surveillance; packaging, shipping, and waste disposal costs; equipment/supply costs; laboratory costs; miscellaneous costs; NRC staff review and approval; NRC fees; DOE lease; business insurance; taxes; contractor profitability; and a contingency buffer. The EIS provides the most updated cost estimates available. The decontamination and decommissioning costs and funding of previous projects is out of the scope of the EIS.*

*USEC presently intends to utilize a surety bond to provide financial assurance for decommissioning, pursuant to 10 CFR 70.25(f). The surety bond will provide an ultimate guarantee that decommissioning costs will be paid in the event USEC is unable to meet its decommissioning obligations at the time of decommissioning. The surety bond will require that the surety company will deposit any funds paid under its terms directly into either an external trust or a standby trust. However, USEC may choose to utilize alternate financial assurance funding methods. Upon finalization of the specific funding instruments to be utilized and at least 90 days prior to the commencement of enrichment operations, USEC will supplement its application to include the signed, executed documentation.*

**Comment: 003-4**

A commenter noted that the Draft EIS does not appear to contain information on costs related to long term waste storage. The commenter believes that consideration needs to be given to this cost and provision made in advance as this is the most expensive cost involved in decontamination and decommissioning. The commenter stated that a request was made of DOE to provide the total amount of taxpayer funding spent to date for long term waste storage, but that information was never received.

*Response: USEC's total decommissioning liability is the sum of the total plant decommissioning costs and the tails disposition costs. Depleted uranium tails will be stored in steel cylinders at the site until they can be processed in accordance with the disposal strategy established by USEC. For the purpose of storage, additional cylinder storage yards will be constructed at the site. The costs associated with the construction of cylinder storage yards are included in the construction costs of the ACP and will be borne by USEC.*

**Comment: 005-4**

A commenter asked for a description of how the DOE/USEC lease would work once DOE has completed its mission at the site. The commenter believes it is highly likely that the decontamination and decommissioning of the gaseous diffusion plant will be completed, and rather, the site will require long term surveillance and maintenance.

*Response: As noted in the Executive Summary and Chapter 1 of this EIS, the site for the ACP facility is to be located on a small portion (approximately 1 percent) of the DOE reservation at Piketon, Ohio. The Gaseous Diffusion Plant, which is in cold standby is located on the reservation. The Portsmouth plant is owned by DOE but operated by USEC's wholly owned subsidiary, the United States Enrichment Corporation. The NRC has regulatory authority over the United States Enrichment Corporation for its activities associated with the Gaseous diffusion plant and for the proposed ACP. At the end of ACP operations, USEC will decommission the ACP. Under its proposed decommissioning plan, USEC will decontaminate (clean up) the ACP site to a level that would qualify the site for unrestricted use. Section 10.3 of the Safety Evaluation Report provides a description of the USEC decommissioning plan. Although USEC is responsible for decommissioning the ACP, DOE is responsible for decommissioning the remainder of the reservation containing the Gaseous diffusion plant. DOE will be responsible for long-term monitoring of the entire reservation, including the ACP site, when the reservation is returned to DOE. DOE, not USEC, will have the responsibility to conduct any required surveillance and maintenance once the ACP site is transferred back to DOE.*

**Comment: 005-11**

A commenter asked for clarification of how the ecological impacts from the site most likely will change during the life span of the ACP and how these changes will be accounted for during decontamination and decommissioning. The commenter asked whether USEC will be responsible for conducting ecological surveys and whether there is money set aside during the decontamination and decommissioning process for these types of surveys to be conducted?

*Response: NRC evaluated the ecological impacts associated with decontamination and decommissioning in Section 4.2.15.7, Ecological Impacts. Because NRC assumed that the footprint associated with decontamination and decommissioning would be bounded by those used to construct the proposed ACP, the impacts would be the same or less than those described under site preparation and construction.*

*Because the site would be located on a DOE reservation, DOE would maintain current information on the ecological conditions to include Federally-listed threatened and endangered species.*

**Comment: 014-18**

A comment noted that the Draft EIS states that the intent of decommissioning is to return the proposed ACP site to a state that meets NRC requirements for release for unrestricted use after decontamination and decommissioning is completed. The commenter stated that the Final EIS define and discuss what NRC considers "unrestricted use" to mean, including: are the NRC requirements consistent with Comprehensive Environmental Response Compensation and Liability Act standards for free release of property without

institutional, controls? Who owns the ACP buildings? Are they owned by DOE and leased to USEC, or does USEC have ownership of buildings on the Portsmouth Reservation? If USEC or a subsequent owner goes bankrupt, would DOE then be the primary responsible party responsible for cleanup and have priority access to the cleanup funds in the ACP's surety bond (or other financial mechanisms) over other entities such as lax authorities and commercial lenders?

*Response: The NRC requirements for unrestricted release are provided in at 10 CFR 20.1402. These standards relating for free-release (i.e., no institutional controls) require that doses to members of the public are less than 25 mrem/year. If non-radiological contaminants are found the site would be referred to the appropriate state agency and the EPA. As previously stated, USEC leases all buildings from the DOE and USEC is responsible for decontamination and decommissioning. The NRC requires decommissioning financial assurances (see 10 CFR § 40.36 and 70.25) before issuing a license. The NRC's objective is to ensure that NRC-licensed sites (unlike Superfund sites) never require taxpayer funds to complete decommissioning. In the event that the licensee is unable to carry out decommissioning due to bankruptcy or some other reason, the financial assurance provisions provide the funding for decommissioning, and the NRC would ensure that proper site remediation takes place. For uranium enrichment facilities, applicants must provide a decommissioning funding plan consisting of a site-specific cost estimate for decommissioning and a financial instrument, such as a surety bond or letter of credit. USEC has chosen to use a surety bond for its financial mechanism. Further, as stated in 10 CFR § 40.36(d) and 70.25(e), decommissioning cost estimates must be adjusted at intervals not to exceed 3 years. The NRC staff reviews this issue in the Safety Evaluation Report.*

**Comment: 014-19**

A commenter noted that the Draft EIS states that the decontamination and decommissioning activities for the proposed ACP are anticipated to occur approximately 30 years in the future, and therefore only a general description of the activities that would be conducted for the proposed ACP can be developed at this time for the Draft EIS. The commenter asked whether NRC will review and approve the ACP engineering design prior to its construction? The commenter further asked if NRC requires the concurrent development of a decontamination and decommissioning plan while the facility is being designed, and whether NRC regards issues such as cost, implementability and ease, worker safety, waste minimization during decontamination and decommissioning to be considerations in the design of radiological facilities such as the ACP?

*Response: The NRC reviews this information in the Staff's Safety Evaluation Report. USEC, as part of their license application, provided information about decommissioning which describes specific features that serve to minimize the level and spread of radioactive contamination during operation that simplify the eventual plant decommissioning and minimize worker exposure.*

**Comment: 014-2**

A commenter suggested that the Final EIS should describe what the NRC is doing to ensure that funding sufficient for the ACP's decontamination and decommissioning, as well as waste management, is in place prior to issuing a license.

*Response: As discussed in section 2.1.4.4 of the EIS, USEC is required to put in place a financial surety bonding mechanism to assure that adequate funds would be available to fully decommission the proposed ACP, including disposing of all depleted UF<sub>6</sub> generated during facility operations. The NRC staff evaluates the adequacy of the proposed funding in the Safety Evaluation Report.*

## Cumulative Impacts

### **Comment: 008-5-1**

A commenter stated that the cumulative impacts section of the Draft EIS is deficient for its lack of treatment of effects on historic properties or any other kinds of "cultural resources." The commenter stated that a cumulative impact analysis is supposed to consider the effects (even the "SMALL" effects) of the project under review in the context of other past, present, and reasonably foreseeable future actions. Serious impacts on the cultural character of the area that includes the project Area of Potential Effect (however defined) have obviously taken place in the past; they may be going on in the present, and what the future holds remains to be analyzed. The commenter requested that NRC address the cumulative impacts of the project on cultural resources of all kinds, notably including historic properties.

*Response: In Section 4.3, NRC evaluated the cumulative impacts associated with the proposed action and other actions that would affect the same resources. As stated in Section 4.3, because the proposed action would result in no effect on cultural or historic resources, implementation of the proposed action would not lead to additional cumulative impacts on such resources.*

### **Comment: 008-5-2, 010-8**

A commenter<sup>9</sup> believed that further investigation of the DOE Water Field is warranted in order to determine the origin of the earthworks with confidence. The commenter noted that a field trip to the Water Field had been conducted, and the results of that field trip indicate a research protocol is needed to determine the identity and age of this structure. That protocol should begin with access to all previous reports of cultural resource investigations conducted at the Water Field property prior to the development of the Water Field, investigations that would have been required by Section 106 of the National Historic Preservation Act. The commenter stated that if the structure is determined to have historic significance, an evaluation should be made of the visual and physical impact of the American Centrifuge Project on that structure. Finally, the commenter stated that the Gas Centrifuge Enrichment Plant Water Field site lies close enough to the Barnes Works to warrant a close examination of its historic significance. Any prehistoric earthworks that may be identified at that location deserve the utmost attention and protection. Therefore, the commenter urged a program of research at that site as rapidly as possible, in compliance with Federal preservation law. Commenters declared that on a site visit to Gaseous Centrifuge Enrichment Plant Water Field, they observed what appears to be prehistoric earthworks.

*Response: NRC evaluated the use of the DOE Well Field in Section 4.2.6, Water Resource Impacts and found that the operation of the wells would not alter the current physical conditions at the well fields.*

*As described in Comment 011-1 in Section J.11, a commenter provided a report on the origin of a series of levees along the Scioto River in southern Pike County. There are three separate levees. The northernmost is on the Nier property at the U.S. Route 23 entrance to Piketon DOE facility. The middle levee is partially located on a DOE well field located next to the Scioto River on the old Billy Cutlip farm. The third levee extends across 10 farms beginning at the Barnes property and extending south along the river to the Will Acord farm. The northern and southern levees were built after the 1959 floods, to protect agricultural land from subsequent floods. The middle levee was built for technical and economic reasons. When the DOE wells were being drilled in the 1980s, the pipeline from the river to the steam plant required the addition of concrete and ground cover over the original concrete anchors in order to hold the line in place. According to the commenter, the "result is a levy-like [sic] appearance." Concurrently, and into the 1990s, the Standard Slag company, owners of a sand and gravel quarry on the former Cutlip farm, moved its overburden down to the river and built a levee between the wells and river to make space for expansion. At first the levee was kept mowed and it was possible to drive on it, but when Standard Slag*

*determined that it would not be able to quarry the terrace next to the levee, the levee was no longer maintained.*

*This information indicates that the embankment of concern to the commenter was constructed less than 50 years ago for flood protection purposes. Text has been added to the EIS at Section 3.3.4 to provide this information.*

**Comment: 014-40-1**

A commenter is concerned about cumulative erosion and sedimentation impacts which could be caused by construction of Cylinder Storage Yard X-745H. The commenter notes that according to the Draft EIS, the cylinder storage yard would be constructed in an area characterized by steep slopes. The commenter also noted that the Draft EIS states, "During excavation and grading, the steep slopes would be more susceptible to soil erosion, and the streams at the bottom of the slopes may receive an increased amount of silt." The commenter stated that construction activities would be close to Little Beaver Creek, an impaired stream. Presently, siltation and sedimentation are two causes of the creek's impairment. Additional erosion and sedimentation from the construction of the cylinder storage yard could result in cumulative impacts to Little Beaver Creek. The commenter believed that Draft EIS did not perform a cumulative impact analysis for this case and that such an analysis should be included in the Final EIS.

*Response: NRC evaluated the potential site preparation and construction impacts on Little Beaver Creek in Section 4.2.6.1 and reference the best management practices that would be implemented to maintain a small impact on Little Beaver Creek. In completing the cumulative impact analysis, NRC evaluated the other activities occurring on the Portsmouth reservation and their specific location as listed in Table 4-24, Other Activities Considered for Cumulative Impacts. No changes to the cumulative impact analysis are warranted, because no other large scale land disturbing activities with the potential to increase erosion or sedimentation in Little Beaver Creek were identified.*

**General Comments**

**Comment: 006-3**

One commenter asked how anyone in government can make a claim that there will be no significant impacts from the facility given the disastrous history of the nuclear industry the last 60 years, and the contamination that exists at all the nuclear sites, which is costing billions to clean. The commenter stated that the legacy of radioactive contamination is now in the soil and water of the whole country. The commenter also stated that USEC's assertion that there will never be any kind of accident, or technical malfunction, or computer error, or human error, which will cause the release of radioactive materials is hard to believe. The commenter said that nuclear plants are dangerous and unnecessary. The commenter believes there are much better sources of energy which are not laden with all the dangers of nuclear power.

*Response: The NRC staff recognizes that some commenters are opposed to the proposed ACP and to nuclear power. These comments are beyond the scope of the EIS.*

**Comment: 015-57**

A commenter suggested adding "NRC Docket No. 70-7004" before the date on line 31 of page 4-123.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*



**Comment: 015-58**

A commenter suggested changing “USEC, Inc.” to “USEC Inc.” on line 42 of page 4-123.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 015-59**

A commenter suggested changing “USEC,, Inc.” to “USEC Inc.” on line 46 of page 4-123.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**J.12 No-Action Alternative**

No comments received on this section.

**J.13 Mitigation**

**Comment: 014-40-2**

A commenter commended NRC for proposing the use of best management practices to mitigate erosion and sedimentation impacts (e.g., silt fences, straw bales, re-seeding disturbed areas, etc.). The commenter requested that in addition, NRC should commit to evaluating significant characteristics for the Little Beaver Creek habitat (e.g., fish spawning periods, mussel locations), and conducting appropriate mitigation activities to preserve these characteristics. The commenter urged NRC to establish such mitigation commitments in the construction contracts for the proposed project, and to document these mitigation measures in the Record of Decision.

*Response: Because the potential impacts on Little Beaver Creek are small, the development of additional mitigation measures beyond the best management practices identified by USEC in its Environmental Report are not warranted. NRC notes, that under the proposed Environmental Measurement and Monitoring programs, USEC would collect and analyze weekly and monthly surface water and sediment samples from Little and Big Beaver creeks, which would detect any significant changes in its characteristics. See Section 6.1.4, Surface Water and Sediment Monitoring, for details.*

**Comment: 015-60**

A commenter suggested changing “United States Enrichment Corporation” to “USEC Inc.” on lines 31 and 34 of page 5-4.

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**J.14 Environmental Measurement and Monitoring Programs**

**Comment: PMT-007-3**

A commenter noted that the correct formula for uranyl fluoride (page 6-3) is  $UO_2F_2$  not  $UF_2$ .

*Response: The NRC staff has revised the text to reflect the commenter’s suggestion.*

**Comment: 014-33**

A commenter noted that on page 6-3, line 14, the Draft EIS states that uranium isotopes anticipated to “be released as airborne emissions would include uranium-234, uranium-235, uranium-236, and uranium-238. The commenter asked that the Final EIS also include the isotopes of americium, neptunium, plutonium,

and technetium (listed on the bottom of page 3-31) that have been known emissions from the former Portsmouth Gaseous Diffusion Plant, which had uranium feed similar to what is anticipated for the ACP.

*Response: The gaseous diffusion plants during their history processed feed from a variety of sources, resulting in the presence of the additional isotopes listed on page 3-31. USEC intends to use natural uranium in the form of UF<sub>6</sub> for the proposed ACP. The intention is to not introduce feedstock contaminated with significant concentrations of other nuclides into the process. Feed material that meets the American Standards for Testing and Materials specification for recycled feed may be used, and may contain radionuclides such as uranium-236 and technetium-99. Based on USEC's license application, no transuranic elements such as plutonium, americium, or neptunium are expected to be processed by the ACP in other than trace quantities. USEC does plan on analyzing effluents for technetium-99 because of the isotope's historic presence on the reservation. Analysis of expected dose from air releases of isotopes of the transuranic elements can not be performed in the EIS because there is no expected release source of the isotopes from the ACP.*

**Comment: 015-61**

A commenter suggested revising bulletized item to read, "X-3001, X-3002, X-3003, and X-3004 Process Buildings;" on line 7 of page 6-3.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-62**

A commenter suggested revising bulletized item to read, "X-3356 and X-3366 Product and Tails Withdrawal Buildings;" on line 8 of page 6-3.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-63**

A commenter suggested revising the subtitle to read, "X-3001, and X-3002, and X-3004 Process Buildings" on line 4 of page 6-4.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-64**

A commenter suggested revising the sentence to read, "The X-3001, X-3002, X-3003, and X-3004 Process Buildings would..." on line 6 of page 6-4.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-65**

A commenter suggested revising the subtitle to read, "X-3356 and X-3366 Product and Tails Withdrawal Buildings" on line 25 of page 6-4.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-66**

A commenter suggested revising the sentence to read, "The X-3356 and X-3366 buildings would..." on line 26 of page 6-4.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-67**

A commenter suggested changing "012" to "013" on line 6 of page 6-6.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-68**

A commenter suggested changing "013" to "012" on line 7 of page 6-6.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**Comment: 015-69**

A commenter suggested changing "United States Enrichment Corporation" To "USEC Inc." on line 34 of page 6-12.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

**J.15 Cost-Benefit Analysis**

**Comment: 005-12**

A commenter indicated that on Page 7-1, Section 7.1.1 costs of the Proposed Action are not clear and questioned if USEC would be responsible for the decontamination and decommissioning of the facilities once the life cycle is completed. The commenter stated that USEC is currently leasing the facilities from a federal agency and the EIS should make it clear if the federal government will be ultimately responsible for the decontamination and decommissioning of the facilities to be used by the ACP.

*Response: USEC's total decommissioning liability includes both the total plant decommissioning and decontamination costs and the tails disposition costs. USEC presently intends to utilize a surety bond to provide financial assurance for decommissioning, pursuant to 10 CFR 70.25(f). The surety bond will provide an ultimate guarantee that decommissioning costs will be paid in the event USEC is unable to meet its decommissioning obligations at the time of decommissioning. The surety bond will require that the surety company will deposit any funds paid under its terms directly into either an external trust or a standby trust. However, USEC may choose to utilize alternate financial assurance funding methods. Upon finalization of the specific funding instruments to be utilized and at least 90 days prior to the commencement of enrichment operations, USEC will supplement its application to include the signed, executed documentation.*

**Comment: 015-70**

A commenter suggested changing "United States Enrichment Corporation" to "USEC Inc." on lines 43 and 46 of page 7-10.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

## **J.16 Summary of Environmental Consequences**

### **Comment: 015-71**

A commenter suggested changing "3324" to "3346" on line 13 of page 8-4.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

### **Comment: 015-72**

A commenter suggested changing "United States Enrichment Corporation" to "USEC Inc." on line 3 of page 8-5.

*Response: The NRC staff has revised the text to reflect the commenter's suggestion.*

## **J.17 List of Preparers**

### **Comment: 008-1**

A commenter asked for an explanation of the basis for regarding NRC's analyst for historic and cultural resources as qualified to analyze the impacts of the proposed ACP.

*Response: The analyst meets the standards for archeology in The Secretary of the Interior's "Standards and Guidelines for Archeology and Historic Preservation" (48 FR 44716) and has conducted evaluations for historic and cultural resources for NEPA documents and other environmental studies since 1978. She has also conducted information gathering efforts with many American Indian tribes for a variety of infrastructure projects and has supported federal agencies in government-to-government consultations with federally-recognized tribes.*

## **J.18 Appendices**

### **Comment: PMT-007-4**

One commenter noted that in Appendix B, page 1, the term uranium hexafluoride is misspelled.

*Response: The NRC staff acknowledges the comment, however, Appendix B is a reproduction of correspondence that has already been completed.*

### **Comment: 014-30**

A commenter stated that throughout Appendix C the isotope list should include technetium and transuranic isotopes such as those listed on page 3-31 to reflect activities anticipated at the ACP.

*Response: Technetium is included in the Appendix C analyses that deal with disturbance of existing sources such as on-site soil. The activity levels for the airborne sources in Appendix C were taken from the sampling results in the 2003 site environmental report, and technetium-99 is included as one of the isotopes identified by the site sampling. Isotopes of the transuranic elements were not listed as being detected in the soils at the locations of interest, such as the ambient air monitoring stations. These isotopes were accordingly not included in the calculations of dose resulting from soil disturbance. For the dose assessment from operations, USEC has stated in section 9.2.2 of their license application that they intend to use natural feedstock at the ACP that does not contain significant quantities of isotopes other than uranium-234, uranium-235, and uranium-238. USEC also intends to adhere to the American Society of Testing and Materials specification for recycled feed, which will limit the presence of other isotopes such as uranium-236 and technetium-99. Based on USEC's license application, no transuranic elements*

*such as plutonium, americium, or neptunium are expected to be processed by the ACP in other than trace quantities. The analysis accordingly did not include those isotopes in the airborne release inventory.*

## **J.19 Other Comments**

### **Accidents**

#### **Comment: 004-8**

A commenter asked what the plans are for managing a radioactive accident at the facility?

*Response: In the EIS, the impacts of selected potential accidents were evaluated to assess the potential human health impacts associated with accidents. The accident sequences selected vary in severity from high- to low-consequence events, and include accidents initiated by operator error and equipment failure. NRC regulations and USEC's operating procedures for the proposed ACP are designed to ensure that the high and intermediate accident scenarios would be highly unlikely. The NRC staff's Safety Evaluation Report assesses the safety features and operating procedures required to reduce the risks from accidents. The combination of Items Relied on for Safety that mitigate emergency conditions, and the implementation of emergency procedures and protective actions in accordance with the proposed Emergency Plan for the ACP, would limit the impacts of accidents that could otherwise extend beyond the proposed ACP boundaries. The Items Relied on for Safety include such measures as active and passive engineered controls.*

### **Security/Terrorism Issues**

#### **Comment: PMT-014-3**

One commenter claimed that uranium enrichment plants have a poor security history. The commenter identified the Urenco plant as being responsible for allowing the Con Network access to the centrifuge technology behind the enrichment programs of Pakistan, Iran, Iraq, and Libya. The commenter also noted that some of USEC's violation notices have involved lax control over classified computers.

*Response: In accordance with the requirements of 10 CFR Part 95, USEC submitted to the NRC, as part of its license application, its plan for the protection of classified matter, including classified computers, at the ACP. The NRC's review of this plan is being documented in the NRC's safety evaluation report. As part of the NRC's process for approving the plan, prior to USEC's receipt of any classified matter at the ACP, the NRC will conduct an inspection to ensure that USEC will adequately implement the NRC's classified matter protection requirements and the commitments contained in the plan. In addition, during the time USEC possesses classified matter, the NRC will conduct periodic inspections to ensure that USEC is complying with the regulatory requirements and the commitments contained in the plan.*

#### **Comment: 004-9**

A commenter questioned what assurances there are that this plant will not encourage a terrorist act in our own rural backyard?

*Response: As stated in the Commission's Memorandum and Order CLI-02-241, although the NRC has determined that issues of terrorism in the context of NEPA should not be addressed, the NRC is devoting substantial time and attention to terrorism-related matters. For example, as part of fulfilling its mission to protect public health and safety and common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting security assessments of commercial uses of radioactive material.*

**Comment: 003-5**

A commenter indicated that because the Envirocare facility is currently not able to accommodate the radioactive waste shipped to it and that there is no confidence that the waste generated by the USEC facility will ever be removed from the site. The commenter stated that this is an environmental hazard and creates a terrorist target in southeast Ohio.

*Response: As described in section 2.1.4.3, the disposition of the depleted  $U_3O_8$  generated from the DOE conversion facilities at Paducah and Portsmouth would be either at the Envirocare site (DOE's proposed disposition site) or at the Nevada Test Site (DOE's optional disposal site). Depleted  $U_3O_8$  generated from the adjacent or offsite private conversion process would be disposed at a site licensed to accept this material. For example, under its Radioactive Materials License issued by the State of Utah, Envirocare is authorized to accept for disposal the quantities of depleted uranium oxides expected to be generated by the conversion of the proposed ACP's depleted  $UF_6$ .*

**Comment: 003-5**

A commenter noted that there is currently a 3-strand barbed wire fence surrounding the facility, which does not provide much assurance against potential terrorist entry to the facility.

*Response: As stated in the Commission's Memorandum and Order CLI-02-241, although the NRC has determined that issues of terrorism in the context of NEPA should not be addressed, the NRC is devoting substantial time and attention to terrorism-related matters. For example, as part of fulfilling its mission to protect public health and safety and common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting security assessments of commercial uses of radioactive material.*

**Highly Enriched Uranium**

**Comment: PMT-017-3; PMT-002-5; PMT-005-2**

Two commenters expressed concern over the use of centrifuge technology to manufacture weapons-grade material. One commenter stated that centrifuge technology is the very same technology the U.S. government is concerned about Iran possessing. One of the comments noted that the resulting environmental impacts would be extremely different and would change the whole impact of the plant. Another commenter questioned whether there is any possibility that this plant would manufacture materials at high enough concentrations for use in other applications, such as bomb manufacturing.

*Response: The license application under review is limited to the construction and operation of a plant to enrich uranium up to 10 percent by weight of uranium-235, with an initial production capacity of 3.5 million SWUs potentially expandable to 7 million SWUs, using gas centrifuge technology. Any significant changes to this license would require prior approval by the NRC, and would be subject to additional review. As described in Section 1.2, page 1-2 of the EIS, the proposed ACP would produce only low-enriched uranium for shipment to commercial nuclear power fuel fabricators; expected product recipients are listed in Section 2.1.4.3, page 2-27. The production of highly-enriched uranium for the Department of Defense is not considered part of the proposed action and is not under consideration in the NRC licensing review (see Section 1.3.1).*

**Comment: PMT-007-1; PMT-003-7**

One commenter stated that another commenter stated that the material was manufactured from 1954 to 1964 and the building was shut down around 1992. Another commenter indicated that production of the material did not actually cease until 1992.

*Response: NRC appreciates the commenter's clarification of the time period during which highly enriched uranium was produced at the Portsmouth facility.*

### **Violations**

#### **Comment: PMT-004-1**

A commenter wondered if USECs previous violations were taken into account in the Draft EIS.

*Response: NRC is aware of past violations. The EIS focuses on environmental impacts of the proposed action. Consideration of violations of the terms of the license are beyond the scope of this document. However, should a licensee violate the terms of its license, which includes compliance with all applicable laws and regulations pertaining to uranium enrichment operations and environmental protection, then the NRC, as the Federal oversight agency, may impose penalties, including financial and civil penalties and license revocation. Other Federal and State agencies can also impose requirements and penalties for violations of laws and regulations under their purview.*

### **Historic and Cultural Resources**

**Comment -010-2-1:** Commenter stated that the requirements of the National Historic Preservation Act were not followed when the DOE took part of his land in the 1950s. Commenter also states that his property should be eligible for inclusion in the National Register of Historic Places.

*Response: These comments are acknowledged and do not provide significant new information relevant to this EIS.*

**Comment 010-3:** Commenter stated that safety, security, and environmental fears could negatively impact public visitation to and appreciation of the historic sites surrounding the DOE reservation.

*Response: These comments are acknowledged and do not provide significant new information relevant to this EIS.*

**Comment 010-4:** Commenter suggested that the site would better serve the public as a historic memorial to both the passenger pigeon and to the various historically significant buildings that are found in the surrounding areas.

*Response: This comment is acknowledged and does not provide significant new information relevant to this EIS.*

**Comment 010-5:** Commenter described the historical significance of the Barnes Works, also known as the Seal Works.

*Response: This comment is acknowledged and does not provide significant new information relevant to this EIS.*

**Comment 010-6:** Commenter stated that her tribe was not contacted about the construction of the centrifuge plant and they want to be included as a consulting party.

*Response: Information in the commenter's letter was included in Section 3.3.5. NRC attempted several times to reach the commenter's tribe to consult, but received no response.*

**Comment 010-7:** Commenter stated that his tribe was not contacted about the construction of the centrifuge plant and they want to be included as a consulting party.

*Response: NRC sent a letter and copy of the Draft EIS to the commenter and requested further input, but received no response.*

## **J.20 Late Filed Comments**

Just prior to publication of the Final EIS (from approximately March 3, 2006 to March 11, 2006), NRC received several comments concerning the possible discovery of a new prehistoric earthwork located near the main entrance to the DOE Reservation. A general summary of those comments, along with responses, is provided below.

### **Comment:**

A commenter expressed concern about an apparent prehistoric earthwork located near the West Access road to the DOE reservation and next to a highway off-ramp where the commenter reports that work is scheduled to be conducted by the Ohio Department of Transportation. The commenter believes that the road work is being done in connection with the proposed ACP project and, therefore, that NRC must consider the effects of the work as part of the undertaking under consideration in the EIS.

*Response: NRC queried the applicant, USEC, and was informed that USEC had not requested improvements to the off-ramp or the West Access road. USEC stated that the Ohio Department of Transportation had informed them of the work in advance to allow time for access to be established via an alternate route. USEC indicated that it understood the work to be maintenance based on Ohio Department of Transportation inspection records, and noted that repavement south of the cloverleaf took place two years ago and, north of the cloverleaf, last year. NRC contacted the Ohio Department of Transportation and verified that its work in the area was unrelated to the proposed ACP. Based on this information, NRC finds that the Ohio Department of Transportation work is not part of its undertaking and that the highway off-ramp and road outside the DOE reservation is not part of the area of potential effects to be considered in assessing impacts of the undertaking on historic properties.*

### **Comment:**

A commenter expressed concern about traffic accidents that might affect an archaeological site in the location of the possible prehistoric earthwork location, specifically an accident involving release of radioactive materials that would require soils cleanup that would adversely affect an archaeological site.

*Response: The EIS analyzes the effects of transportation related to the proposed ACP during construction and operations in section 4.2.11. Current (2004) daily trips on U.S. Route 23 and State Road 32 average 15,110 and 8,830, respectively (see Table 4-5). ACP construction would generate 2,639 daily highway trips and operations would generate 1,137; the bulk of these trips would be workers in cars, while daily truck trips would average 27 during construction and 24 during operations (see Tables 4-5 and 4-9). The likelihood of accidents involving ACP-related trucks occurring anywhere along the transportation routes is small, resulting in an estimated 3.61 injuries per year during construction and less than one per year during operations (see Tables 4-8 and 4-11).*

*The likelihood of an accident involving the release of radioactive material that might affect an archeological site near the location of the possible prehistoric earthwork location is small. It is estimated that there will be approximately 1,565 truck shipments of radioactive material per year, including feed material cylinders, product material cylinders, heel cylinders, and radioactive waste. Assuming an*



*accident rate of  $3 \times 10^{-7}$  accidents per vehicle per km (see Table D-8), there is estimated to be an average of 0.005 accidents per year involving a radioactive material shipment along a ten kilometer stretch of road near the prehistoric earthworks, or about one accident every 200 years. Only a fraction of these accidents would involve the release of any radioactive material. If an accident were to occur, it is estimated that there is a 55 percent probability that no radioactive material will be released, a 36 percent probability that only 1 percent of the radioactive material will be released, a 7 percent probability that 10 percent of the material will be released, and only about 2 percent that all the radioactive will be released (see Tables D-9 and D-11).*

**Comment:**

A commenter expressed the opinion that a reported discovery of a prehistoric earthwork next to the West Access road to the DOE reservation would trigger the Native American Graves Protection and Repatriation Act provisions for inadvertent discoveries on Federal lands and would require NRC to notify those tribes with whom it had consulted who requested to be notified if any Native American Graves Protection and Repatriation Act items were encountered during construction.

*Response: NRC notes that the reported discovery is not on Federal lands and that the proposed ACP is not under construction. The commenter asserts that the area of the reported discovery is beside a highway exit ramp where a large number of trucks will pass. As indicated in the response above, the location of the reported discovery does not fall within the area of potential effects of NRC's licensing activity. The previous response summarizes the transportation impacts and accidents associated with ACP construction and operations as analyzed in the EIS. It should be noted that the commenter's numerical count of trucks is incorrectly attributed to the ACP; it applies to current (2004) daily traffic counts on U.S. Route 23 and State Route 32 (see Table 4-5).*

**J.21 References**

(DOE, 2004a). U.S. Department of Energy. "Final Environmental Impact Statement for Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at the Portsmouth, Ohio Site." DOE/EIS-0360. Office of Environmental Management. June 2004.

(DOE, 2004b). U.S. Department of Energy. "Portsmouth Annual Environmental Report for 2003." DOE/OR/11-3153 & D1. Office of Environmental Management. June 2004.

(ERDA, 1977). Energy Research and Development Administration. "Final Environmental Statement, Portsmouth Gaseous Diffusion Plant Expansion, Piketon, Ohio." ERDA-1549. September 1977.

(NRC, 2005). U.S. Nuclear Regulatory Commission. Commission Order CLI-05-05. January 18, 2005.

(ODR, 2205). Ohio Department of Natural Resources. "100-Year Flood Hazard Areas - Pike County." 2005. <<http://www.dnr.state.oh.us/gims/report.asp>> (Accessed 6/8/2005).

(USEC, 2005a). United States Enrichment Corporation. "Responses to Request for Additional Information on the Environmental Report, AET-05-0061." July 29, 2005.

(USEC, 2005b). USEC Inc. "Environmental Report for the American Centrifuge Plant in Piketon, Ohio." NRC Docket No. 70-7004. Revision 6. November 2005.



**APPENDIX K**  
**PUBLIC COMMENT LETTERS AND TRANSCRIPT**



From: <Vjcmprich@aol.com>  
To: <nrcprep@nrc.gov>  
Date: Mon, Oct 3, 2005 12:26 PM  
Subject: DOCKET NUMBER: 70-7004.

9/8/05

70 FR 53394

To the Nuclear Regulatory Commission:

①

001-1

This is to convey that I and my household are opposed to a new uranium enrichment plant at Piketon, Ohio. The benefits being touted seem to me nowhere near the damage and potential damage to the community and beyond.

Sincerely,

Vickie Cimprich  
John Cimprich  
331 Highland Avenue  
Fl. Mitchell, KY 41017

CC: <aegran@yahoo.com>, <kbaker@zslaw.com>, <pbarnes44@comcast.net>, <becher@fuse.net>, <CPEDRO76@aol.com>, <dcimprich@seacove.net>, <jcimprich@bright.net>, <srdorothy@insightbb.com>, <hmmayfield@fuse.net>, <jimvogt2@yahoo.com>, <letters@enquirer.com>, <paolucci@one.net>, <msnruscov@yahoo.com>, <kpls@msn.com>, <postedit@cincypost.com>, <rainey531@juno.com>, <Mia.Schmitt@oh.etest.com>, <mhstein@one.net>, <tsuit@challengemky.com>

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USNRC

SISF Review Complete

Template = ADM-013

E-REDS = ADM-03

See = M. Blevins (HXB6)

**Mail Envelope Properties (43415BB0.0E6 : 8 : 57574)**

**Subject:** DOCKET NUMBER: 70-7004.  
**Creation Date:** Mon, Oct 3, 2005 12:25 PM  
**From:** <Vjcmprich@aol.com>

**Created By:** Vjcmprich@aol.com

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Files	Size
MESSAGE	346
TEXT.htm	512
Mime.822	2547

Date & Time  
Monday, October 3, 2005 12:25 PM

Options	
Expiration Date:	None
Priority:	Standard
Reply Requested:	No
Return Notification:	None

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**No  
Standard**



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70FR 53396  
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October 5, 2005

Ron Linton  
Environmental and Performance Assessment Branch  
Nuclear Regulatory Commission  
Washington, DC 20555-0001

Re: Draft Environmental Impact Statement, Docket No. 70-7004, American Centrifuge Commercial Plant  
Portsmouth Gaseous Diffusion Plant (PORTS), Pike County, Ohio

Dear Mr. Linton,

This is in response to correspondence from your office dated September 6, 2005 (received September 9) providing a copy of the Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment, U.S. Nuclear Regulatory Commission, dated August 2005, regarding the above referenced project. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]); the Department of Energy serves as the lead federal agency.

The draft Report provides detailed discussions of many factors under consideration during the review for the proposed project. Our comments are intended to provide some clarification regarding the discussions of cultural resources. We are substantially in agreement regarding consideration of cultural resources. The differences in phrasing and interpretation, and clarification recommended, should not be interpreted as disagreement.

Throughout the discussions of cultural resources and consultation with the Ohio Historic Preservation Office, the Report offers the impression that there is concurrence that there will be no historic properties affected by the proposed and cumulative project development. The inset table on Page xxii defines "Small" as "...effects that are not detectable or are so minor that they would neither destabilize nor noticeably alter any important attribute of the resource." In Table 2-7 (Page 2-38), the report presents the finding that the impacts to historic and cultural resources would be small. This finding is repeated in Table 2-8 (Page 2-50). On Pages 4-5 and 4-6, the report states that there is concurrence with this office on a finding of "no effect" for the undertaking and that the impacts would be "SMALL". It was the intent of our correspondence, specifically our letter dated May 20, 2004, to set forth as part of ongoing consultation our interpretation that the proposed project would not adversely affect historic properties. That is, there are historic properties in the Area of Potential Effects, but the proposed project will not diminish the qualities and characteristics that make them significant. We believe that the changes will be noticeable. In some ways we feel that the immediate impacts from the proposed undertaking are perhaps more along the lines of MODERATE as compared to SMALL impacts. From a philosophical perspective, as the Gaseous Diffusion technology is replaced there will be changes to the Cold War buildings but since science is not static we shouldn't expect our recognition of significance based on science and technology to require static preservation.

002-1

*Esp Review Complete*

*Template = ADM-013*

*EREDS = ADM-03*

*Call = M. Blenkins  
(MX86)*

OHIO HISTORICAL SOCIETY  
Ohio Historic Preservation Office  
567 East Hudson Street, Columbus, Ohio 43211-1030 ph: 614.298.2000 fx: 614.298.2037  
www.ohiohistory.org

Mr. Ron Linton  
October 5, 2005  
Page 2

002-2

Also, here are some additional points for consideration. On Page 2-42, the Report states that Alternate Locations B and C within the Reservation were graded during construction of the Gaseous Diffusion facility. From my limited understanding of this area, it appears to me that the majority of both of these areas lie outside of the area that was severely disturbed by previous construction. In my opinion, the lack of severe disturbance throughout the entirety of Alternate Locations B and C increases concerns for historic preservation, and likely for other factors as well, and thus the lack of severe disturbance further supports your selection of Location A as the preferred site for the undertaking.

002-3

The Report provides information on the size of the Reservation in several places and it appeared to me that the numbers aren't always the same. For instance, on Page 2-2 the Reservation is described as encompassing 3,700 acres with 1,300 acres inside the perimeter loop road while on Page 3-1 (and also see Page 3-5) the report states that within the Reservation there are 750 security-fenced acres with 550 acres in the central area surrounded by the Perimeter Road.

002-1

On Page 3-7, the Report states that an initial archaeological survey of the DOE reservation was completed in 1952 and reportedly found no evidence of archaeological materials with reference to a 1977 Environmental Impact Statement. Is it possible to obtain a copy of relevant portions of this 1977 document? It might be helpful to include copies of selected portions in the final EIS report for this undertaking. It can be difficult to compare meaningfully work completed in 1952 when there was no authority to take into account effects of undertakings on historic properties with work being conducted today (and since 1986) under authority of the National Historic Preservation Act of 1966, as amended, and its implementing regulations at 36 CFR 800.

There are several places where the Report refers to sites, buildings, structures, and districts with potential National Register eligibility. For instance, the Report states that identified archaeological sites that have not yet been fully evaluated for National Register eligibility (and refers to them as potentially eligible) be treated as eligible for inclusion in the National Register (Page 4-5 -- inset text box). There are also references to the potentially eligible Barnes House and potentially contributing elements within the historic district. We believe that there is a slight and subtle shift in the meaning of the word potential differentiating potential effects and potential impacts from potential significance and potential eligibility, and that this shift in meaning could lead to some confusion if not clarified. Regarding the 14 identified archaeological sites that have not been fully evaluated for National Register eligibility, we suggest that you consider language that establishes the specific measures that will be taken to protect the sites from effects during this undertaking until such time as sufficient information is available to complete the evaluation. That is, treat them as archaeological sites that are being protected not as historic properties that are being protected. For the Barnes House, and for the listed Scioto Township Works I archaeological site, assess the potential for the undertaking to have effects based on those qualities and characteristics that are known and understood to contribute to the importance of these properties recognizing that we may have a better understanding of these properties in the future.

The Report carefully considers the use of existing wells and finds that this will not result in changes to the ground around the wells and will not result in increased maintenance activities around the wells that has the potential to adversely affect historic properties. If the wells immediately west of the Reservation are on an embankment that is part of an earthwork complex dating to some 2,000 years ago and if this archaeological site meets National Register criteria, we would agree with your inclusion of this area with the project's finding, that the use of the existing wells will not adversely affect historic properties, provided that sufficient safeguards and conditions are in place to continue consultation if future work is proposed

Mr. Ron Linton  
October 5, 2005  
Page 3

around these wells, or becomes necessary around these wells, that would have the potential to adversely affect historic properties. We recommend that you develop appropriate conditions to provide for preservation the areas around the wells until such time as these areas can be more fully evaluated.

002-4

The Report carefully considers the potential impacts from increased vehicular traffic and finds that the increased traffic will be small and will not introduce adverse effects. Within the limits defined in the Report, we agree with this finding provided that appropriate conditions are developed to reopen consultation if vehicular traffic increases above this level or if new construction of roads or railroads becomes necessary as a direct and foreseeable consequence of the development of this project.

002-1

In general we are in agreement the conclusions and findings presented in the Report. Within the integrated National Environmental Policy Act review process, this reaffirms our interpretation that the proposed American Centrifuge Plant undertaking will not adversely affect historic properties. There are some places in the Report where it would be helpful for the documentation to provide greater clarity and to provide greater precision to facilitate the integration the discussions on archaeological sites, architectural properties, and other kinds of cultural resources within the overall assessment of effects. It would also be helpful to reinforce language that establishes conditions to restrain effects from rising to adverse levels.

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,



David Snyder, Archaeology Reviews Manager  
Resource Protection and Review

DMS/ds (OHPO Serial Number 1002038)

Enclosed: OHPO letter dated May 20, 2004  
OHPO letter dated November 17, 2003

xc: Geoffrey Sea, 1832 Wakefield Mound Road, Piketon, OH 45662  
Karen Kanlatobe, Absentee Shawnee Tribe of Oklahoma, 2025 S. Gordon Cooper Drive, Shownee, OK 74801-9381

**Ohio Historic Preservation Office**

567 East Hudson Street  
Columbus, Ohio 43211-1030  
614/ 298-2000 Fax: 614/ 298-2037

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May 20, 2004

Peter J. Miner  
USEC, Inc.  
6903 Rockledge Drive  
Bethesda, MD 20817-1818

Re: Installation and Operation of the American Centrifuge Commercial Plant  
Portsmouth Gaseous Diffusion Plant (PORTS), Pike County, Ohio

Dear Mr. Miner,

This is in response to correspondence from your office dated March 2, 2004 (received March 5) regarding the above referenced project. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]); the Department of Energy serves as the lead federal agency.

Your correspondence offers the position that the proposed new construction will include buildings of similar design and size to the nearby buildings and that there will be similar functions carried out in these new buildings. Although not specifically stated in your correspondence, it appears that your discussion is to conclude that the qualities and characteristics that make PORTS significant will not be diminished by the proposed new construction. While we believe that clarification of those qualities that make PORTS significant would be helpful, given the available information on the size, design, and function of the existing and the proposed buildings, we are able to offer our opinion that the proposed project will not adversely affect the Portsmouth Gaseous Diffusion Plant historic property.

As you are aware, private citizens have raised concerns about the potential for this project to affect historic properties, including prehistoric archaeological sites. The National Historic Preservation Act strongly encourages federal agencies to include comments and concerns from the public throughout the Section 106 review process. It is our understanding the area of proposed new construction has been previously severely disturbed by previous construction, that the topsoil in this area was removed to a depth well into the subsoil and the contours were completed regraded during previous construction. However, we believe that it is an important responsibility to listen carefully to public concerns and to provide thoughtful and sensitive responses.

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

Mark J. Epstein, Department Head  
Resource Protection and Review

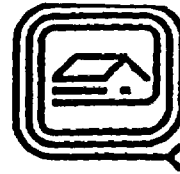
MJE:DMS/ds (OHPO Serial Number 100903)

cc: Gary S. Hartman, DOE - Oak Ridge, P.O. Box 2001, Oak Ridge, TN 37831

**Ohio Historic Preservation Office**

567 East Hudson Street  
Columbus, Ohio 43211-1030  
614/ 298-2000 Fax: 614/ 298-2037

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November 17, 2003

Russell J. Vranicar, Acting Site Manager  
U.S. Department of Energy, PORTS  
Portsmouth Site Office  
P.O. Box 700  
Piketon, OH 45661-0700

Re: Review of report, Testing at site 33-PK-210  
Portsmouth Gaseous Diffusion Plant, Scioto Township, Pike County, Ohio

Dear Mr. Vranicar,

This is in response to correspondence from your office dated September 19, 2003 (received September 24) transmitting the report titled "Phase II Archaeological Testing at Site 33PK210, Scioto Township, Pike County, Ohio" by Christopher M. Hazel, July 2003. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]); the Department of Energy serves as the lead federal agency.

The archaeological testing was restricted to the portion of site 33-PK-210 on Department of Energy property. It appears that more than half of the site extends south of Department of Energy property. The testing included background review, pedestrian walk-over, and shovel testing. Although the extent of site exposed through a combination of shovel testing, excavation units, and auger testing was quite small, we agree that the research design was sufficient to identify any pattern of artifacts or features within the tested portion of the site. We agree with the conclusions that no sensitive archaeological deposits were identified in the tested portion of site 33-PK-210 and that no further archaeological investigations are warranted within this portion of the site. We do not concur that sufficient testing has been conducted to conclude that the entire site doesn't meet the criteria for National Register eligibility. Given the modest assemblage recovered from site 33-PK-210 we do not believe that additional testing at this site is a preservation priority. Assuming that all development within PORTS takes place north of the fence line marking the southern boundary of the tested portion of the site, we concur that no further archaeological testing at site 33-PK-210 is necessary and that no further coordination with this office is necessary for this site.

Mr. Russell J. Vranicar  
November 17, 2003  
Page 2

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,



David Snyder, Archaeology Reviews Manager  
Resource Protection and Review

DMS:ds

xc: Gary Hartman, DOE - Oak Ridge, P.O. Box 2001, Oak Ridge, TN 37831  
Kristi Wiehle, DOE - PORTS, P.O. Box 700, Piketon, OH 45661-0700

From: "Elisa Young" <elisay@earthlink.net>  
 To: <NRCREP@nrc.gov>, "Yawar Faraz" <YHF@nrc.gov>, "Matt Blevins" <mx6@nrc.gov>  
 Date: Tue, Oct 25, 2005 12:12 AM  
 Subject: Fw: ACP DEIS comments

003-2 In addition to the questions I sent regarding Envirocare's off-site waste accumulation, I sent an e-mail to the NRC prior to the deadline questioning if the additional DU generated by USEC would be enough to request additional EIS consideration. I believe UDS processing did not have EIS done originally because it was deemed to be of no significant impact. I had asked the DOE before if the additional 200,000 tons from USEC and/ or shipments to Ohio as outlined in LES proposed facility's application, would be sufficient to trigger additional EIS consideration and I was told that it would be. I did not hear a response back from the NRC prior to the 10/24 deadline, only that the person I sent it to was out of town and returning the day after EIS deadline for comments, so I will attach and re-send.

I have been having trouble with my computer. Can you please confirm that you received these by the deadline and that they will be given consideration for the DEIS?

Thank you,  
 Elisa Young

#### COMMENTS ON DEIS NUREG-1834

003-3 1. Decontamination and decommissioning costs - In table 7-1 it estimates decontamination and decommissioning costs to be \$435 million. There is not a breakdown in the appendix of how this figure was determined and more investigation needs to be done and shared with the public. Taxpayers have almost totally funded these costs for the former facility's operation at the DOE site to the tune of \$300,000,000 (million) annually. The figure provided in this table would not be sufficient. USEC is a private business, generally believed to be in poor financial standing, that recently laid off 150 employees. Approximately the same number of "new" jobs we have been told will be employed in Pike County by the new facility. Taxpayers need solid assurance that we will not be left holding the bag if the facility is shut down, or does not have sufficient funding set aside to cover D&D costs and long term storage and monitoring of radioactive waste it is responsible for generating. How much taxpayer funding is currently being spent to do this work at Paducah and other sites? \$435 million does not reflect the reality of what we are seeing at Piketon. It is grossly inadequate. Since the DOE owns the site that USEC would be operating from, if the company folds, taxpayers would be left with this expense and that is unacceptable.

003-4 This table also does not include any cost analysis for long term waste storage. Serious consideration needs to be given and provision made in advance as this is the most expensive cost involved in D&D. The \$300 million taxpayers are currently paying for clean-up does not even begin to touch long-term storage, monitoring, and safety precautions. I asked the DOE for a total of how much taxpayer funding has been spent to date on clean-up, but have never received that information.

003-5 The report lists Envirocare as being able to accept unlimited amounts of low-level waste. This contract needs to be signed in advance and paid for. Envirocare is currently accepting so much radioactive waste that they cannot accommodate it - it is being stacked by the side of the road and left for processing. I do not have confidence that by the time this waste is ready to be shipped from Piketon and all of the other sites that are utilizing this landfill have sent what they have there that there will be enough space to accept what USEC would generate and Ohio would be left in the same position it's in now - a stockpile of radioactive waste. This is an environmental hazard and creates a terrorist target in SE Ohio. I sent questions on this earlier to the NRC and was told that the correspondence would be included for consideration in the DEIS, so I won't repeat all of the questions I sent previously.

2. Water resources- The last published DOE annual report for site cleanup progress documented

003-6

plutonium contamination and several uranium isotopes found in fish sampled in streams known to be fishing holes for local people - all supposedly at "safe" consumption levels. I had not known previously that there was a safe level of plutonium for human consumption. Uranium was also found in the liver of a

003-5

deer that had been tested from on site. Currently there is a 3-strand barbed wire fence surrounding the facility. This is not sufficient to keep contaminated water traveling off site, or keeping deer and other wildlife from traveling back and forth, even though the deer hunt was canceled that year. Not much against assurance against potential terrorist entry, either.

003-7

A resident that I spoke with told me that he had seen eagles returning to the area, flying over the site boundaries, and feeding from radioactive landfills. What protection is being provided for them, and for people in communities where they may travel off site aside from hunting to die, leaving radioactive contamination to accumulate off-site?

The draft states that groundwater withdrawals would increase by 10 percent over current usage rates, where is it being released? It says that USEC does not anticipate any liquid discharges or radioactive materials from the proposed ACP. What protection or provision is being provided in case of unplanned releases, etc., that may contaminate the water and wildlife traveling on and off-site differently than what was done before? It was apparently inadequate and needs to be addressed. The barbed-wire fence isn't working. Does this study take into account the current level of contamination and that what USEC contributes will be additional?

003-8

3. Transportation impacts - With the US having only 2% of the worlds uranium reserves, I believe any meaningful examination of transport of this material needs to include transportation of uranium to the USEC facility from overseas sites it would be coming here from. We had a shipment of uranium for Libya a short time ago and when I asked why this was not included in the EIS for the facility, or UDS facility, they said it was shipped here as a matter of national security and was exempt from that process. Without environmental impact consideration, I believe presents a threat to the security of the communities it is transported across. I know that NRC provides waivers in cases of national security, but if we already know that there is a limited amount of uranium to work with in the US, I believe it is safe to assume some will be coming from overseas, and these impacts need to be considered in the overall picture. I don't see adequate analysis of this in the current DEIS.

003-9

I live in an area where coal fired power plants are negatively impacting my community. What electricity is going to be required for USEC's operation? Is EIS being done for our communities from coal-fired power plants? We already have high rates of asthma and cancer. The Gavin plant has been converted to residential use and is no longer available. The first centrifuge took the same amount of electricity to operate as the city of Los Angeles. Where will the energy come from to run ACP, who is paying for it's construction costs, and how will it's operation impact those communities?

003-10

No license should be granted for the larger-scale commercial facility under any circumstances until the experimental facility has been constructed, is operating, and proven to be safe and within a realistic budget that USEC can adhere to so that taxpayers are not forced to subsidize private industry. All D&D and long term storage costs should be paid into an account in advance to insure USEC covers these costs.

003-11

I have not been able to read through the entire DEIS, and would like additional time to look at the document and submit comments if that is possible.

Elisa Young  
48360 Carmel Road  
Racine, Ohio 45771



**Mail Envelope Properties (435DB0A6.9A8 : 12 : 63912)**

**Subject:** Fw: ACP DEIS comments  
**Creation Date:** Tue, Oct 25, 2005 12:12 AM  
**From:** "Elisa Young" <elisay@earthlink.net>

**Created By:** elisay@earthlink.net

**Recipients**

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NRCREP

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YHF (Yawar Faraz)  
MXB6 (Matthew Blevins)

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Tuesday, October 25, 2005 12:12 AM

**Options**

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**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

**From:** "Elisa Young" <efisay@earthlink.net>  
**To:** "Yawar Faraz" <YHF@nrc.gov>, "Matt Blevins" <mxb6@nrc.gov>  
**Date:** Thu, Oct 6, 2005 11:41 AM  
**Subject:** Envirocare/Piketon waste issues

Yawar/Matt:

When I read the transcript of the conversation between Utah Division of Radiologic Control and the Nuclear Regulatory Commission stating that Envirocare was now able to legally accept unlimited amounts of uranium tails/uranium oxides from Piketon, I wrote to the NRC questioning this.

You confirmed that there is no regulatory limit on Envirocare for the total volume of this waste.

This article was forwarded to me from the front page of the Salt Lake City Tribune.

[http://www.sltrib.com/search/cl\\_3077850](http://www.sltrib.com/search/cl_3077850)

003-5

Envirocare is receiving so much nuclear waste at this point that they cannot process it, and it is sitting along the side of the road.

Does this violate any department of transportation, storage or other NRC regulations? If not, this needs to be addressed.

In our earlier conversation, you said that applicants are not required to have long-term waste storage contracts in place as part of NRC's licensing process. For approval, the company need only list a site that is accepting the waste.

The Department of Energy stated at a public meeting last year that Envirocare is the site UDS chose to send close to 1 million tons of uranium oxide waste from their DUF6 waste processing facility. They told me that they would provide me with a copy of the letter of acceptance from Envirocare at the meeting, but after repeated requests I have still not received that.

USEC's proposed ACP facility currently under NRC licensing consideration would create approximately 200,000 tons of uranium tailings - also to be sent to Envirocare?

003-1-3

How many facilities, and how much total waste, existing and proposed is currently slated for shipment to Envirocare?

Even if the NRC does not have a regulatory limit, can Envirocare accomodate the total volume of waste being sent (or proposed to send)?

003-2

At what volume/threshold can we request environmental impact studies? [The transcript of the conversation that I read between the NRC and UDRC included calculations for eventual discharges into the Great Salt Lake, that Envirocare did not have to comply with the usual water regulations because the ground water was not potable beneath the landfill, and that Envirocare did not have to comply with agriculture regulations because it was not surrounded by agricultural activity (even though the transcript documented livestock grazing seasonally - I would assume for human consumption - around the perimeter of the landfill).]

003-1-1

According to the article below, the existing waste is not just coming from Piketon, Ohio. The general public does not have access to all of the applications currently under licensing consideration with the NRC.

003-1-2

In light of this, the NRC has a responsibility to take inventory of this situation immediately.

Envirocare should not be rubber stamped as being a feasible option for long-term storage of nuclear waste for USEC's ACP licensing - or any other proposed facilities - until this inventory is taken and that information is available to the public for public comment and input.

[http://www.sltrib.com/search/ci\\_3077850](http://www.sltrib.com/search/ci_3077850)

Sincerely,

Elisa Young

48360 Carmel Road

Racine, Ohio 45771

CC: "Diane D'Arrigo" <dianed@nirs.org>, "Michael Mariotte" <nirsnet@nirs.org>, "Pat Marida" <marida@wideopenwest.com>, "Ewan Todd" <ewan@mathcode.net>, "jean puchstein" <puch2\_1999@yahoo.com>, "Deborah Baker New" <deborahbaker@care2.com>, "Bill Price" <bill.price@sierraclub.org>, <marilyn.wall@env-comm.org>, "Earl Clausson" <earlclausson@yahoo.com>

From: "Elisa Young" <elisay@earthlink.net>  
To: "Matt Blevins" <mx6@nrc.gov>, "Yawar Faraz" <YHF@nrc.gov>  
Date: Fri, Oct 21, 2005 2:17 PM  
Subject: Tailings

I am reading through the DEIS, and see that it lists the additional tailings generated by ACP would be processed on site.

003-2  
Has this already been approved? When we attended the last public meeting with DOE/USEC, we asked if the conversion facility EIS had been done just for the waste on site, or the additional that would be generated. Bill Murphy said it was just for what was currently accumulated. I asked if the additional 200,000 tons either from Ohio or New Mexico (in LES application) would be enough to trigger an additional EIS since the conversion facility is not even built and proven to operate safely yet. Mr. Murphy said that volume could trigger another EIS if we requested.

I would like to request an EIS be done. If there is a formal process or another person I need to address this request to, please send me that information before the opportunity to request it passes.

Elisa Young

---

**From:** Elisa Young [elisay@earthlink.net]  
**Sent:** Tuesday, October 25, 2005 11:53 AM  
**To:** Yawar Faraz; Matt Blevins  
**Cc:** Pat Marida; Lindsay Lovejoy; Michael Mariotte; Ewan Todd; Deborah Baker New; LORRY SWAIN; KateKerr@aol.com; Vina Colley; Johanson; Carol Rainey; Bill Price  
**Subject:** Re: Notice of availability of NRC's Draft EIS for USECInc.'s American Centrifuge Plant

Yawar/Matt:

003-2 In the e-mail that I sent last week I asked what we need to do to request an EIS on the additional DU tailings that would be generated. On top of what is already stored on site at Piketon, USEC and LES are both proposing in their licensing applications that the additional waste they would generate be processed by the UDS facility.

There was never an EIS done, just a finding released of no significant impact based on the original volume that existed on site. I asked Bill Murphy at a public meeting almost a year ago if the additional waste from either USEC or LES would be sufficient to trigger an EIS, and he said yes.

Many of us feel that the existing waste and the potential additional stockpile of radioactive waste generated by USEC and/or LES requires EIS before licensing of either facility is granted approving storage and processing at the UDS facility. The facility is not operating yet, so we don't know how that will work, and there are already over 300,000 tons sitting on site in deteriorating cylinders waiting for processing.

The additional waste poses potential risk to the community where it will be stacked, the communities the waste will be transported through, as well as a risk to taxpayers if we end up getting stuck footing the bill for processing, transport and storage should things fall through and advanced funding is not set aside to cover these costs. This deserves consideration.

I am requesting public meetings to discuss this and work on EIS before licensing is granted for either USEC or LES.

Elisa

----- Original Message -----

**From:** "Yawar Faraz" <YHF@nrc.gov>  
**To:** <elisay@earthlink.net>  
**Cc:** <vcolley@earthlink.net>; <ewan@mathcode.net>; "Matthew Blevins" <MXB6@nrc.gov>; <marida@wideopenwest.com>  
**Sent:** Tuesday, October 25, 2005 12:20 PM  
**Subject:** Re: Notice of availability of NRC's Draft EIS for USECInc.'s American Centrifuge Plant

Elisa, your comments were received and will be considered. Yawar

>>> "Elisa Young" <elisay@earthlink.net> 10/25/05 1:25 AM >>>  
I wanted to double check on DEIS comment deadline.

The notification below said the deadline to submit comments is October 24. There was no time given. I work second shift and was not able to submit comments until close to 11:58 pm, with the assumption that anytime before midnight was accepted - same as for scoping comments.

Please let me know if my comments were received for consideration.

Thanks,  
Elisa Young

----- Original Message -----

From: "Yawar Faraz" <YHF@nrc.gov>  
To: <GeoffreySeaNYC@aol.com>; <KateKerr@aol.com>; <Mwren@aol.com>;  
<SargentsPigeon@aol.com>; <Kloecker@att.net>; <JMalherek@citizen.org>;  
<elisay@earthlink.net>; <VColley@earthlink.net>; <AnchorBrothers@fuse.net>;  
<Jfriedland@fuse.net>; <Lightheart@fuse.net>; <VCB@fuse.net>; <DebrBaker@hotmail.com>;  
<minterdj@intelliwave.com>; <Lindsay@lindsaylovejoy.com>; <Ewan@mathcode.net>;  
<NIRSNET@NIRS.ORG>; <Friedman@stat.ohio-state.edu>; <LPStansbery@wideopenwest.com>;  
<marida@wideopenwest.com>; <friendlygardener@yahoo.com>; <Mary\_Elisa\_Young@yahoo.com>;  
<PUCH2\_1999@yahoo.com>  
Cc: "Brian Smith" <BWS1@nrc.gov>; "Francis Cameron" <FXC@nrc.gov>; "James Clifford"  
<JWC@nrc.gov>; "Marian Zobler" <MLZ@nrc.gov>; "Matthew Blevins"  
<MXB6@nrc.gov>  
Sent: Thursday, September 01, 2005 4:49 PM  
Subject: Notice of availability of NRC's Draft EIS for USEC Inc.'s American Centrifuge  
Plant

This email is to inform you that the NRC has completed its preliminary environmental review and is in process of distributing its Draft Environmental Impact Statement (DEIS) for the USEC Inc. license application for the American Centrifuge Plant (ACP) proposed to be constructed and operated in Piketon, Ohio.

The DEIS may be accessed on the Internet at:  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/> by selecting "NUREG-1834."

Paper copies of the DEIS are being mailed to those previously on the distribution list.

The official comment period begins on September 9, 2005, and ends on October 24, 2005.

Yawar Faraz  
Sr. Project Manager  
Gas Centrifuge Facility Licensing Section  
Special Projects Branch  
Division of Fuel Cycle Safety and Safeguards  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington DC 20555  
ph: 301-415-8113  
e-mail: yhf@nrc.gov

59 Elmwood Place  
Athens, Ohio 45701

October 24, 2005

Chief, Rules and Directives Branch  
Division of Administrative Services  
Mailstop T-6D59  
U.S. Nuclear Regulation Commission  
Washington, D.C. 20555-0001

Dear NRC representative,

I would like to submit comments on the Piketon Uranium Enrichment Plant in Piketon, Ohio.

004-1

Firstly, I found little in the way of independent investigation in the DEIS, and little to open the details of the project to public scrutiny from under classified information and proprietary information.

004-2

There is concern that the NRC staff has been negligent under 40 CFR 1503, not responding in a satisfactory manner to the scoping comments submitted by opponents of the ACP for the Draft Environmental Impact Statement.

004-3

The DEIS contradicts itself. The annual number of feed cylinders is different on page 2-22 than it is on page 4-47.

004-4

**Health concerns**

The DEIS displays that mortality rate in Pike County due to renal failure are between two and four times that of Ross and Scioto county. Renal failure may be associated with uranium poisoning although the DEIS suggests that this may instead be associated with diabetes and hypertension.

The DEIS compares potential ACP occupational injury rates to those from the obsolete Standard Industrial Classification. It uses occupational injury rates projected from years 2002-2003 of Piketon operations. Uranium enrichment operations at the DOE reservation in Piketon, Ohio ceased in May 2001!

Who will be responsible for the health care needs related to the uranium enrichment process of employees and residents of the Piketon area who are impacted? Will it be the responsibility of the company or federal government (NRC)?

Uranium is implicated in huge health risks. It appears unacceptable that the NRC approves of such a process and plant.

004-5

Water

What is happening to the quality of the water as a result of the previous USEC plant at Piketon? Are there testing procedures and reports regarding the quality of the water?

004-6

Transportation

The DEIS concluded that traffic on the highway near the plant will have a short term moderate impact. This is in comparison to other areas evaluated. All received a small environmental impact. What will the transportation problems be? Will hazard waste be transported on the highways of Ohio to the ACP? This is unacceptable.

004-7

Jobs

According to the DEIS, the ACP would cost about \$3 billion to construct the centrifuges. The Enterprise Zone program of the state of Ohio would expect about 15 thousand new jobs to be created for that scale of capital investment. It appears from the DEIS that there would be a net loss of jobs rather than an increase in jobs while jobs would be lost at Paducah. Please clarify this discrepancy. Will there be an overall loss of jobs with a great capital investment?

004-1

Safety

USEC's application seems to be the blueprint for the DEIS, not allowing for its own evaluation. The DEIS presents little evidence that it contains the results of independent investigation. For example, Piketon and Portsmouth Residents for Environmental Safety and Security (PRESS) have released the results of two analysis of radioactivity in Big Run Creek Water to cast doubt that DOE, USEC and Ohio EPA data from offsite sampling locations may be flawed. However, the DEIS uses data from these sources. Such discrepancies would encourage an independent evaluation of these waters and their radioactivity content.

004-8

Accidents

What are the plans for managing a radioactive accident? During this time of terrorism, how can we be assured that this plant will not encourage a terrorist act in our own rural backyard?

004-9

In conclusion, it is unknown whether there is any recognition by the NRC of the problems enriched uranium poses for the planet? It appears to be unknown how to make a safe product once it is enriched and used for energy or weapons. Depleted uranium lasts far into the future and can be contained only with vigilance.

I express my deep concern and disagreement with USEC's application for the American Centrifuge Plant at Piketon. I urge the Nuclear Regulatory Commission to further scrutinize and reject such an application.



Sincerely,

Loraine McCosker R.N., B.S.N.  
Appalachian Ohio Group of the Sierra Club Chair



State of Ohio Environmental Protection Agency

Southeast District Office

2195 Front Street  
Logan, OH 43138

TELE: (740) 385-8501 FAX: (740) 385-6490  
www.epa.state.oh.us

Bob Taft, Governor  
Bruce Johnson, Lieutenant Governor  
Joseph P. Koncelik, Director

October 21, 2005

Chief, Rules Review and Directives Branch  
U.S. Nuclear Regulatory Commission  
Mail Stop T6-D59  
Washington, DC 20555-0001

**RE: Ohio Environmental Protection Agency Comments on the Environmental  
Impact Statement for the Proposed American Centrifuge Plant in  
Piketon, Ohio**

Dear Sir/Madam:

Enclosed are the Ohio EPA comments on the Environmental Impact Statement for the  
Proposed American Centrifuge Plant in Piketon, Ohio.

If you have any questions, please do not hesitate to contact me at (740) 380-5289.

Sincerely,

*Maria Galanti for me*

Maria Galanti  
Site Coordinator  
Division of Emergency and Remedial Response

MG/jg

Enclosure

cc: Melody Stewart, OEPA-DHWM

Comments Draft EIS

- 005-1 1) Page xxiii, Water Resources, line 29: Please describe what type of best management practices would be utilized to minimize the impact to water resources from construction activities. The Ohio EPA has completed stream sampling from around the U.S. DOE reservation. The data should be included in the EIS to evaluate the impact potential construction activity may have upon the streams and creeks surrounding the facility. USEC must ensure that there is limited impact to the streams.
- 005-2 2) Page xxiii, Water Resources, line 29: Please describe how the ACP intends to utilize a Spill Prevention and Control and Counter measure plan when they do not control all the holding ponds at the site. Please describe how coordination between USEC, U.S. DOE and UDS would be implemented to prevent a spill from leaving the site.
- 005-3 3) Page xxvi, Waste Management, line 47: Please describe the agreement the ACP has with the U.S. DOE to accept the DUF6 cylinders for the centrifuge facility. Currently, Ohio EPA is not aware that such an agreement exists. If the ACP anticipates that U.S. DOE will be responsible for converting all DUF6 cylinders from the centrifuge plant, Ohio EPA should be contacted so that proper agreements are in place and orders may be modified to allow the transfer of waste material. Additionally, the cost for conversion for the DUF6 should be included in the costs of the facility.
- 005-4 4) Page 1-2, Line 4-8: Please describe how the lease with the federal government would work once U.S. DOE has completed its mission at the site. It is highly likely that the D&D of the gaseous diffusion plant will be completed and the site will be in long term surveillance and maintenance.
- 005-5 5) Page 2-14, Section 2.1.3.2 Secondary Facilities: The document does not discuss the potential to utilize additional buildings currently leased by USEC, Inc. Please describe what other facilities may be used including those currently leased by USEC, Inc. to support the centrifuge program.
- 005-6 6) Page 2-29, Solid Waste Handling, Storage, and Transport, Line 30: What are the NRC regulatory requirements for the management of low level mixed wastes? Where in the CFR are these requirements cited?
- 005-7 7) Page 2-30 and 2-31, Management and Disposal of Depleted UF6 from Facility Operation, line 45: If USEC-ACP and U.S. DOE have reached agreement concerning the management of UF6 cylinders, please provide the information within the text. Additionally, the USEC-ACP and U.S. DOE should discuss the potential to insert a 4<sup>th</sup> process line within the conversion facility to limit the amount of time needed to complete the conversion process for the number of cylinders USEC will create over time. The U.S. DOE and USEC should be proactive in this matter and associated cost should be examined in this EIS.

- 005-8 8) Page 3-36, Section 3.8 ecological Resources, line 1: All ecological resources should be managed appropriately. The ACP should limit disturbance to only those areas in and around the facilities needed for production.
- 005-9 9) Page 3-40, Section 3.8.3 Rare, Threatened, and Endangered Species, line 42: Ohio EPA has recently completed a stream survey of the creeks and streams surrounding the facility. The EIS should include the recent data in the report for evaluations.
- 005-10 10) Page 4-26, Section 4.2.7.2 Facility Operation, line 37: The EIS should discuss the impact to rare, threatened and endangered species should an air release or incident occur which could release HF or radioactivity into the atmosphere. Discuss deposition and potential areas of the site which would be impacted.
- 005-11 11) Page 4-93, Section 4.2.15.7, line 21, Ecological Impacts: The ecological impacts from the site most likely will change during the life span of the ACP. Please discuss how these changes will be accounted for during D&D. Will USEC-ACP be responsible for conducting ecological surveys? Is there money set aside during the D&D process for these types of surveys to be conducted?
- 005-12 12) Page 7-1, Section 7.1.1 Costs of the proposed Action: It is unclear from the report if the ACP (USEC) would be responsible for the D&D of the facilities once the life cycle is completed. USEC is currently leasing the facilities from a federal agency. This document should make it clear if the federal government will be ultimately responsible for the D&D of the facilities to be used by the ACP.

9/08/05

70FR53396

5

From: "rainey531@juno.com" <rainey531@juno.com>  
To: <nrcprep@nrc.gov>  
Date: Fri, Oct 21, 2005 8:02 AM  
Subject: Docket Number 70-7004

TO: The Nuclear Regulatory Commission  
FROM: Dr. Carol Rainey, 1497 Beacon St., Cincinnati, Ohio 45230  
RE: Docket Number: 70-7004  
The proposed uranium centrifuge plant in Piketon, Ohio

MESSAGE:

I attended the Environmental Impact hearing a few weeks ago in Piketon about the proposed centrifuge plant. Several of the points made at the hearing made a strong impression on me.

006-1

1. The plant will NOT have a positive impact on the economic environment. In fact, given all the tax breaks USEC is being given, it will cost money. The number of jobs created will be minimal in spite of the huge financial investment. There are other healthier jobs could be created in Southern Ohio.

006-2

2. USEC has not solved the question of what to do with the waste the enrichment plant will create. As was said at the meeting, the Conversion Plant was designed to deal with the waste from all the nuclear weapons production plants. Simply taking care of this waste will take 20 years. USEC is a private company. They should not be simply given the right to use the Conversion plant for their own economic purposes. There are also some scientists who believe that the Conversion plant itself is not a perfect solution to the nuclear waste problem. Even though the material in the canisters will be converted to a less dangerous form, the conversion process too will create waste, and at the present time it's not clear where it will be taken. The fears of the people of Piketon are that it will simply stay here. NO more uranium should be processed; the country is dying from the nuclear waste we have already.

006-3

3. Finally, I was appalled to read in the (long) impact statement that the NRC is convinced that there will be no danger to the physical environment from a nuclear plant. How can anyone in government make such a claim, given the diastrous history of the nuclear industry the last 60 years, the contamination that exists at all the nuclear sites, which is costing billions to clean? The legacy of radioactive contamination which is now in the soil and water of the whole country? USEC would have us believe that they will run a "perfect" plant, despite their own history of violations and coverups, that there will never be any kind of accident, or technical malfunction, or computer error, or human error, which will cause the release of radioactive materials. Such a claim is hard to believe. Nuclear plants are dangerous and they are unnecessary. There are much better sources of energy which are not laden with all the dangers of nuclear power.

006-4

I am strongly against the NRC granting USEC this license. Piketon is not yet cleaned up from the last enrichment endeavor; fish in the river are still radioactive; people are still sick and dying. This plant is not healthy for the environment of southern Ohio or anywhere else.

Sincerely,  
Dr. Carol Rainey

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BRANCH  
USNRC

2005 OCT 24 AM 10: 57

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SISP Review Complete  
Template = ADM-013

E-REDS = ADM-03  
GRE = M. Blevins (MK04)

**Mail Envelope Properties (4358D8DD.341 : 21 : 13121)**

**Subject:** Docket Number 70-7004  
**Creation Date:** Fri, Oct 21, 2005 8:00 AM  
**From:** "rainey531@juno.com" <rainey531@juno.com>

**Created By:** rainey531@juno.com

**Recipients**

nrc.gov  
twf2\_po.TWFN\_DO  
NRCREP

**Post Office**

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**Route**

nrc.gov

**Files**

Files	Size
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TEXT.htm	3464
Mime.822	8093

**Date & Time**

Friday, October 21, 2005 8:00 AM

**Options**

<b>Expiration Date:</b>	None
<b>Priority:</b>	Standard
<b>Reply Requested:</b>	No
<b>Return Notification:</b>	None

<b>Concealed Subject:</b>	No
<b>Security:</b>	Standard

9/8/05  
70 FR 53396

18

From: LORRY SWAIN <lorryswain@yahoo.com>  
To: <yhf@nrc.gov>  
Date: 10/24/05 9:15PM  
Subject: Comments on the DEIS related to the USEC application for the ACP proposed for construction and operation in Piketon Ohio

Please consider our following comments and concerns in response to your DEIS on the USEC, Inc application for license to construct and operate a centrifuge diffusion uranium enrichment facility in Piketon, Ohio.

We live nearby and downwind from the PGDP which is the site of the proposed ACP. As community members who will be affected by the environmental impacts of this proposed plant, we are strongly opposed to its construction and operation for the following reasons:

007-1

In projecting safety risks you have painted a rosy picture of USEC operations using injury rates from the old PGDP operations in 2002 and 2003. But operations at that USEC facility shut down in 2001 and have been on cold standby since that time. As you know, USEC has a disgraceful safety record. During the time that operations were in effect at Piketon (and Paducah) USEC received many NRC violations notices; many more than other nuclear materials handlers licensed by you. Why is this not factored into your assessment of the safety risks?

007-2

In the DEIS claims are made about the net gain of jobs for our community if USEC is licensed to proceed with the ACP. Figures as high as a net gain of 3,000 jobs are alluded to in the DEIS. However, using USEC's own data, we see that after the decommissioning of the old PGDP and with the operation of the proposed ACP there will actually be a net loss of jobs in the community. Even if we had no other concerns about the USEC proposal, we would have grave concerns about a project that promises to cost the community so much and pay back so little.

007-1

We are not convinced by your risk assessment of accidents, injuries and illnesses. Many unanswered questions remain about the transport of materials to and from the plant as well as the operations within and the clean-up of the old plant. We believe that long-term latent illnesses are understated in the report. We believe that the problem of safe, permanent storage of radioactive wastes generated over the past 50 years at that site and projected to be generated over the next 50 years at the site are still unsolved.

007-3

007-4

We wonder if we would even be having this conversation with you if we were not a poor, rural, Appalachian community that looks very much like the other poor communities that have been exploited by the energy corporations for the benefit of a few and to the detriment of the many.

007-5

We repeat, we are strongly opposed to the licensing of USEC for their proposed project and we urge you to deny the application.

Sincerely,

Lornita R. Swain and Eric P. O'Neil  
385 Franklin Road,  
South Shore, Kentucky 41175

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2005 DEC 14 PM 1:31  
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USNRC

SSSP Review Complete

Template = ADM-013

F-RIDS = ADM-03  
Add = M. Blum (AXB4)

**Mail Envelope Properties (435D8722.190 : 19 : 57744)**

**Subject:** Comments on the DEIS related to the USEC application for the ACP  
 proposed for construction and operation in Piketon Ohio

**Creation Date:** 10/24/05 9:14PM

**From:** LORRY SWAIN <lorryswain@yahoo.com>

**Created By:** lorryswain@yahoo.com

**Recipients**  
 nrc.gov  
 twf4\_po.TWFN\_DO  
 YHF (Yawar Faraz)

**Post Office** twf4\_po.TWFN\_DO  
**Route** nrc.gov

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TEXT.htm	3491	
Mime.822	7973	

**Options**

**Expiration Date:** None

**Priority:** Standard

**Reply Requested:** No

**Return Notification:** None

**Concealed Subject:** No

**Security:** Standard



From: <TFKing106@aol.com>  
To: <NRCREP@nrc.gov>  
Date: Mon, Oct 24, 2005 12:15 PM  
Subject: Comments on Draft EIS, American Centrifuge Plant, Piketon, OH, NUREG-1834

7

Thomas F. King, PhD  
P.O. Box 14515, Silver Spring MD 20911, USA  
Telephone (240) 475-0595 Facsimile (240) 465-1179 E-mail  
\_tfking106@aol.com\_ (mailto:tfking106@aol.com)

9/8/05  
70FR53396

Consultation, training, and textbooks in cultural resource management

Date: October 24, 2005

To: Chief, Rules Review and Directives Branch  
U.S. Nuclear Regulatory Commission  
Mail Stop T6-D59  
Washington DC 20555-0001

RECEIVED

2005 OCT 24 PM 12:31

RULES AND DIRECTIVES  
BRANCH  
US:RRC

Via email to \_NRCREP@nrc.gov\_ (mailto:NRCREP@nrc.gov)

I write to comment on your draft Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, NUREG-1834, published in August 2005 (hereinafter, DEIS). These comments are transmitted electronically to the NRC at its specified email address on October 24, 2005, within the comment period specified in the DEIS. My comments will be restricted to the manner in which the DEIS addresses "cultural resources." My qualifications for offering the comments I do are outlined in the attached resume.

Qualifications of EIS analyst:

008-1

The list of preparers given on pages 10-1 through 10-3 identifies only one individual as responsible for the analysis of impacts on "historic and cultural resources." That individual, Dr. Polly McW. Quick, is to my knowledge a specialist in the prehistoric archaeology of central California, who according to promotional literature from her employer, ICF Consulting, has in the last 30 years worked primarily on environmental remediation programs and development projects in Iceland, Brazil, Costa Rica, and California. Please explain the basis upon which she is regarded as qualified to analyze the impacts of the American Centrifuge Plant on prehistoric and historic "cultural resources" in Ohio.

Section 3.3:

008-2

This section begins with a definition of the term "cultural resources." This is an important definition, since it limits the range of phenomena upon which impacts are analyzed. Please explain the basis for this definition, whose source is not cited and which I do not believe is based on any United States or international guidance. Please note the concerns expressed and recommendations provided by UNESCO in its Convention for the Safeguarding of the Intangible Cultural Heritage -- 2003.

008-3

Near the bottom of page 3-5 the review process under Section 106 of the National Historic Preservation Act is inaccurately characterized as a process "done in consultation with the State Historic Preservation Officer;" later, passing reference is made to "provid(ing) Indian tribes the opportunity to

SISP Review Complete

E-RIDS=ADM-03

Call = M. Blevin's (MX86)

Template=ADM-013

identify concerns." In fact, the Section 106 regulations (36 CFR 800) make it abundantly clear that the process is done in consultation with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officers, Indian tribes, and other interested parties. The NRC staff seems to have difficulty understanding that the regulations require actually communicating with, listening to, and discussing the concerns of interested parties; the failure to engage in such consultation is at the heart of the DEIS' inadequacies. Please re-read the Section 106 regulations and relevant guidance from the Advisory Council on Historic Preservation and the Secretary of the Interior, and recast your discussion to accurately reflect their direction.

008-4

On page 3-6, the DEIS discusses an "area of potential effects" (APE) defined by the NRC staff for the project. This APE appears to be based solely on the potential for direct and selected indirect physical effects. I see no evidence that direct or indirect visual, auditory, olfactory, or other non-physical effects were given any consideration, nor do I see any evidence that cumulative effects on "cultural resources" of any kind were considered, in defining the APE. Please reconsider your APE with reference to all types of potential effects.

008-5

The discussion of historic properties that takes up the remainder of this section is overwhelmingly weighted toward specific archaeological sites and historic structures. Particularly given the proximity of the project site to the Scioto Township Works, and the extensive cultural landscape modifications represented by such earthworks, it seems strange that so little consideration seems to have been given to cultural landscapes, and to relief landforms that may reflect such landscapes amid the damage caused to the area in the past by the DOE Reservation. Please consider attempting a more coherent, landscape-based approach to analysis of the area's historic properties.

008-6

On page 3-9 we are told that unidentified "(i)nvestigators" determined that 22 of the 36 previously unidentified archaeological sites "did not meet National register eligibility criteria." Upon what basis or bases were these determinations made, and how were the "investigators" qualified to make them? How were Indian tribes and other interested parties consulted in the course of these evaluations? The same questions pertain to the evaluation discussed in the final paragraph on this page.

008-7

Please explain how NRC has completed its responsibilities under the Archaeological and Historic Preservation Act of 1974 (16 USC 469-469c-2) with respect to the individual archaeological sites discussed in this section, and with respect to the prehistoric cultural landscape of which they are arguably parts.

008-8

How were interested parties consulted during the evaluation of the Gaseous Diffusion Plant discussed on page 3-10?

008-9

Section 3.3.4 on page 3-10 mentions in passing that the Barnes House, adjacent to the project area, is associated with the location where the last passenger pigeon was reportedly killed. This suggests that this representative of a famous species that figured significantly in American conservation history may have been killed within or near the project area, but I see no evidence that this possibility was in any way considered in your analysis. Clearly, the landscape within which the last passenger pigeon was killed would very likely be eligible for inclusion in the National Register of Historic Places. Please address this possibility, and the possible impacts of the project on this landscape.

008-10

The discussion of the Barnes House is confusing. If it is adjacent to the boundary of the reservation, it would seem that it must be subject to at least possible visual, auditory, or other non-physical effects, and impacts on its use, if not long-term physical impacts. Please explain why NRC has not evaluated its eligibility for the National Register, and considered possible effects on it. What is the relevance of the SHPO's recommendation to the property owner regarding nomination to the National Register?

008-11

Section 3.3.5 indicates that the Absentee Shawnee Tribe has indicated a concern about the Scioto Township Works and perhaps other earthworks in the area, but I see no evidence that the Tribe has been consulted about this concern. There are copies of letters to various tribes appended to the DEIS (Appendix B), but these do not represent consultation; they merely inquire about whether the tribes have "specific knowledge of any sites that you believe have traditional religious and cultural significance." Please review pertinent guidance from the Advisory Council on Historic Preservation, the National Register of Historic Places, and the U.S. Environmental Protection Agency's Interagency Native American Environmental Justice Task Force, and explain your consultation with with potentially concerned Indian tribes with reference to such guidance.

008-12

The purpose of Section 3.3.6 is unclear. Please explain what information this section, as opposed to those preceding it, is supposed to convey. Please explain what you mean by a "potential historic property." What property is NOT "potentially" historic?

Section 4.2.3:

008-13

The highlighted text at the top of page 4-5 further describes the APE as NRC has defined it, but provides no justification for it, and like the previous description appears to deny the possibility of any kind of other-than-physical impact. Please reconsider your APE definition with reference to contemporary best practice.

008-14

Section 4.2.2.1 first suggests that various activities could have effects on historic properties by destroying or altering contributing elements of the Gaseous Diffusion Plant, but then vaguely implies that such effects will be "properly controlled" and hence will have "no effect." This is not a possible determination under the Section 106 regulations. The regulations permit "conditional" determinations of "no adverse effect," but not conditional determinations of "no effect" (strictly speaking, determinations of "no historic properties subject to effect"). IF you have actual procedures to put in place, developed in consultation with the SHPO and other interested parties, by which to "properly control" damage or destruction of historic properties and their elements, then perhaps you can determine that there will be no adverse effect, but not no effect. Please re-read 36 CFR 800.5 and reconsider this section.

008-15

The next paragraph is even vaguer about NRC's determination with respect to the archaeological sites, and continues to express total ignorance of any cultural landscape values or traditional cultural values that may be ascribed to the landscape by Indian tribes or others. Again, please review pertinent regulations and guidance and reconsider this paragraph.

At the top of page 4-6 the NRC staff concludes that there will be no effect

008-16

on the Scioto Township Works, but it does so (a) without any clear definition of the actual boundaries of the Works or their possible relationship to other cultural landscape features, and (b) without any consultation with the Absentee Shawnee or other tribes that may (and in the case of the Absentee Shawnee, say they do) ascribe cultural significance to the Works and other landscape features in the area. As requested above, please review pertinent Advisory Council, National Register, and EPA guidance and reconsider this casual dismissal of effects on the site.

008-17

The next paragraph, on the Barnes House, is equally peculiar. Here we have NRC confidently asserting that the Barnes House may be eligible for the National Register only under National Register Criteria A and C, and casually assuring the reader that the project cannot affect the attributes that may make it eligible under these criteria, when it has provided no evidence that it has performed any sort of analysis of the Barnes House's eligibility -- suggesting instead that it is the property owner's responsibility to nominate the place to the National Register. As far as I can tell, you have developed no basis whatever to say anything about the eligibility of the Barnes House, the elements that may contribute to that eligibility, or the effects of the project (direct, indirect, or cumulative) on such elements. Please develop such a basis, in consultation with interested parties and in a manner consistent with pertinent guidance, and try again.

008-18

Section 4.2.2.2 seems to be predicated on the assumption that the only possible "indirect" effects of facility operation would be vandalism by workers within the facility boundaries. Please explain the rationale for this assumption. Will there be no other long-term indirect or cumulative effects on the local environment that might alter historic properties? Why should vandal workers stay within the fence? Why does NRC staff consider only the "information values" of the Scioto Township Works, considering that the Absentee Shawnee Tribe, at least, has indicated concerns that may well go beyond information values?

008-19

Throughout this section, potential impacts are referred to as "SMALL." What does this mean with reference to (a) the significance of impacts under NEPA and (b) the criteria of adverse effect found in 36 CFR 800?

Section 4.2.9:

008-20

This section, on environmental justice, gives no consideration whatever to disproportionate adverse environmental impacts on the cultural interests of such minority (and probably low-income) groups as the Absentee Shawnee and other tribes. Please review pertinent EPA guidance and address these impacts.

Section 4.3:

008-21

This section, on cumulative impacts, is notable for its utter lack of treatment of effects on historic properties or any other kinds of "cultural resources." This is particularly striking considering that the reservation on which the project is proposed has clearly had very serious impacts on the cultural landscape of which the Scioto Township Works are a part. A cumulative impact analysis is supposed to consider the effects (even the "SMALL" effects) of the project under review in the context of other past, present, and reasonably foreseeable future actions. Serious impacts on the cultural character of the area that includes the project APE (however defined) have obviously taken place in the past; they may be going on in the present, and what the future

holds remains to be analyzed. Please address the cumulative impacts of the project on cultural resources of all kinds, notably including historic properties.

#### Appendices

008-22

Appendix B contains several form letters to Indian tribes asking them about "specific knowledge of any sites" that they believe "have traditional religious and cultural significance." The text indicates that the Absentee Shawnee reported knowledge of such a site -- the Scioto Township Works -- though the documentation expressing this concern, supposed to be in Appendix B, is not there. In any event, the letters do not reflect any sort of real consultation with the tribes; they are mere formletters that do not seem to have been followed up in any way. Please review the findings of the Tenth Circuit Court of Appeals in Pueblo of Sandia v. United States, 50 F.3d 856 (10th Cir. 1995), as well as pertinent Advisory Council, National Register, and EPA guidance, and initiate real consultation with tribes.

008-23

Appendix B also includes correspondence with the SHPO in which the SHPO suggests a variety of representations, studies and consultations that NRC should undertake. It is not clear what, if anything, NRC has done in response to these suggestions.

008-24

Appendix B also contains a letter to the Advisory Council on Historic Preservation in which NRC mentions, rather in passing, that it intends to "use the NRC's NEPA review processes for Section 106 purposes," and later indicates that the former will be used "in lieu of" the latter. This suggests an attempt by NRC to comply with 36 CFR 800.8(c) and substitute its NEPA compliance for completion of standard Section 106 review, but NRC has done virtually none of the things that 36 CFR 800.8(c) requires in order to effect such a substitution. It has notified the Advisory Council of its attempt to substitute, but I see no evidence that it has similarly notified the SHPO. The notification to the Advisory Council came only very late in the NEPA process, and in such a stealthy way (a short, vague paragraph buried in the middle of a longer missive) that it is easy to imagine the Council misunderstanding its intent. More importantly, NRC has engaged in virtually none of the consultation with interested parties required by 36 CFR 800.8(c), and there are, as indicated above, many questions about the quality of its efforts to identify and address historic preservation issues. I strongly suggest that you abandon your attempt to substitute your NEPA compliance for standard Section 106 review, and initiate proper consultation with all concerned parties in accordance with 36 CFR 800.4.

008-25

Beyond properly complying with Section 106 of the National Historic Preservation Act, I suggest your attention to Section 110(d) of the same statute, to the requirements of the Archaeological and Historic Preservation Act of 1974, the American Indian Religious Freedom Act, the Native American Graves Protection and Repatriation Act and its implementing regulations (43 CFR 10), Executive Order 13175, and Executive Order 13352, and to the requirement of 40 CFR 1508.27(b)(3) and (8) that effects on cultural resources -- NOT only National Register eligible historic properties -- be considered in determining the significance of environmental impacts.

008-26

The overwhelming impression conveyed by the DEIS with respect to "cultural resources" is one of ignorant dismissal. It appears that the NRC staff and the DEIS authors have convinced themselves that there will be no impact on

anything of importance, and has then written the DEIS to demonstrate that this is the case. The demonstration, however, is a perfectly amateurish one. I devoutly hope that the DEIS is not similarly flawed with respect to other kinds of environmental impacts; if it is, it would speak very poorly for NRC's attention to its responsibilities toward the public and the environment.

Thank you for the opportunity to comment; I look forward to your responses.

Sincerely,

Thomas F. King, PhD

cc: OH SHPO  
ACHP  
National Trust for Historic Preservation  
Geoffrey Sea

CC: <tmcculloch@achp.gov>, <Betsy\_Merritt@nthp.org>, <dsnyder@ohiohistory.org>, <SargentsPigeon@aol.com>

**Mail Envelope Properties (435D0881.9CE : 16 : 47566)**

**Subject:** Comments on Draft EIS, American Centrifuge Plant, Piketon, OH, NUREG-1834  
**Creation Date:** Mon, Oct 24, 2005 12:14 PM  
**From:** <TFKing106@aol.com>  
**Created By:** TFKing106@aol.com

**Recipients**

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NRCREP

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SargentsPigeon CC

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dsnyder CC

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**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:  
Security:**

**No  
Standard**



**Thomas F. King, PhD**

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**Cultural Resource Impact Assessment and Negotiation, Writing, Training**

**Employment**

*Presently:* Private consultant, educator, writer, facilitator in cultural resource management and environmental review; Trainer/Consultant, SWCA Environmental Consultants; Archeologist, The International Group for Historic Aircraft Recovery Amelia Earhart Project. Member, Sussex Archaeological Executive, advising the Government of Great Britain regarding archaeological recovery of HMS *Sussex* off Gibraltar.

*Formerly:* Senior Instructional Consultant, National Preservation Institute. Expert consultant to U.S. General Services Administration, program director for Advisory Council on Historic Preservation, Consultant to the High Commissioner, Trust Territory of the Pacific Islands, Archeologist with the National Park Service, consulting archeologist, head of archeological surveys at San Francisco State University, UCLA, University of California Riverside.

**Education**

*PhD*, University of California, Riverside, Anthropology, 1976.

*BA*, San Francisco State University (then College), Anthropology, 1968.

*Certificate:* Mediator, Bowie State University Center for Alternative Dispute Resolution, 1997.

**Recent and current Clients**

*Government Agencies:* Bureau of Land Management California State Office; Bakersfield Field Office; USDA Forest Service. USDA Farm Service Agency, U.S. Fish and Wildlife Service. U.S. Navy, U.S. Air Force, U.S. Army, Federal Aviation Administration. Grand Canyon Monitoring and Research Center. City of Newport News, Virginia.

*Indian Tribes and Organizations:* Klamath River Intertribal Fish and Water Commission; Mole Lake Sokaogon Community of Lake Superior Chippewa Indians; Bad River and Red Cliff Bands of Lake Superior Tribe of Chippewa Indians. Hualapai Tribe. Quechan Indian Nation. Round Valley Indian Tribes. Penobscot Tribe.

*Private Sector:* Blythe Energy Corp., Cingular Wireless. Odyssey Marine Exploration.

*Non-profit organizations:* National Preservation Institute.

## **Thomas F. King: Courses Taught**

Short courses for SWCA Environmental Consultants, National Preservation Institute, University of Nevada, Reno, General Services Administration, Advisory Council on Historic Preservation, Environmental Protection Agency, National Park Service, and Department of Defense in cultural resource law and policy, Section 106 review, National Environmental Policy Act implementation, identification and protection of traditional cultural properties, Native American consultation, environmental justice, conflict resolution, and related subjects.

## **Thomas F. King: Publications (Selected)**

### ***Books and Monographs***

- *Doing Archaeology: a Cultural Resource Management Perspective*. Left Coast Press 2005.
- *Cultural Resource Laws and Practice: An Introductory Guide*. AltaMira Press 2004 (First edition 1998)
- *Amelia Earhart's Shoes*. With R. Jacobson, K. Burns, and K. Spading. AltaMira Press, 2004 (First edition 2001).
- *Places that Count: Traditional Cultural Properties in Cultural Resource Management*. AltaMira Press 2003
- *Thinking About Cultural Resource Management: Essays From the Edge*. AltaMira Press 2002.
- *Federal Projects and Historic Places: the Section 106 Process*. AltaMira Press, 2000
- *Piseken N66mw N66n Tonaachaw: Archeology in the Tonaachaw Historic District, Moen Island, Truk*. With P.L. Parker, Southern Illinois University, Carbondale and Micronesian Archeological Survey, Saipan 1984.
- *Anthropology in Historic Preservation*. With P.P. Hickman and G. Berg, Academic Press, New York 1977.
- *The Archeological Survey: Methods and Uses*. Interagency Archeological Services, Heritage Conservation and Recreation Service (National Park Service), Department of the Interior, Washington DC 1977 (Republished 2003 by California Division of Forestry).

### ***Articles***

- Considering the Cultural Importance of Natural Landscapes in NEPA Review: The *Mushgigamongsebe* Example. *Environmental Practice* 5:4, Oxford University Press, 2003
- "I Learned Archaeology From Amelia Earhart: Using a Famous Mystery to Teach Scientific Methods." In *Strategies for Teaching Anthropology*, 3<sup>rd</sup> Edition, Patricia Rice and David McCurdy, eds., Prentice Hall, New York; 2003..
- "Cultural Resources in an Environmental Assessment Under NEPA." *Environmental Practice* 4(3):137-144, National Association of Environmental Professionals, September 2002.

- "Historic Preservation Laws" in *Encyclopedia of Life Support Systems*. EOLSS Publishers for UNESCO, 2002.

*Articles (continued)*

- "What Should Be the 'Cultural Resources' Element of an Environmental Impact Assessment?" *Environmental Impact Assessment Review* 20(2000):5-30, 2000.
- "Archaeology in the Search for Amelia Earhart." With Richard Gillespie. In *Lessons from the Past: An Introductory Reader in Archaeology*, Kenneth L. Felder, ed., Mayview Press, Mountain View CA, 1999
- "How the Archeologists Stole Culture: a Gap in American Environmental Impact Assessment and What to Do About It." *Environmental Impact Assessment Review*, January 1998.
- "The Nature and Scope of the Pothunting Problem." In *Protecting the Past: Readings in Archaeological Resource Management*. J.E. Ehrenhard and G.S. Smith, eds., The Telford Press, Caldwell NJ 1991.
- "AIRFA and Section 106: Pragmatic Relationships." In *Preservation on the Reservation*, A. Klesert and A. Downer, eds., Navajo Nation Publications in Anthropology 26, Window Rock 1991.
- "Prehistory and Beyond: The Place of Archeology" In *The American Mosaic: Preserving a Nation's Heritage*. R.E. Stipe and A.J. Lee, eds., US/ICOMOS, Washington DC, 1987.
- "Intercultural Mediation at Truk International Airport." With P.L. Parker. In *Anthropological Praxis: Translating Knowledge Into Action*. R.W. Wulff and S.J. Fiske, eds., Washington Association of Professional Anthropologists, Westview Press, Boulder 1987.
- "The Once and Future Drought." *American Archeology* 5:3:224-8, Ridgefield, CT 1985
- "Professional Responsibility in Public Archeology." *Annual Review of Anthropology* 12, Palo Alto 1983.
- "Recent and Current Archeological Research on Moen Island, Truk." With P.L. Parker. *Asian Perspectives* xxiv(1):11-26, Honolulu 1981.
- "The NART: A Plan to Direct Archeology Toward More Relevant Goals in Modern Life." *Early Man*, Evanston, winter 1981.
- "Don't That Beat the Band? Nonegalitarian Political Organization in Prehistoric Central California." In *Social Archeology*, C. Redman, Editor, Academic press, New York 1978.
- "The Evolution of Complex Political Organization on San Francisco Bay". In *Antap: California Indian Political and Economic Organization*. L.J. Bean and T.F. King, eds., Ballena Press, Ramona, CA 1974.

**Government Guidelines and Regulations**

- Regulations, guidelines, and plain-language brochures on environmental and cultural resource management, NEPA review, Section 106, and related topics, for Department of Agriculture Farm Service Agency (FSA) (unattributed, with FSA NEPA and Cultural Resource staff). FSA, 2004.

*Government Guidelines and Regulations (Continued)*

- Orders, Guidelines, and Fact Sheets: Cultural Resource Management, Floodplain Impact Management, Wetlands Impact Management, Federal Real Property Disposal, Archeological Collections Management, Indian Sacred Sites Management, Historic Document and Artifact Management, Environmental Justice, and Social Impact Assessment (unattributed, with GSA NEPA Call-In Staff). General Services Administration, Washington DC, 1998.
- *NEPA Desk Guide* and related orders (unattributed, with L.E. Wildesen and GSA Environmental Quality Working Group). General Services Administration, Public Buildings Service, Washington DC, 1997.
- *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. With P.L. Parker. National Register Bulletin 38, National Register of Historic Places; National Park Service, Washington DC, 1990
- *Preparing Agreement Documents*. Advisory Council on Historic Preservation, Washington DC, 1989.
- *Public Participation in Section 106 Review: a Guide for Agency Officials*. Advisory Council on Historic Preservation, Washington DC 1989.
- *Identification of Historic Properties: a Decisionmaking Guide for Managers*. Advisory Council on Historic Preservation and National Park Service, Washington DC 1988.
- *The Section 110 Guidelines: Guidelines for Federal Agency Responsibilities Under Section 110 of the National Historic Preservation Act*. With S.M. Sheffield. 53 FR 4727-46, National Park Service, Washington DC 1988
- *Regulations for the Consideration and Use of Historic and Cultural Properties* (Unattributed). Commonwealth of the Northern Mariana Islands Historic Preservation Office, 1983
- *Treatment of Archeological Properties: a Handbook*. Advisory Council on Historic Preservation, 1980.

*Popular*

- "Archeology and the Fate of Amelia Earhart." *About.com*, June 2005. [http://archaeology.about.com/od/pacificislands/a/king\\_ae.htm](http://archaeology.about.com/od/pacificislands/a/king_ae.htm)
- "Amelia Earhart: Archeology Joins the Search." *Discovering Archeology* 1:1:40-47, El Paso; January-February 1999
- "Sea Changes: 14th Century Micronesia." *Glimpses of Micronesia and the Western Pacific* 25:1, Honolulu 1985.
- "Tonaachaw: a Truk Village Rediscovered its Past." With P. Parker. *Glimpses of Micronesia and the Western Pacific* 21:4, Honolulu 1982.
- "How You Can Help the Archeologists." *Boys Life*, Boy Scouts of America, 1971.

*Other*

- Videotapes on "historic contexts" and "traditional cultural properties," for National Park Service
- "E-Book" environmental review software, for General Services Administration
- "NEPA for Historic Preservationists and Cultural Resource Managers," worldwide web pages for National Preservation Institute.



Patricia A. Marida, Chair  
36 West Gay Street, Suite 314  
Columbus, OH 43215  
614-890-7865

10-24-2005

Chief, Rules and Directives Branch  
Division of Administrative Services Mailstop: T-6D59  
US Nuclear Regulatory Commission  
Washington, DC 20555-0001  
[NRCREP@nrc.gov](mailto:NRCREP@nrc.gov)

DOCKET 70-7004

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE  
UNITED STATES ENRICHMENT CORPORATION'S PROPOSED AMERICAN  
CENTRIFUGE PLANT

009-1

The Central Ohio Sierra Club is concerned with the amount of radioactive material being brought to and generated at the Piketon site. We would like to have the EIS state limits to the importation of uranium and the amount of waste and tailings that will result from the ACP enrichment process. We would like to see a plan for disposal of the DUF6 that will be a byproduct of the ACP. There is already a very large backlog of DUF6 waiting to be converted to DU oxide, since the conversion plant is behind schedule in its construction. We would like the EIS to state if or how the DUF6 from the ACP will be converted and the DU oxides disposed of. The planned DOE conversion facility cannot accept private waste from ACP. Envirocare, who has been named as the recipient of the ACP waste, is not currently able to store the amounts of radioactive materials being sent there, and they are sitting beside the road.

009-2

The according to calculations by PRESS (Portsmouth/Piketon Residents for Safety and Security), the new facility would create a total net LOSS of 1,558 jobs. If the site were converted to Enterprise Zone type of manufacturing, spending the same amount of money would create 25 times the 600 jobs projected by USEC. The DEIS treats alternatives poorly. For example, there was very little discussion of the benefits of cleaning up the site and using Enterprise Zone initiatives to industrialize the site. The Sierra Club would like to see this type of analysis in the DEIS.

009-3

The DEIS blindly follows USEC's analyses. The DEIS based its conclusions without adequate investigation, on faulty assessments and studies (including assessing unknowable risks), on false statements, on incompetent modeling, and on bad advice. In short, the DEIS has done little in the way of independent investigation of the USEC application.

*Patricia A. Marida*

From: <SargentsPigeon@aol.com>  
To: <mx66@nrc.gov>, <nrcprep@nrc.gov>  
Date: Thu, Oct 27, 2005 9:58 AM  
Subject: USEC DEIS Comments

09/08/05

Matthew Blevins  
Nuclear Regulatory Commission

70FR53396

Dear Mr. Blevins,

Attached are the attachments to my comments on DEIS NUREG-1834.

13

I've had two problems. One is getting the file to transmit given the large file size. I've been trying to send most of the night but as I have a dial-up connection only, it's very difficult and keeps quitting. Please be understanding.

Second, I have two other imposing deadlines this week....the appeal of the ASLB ruling in the USEC case was due Monday and new contentions as per the ASLB ruling are due very shortly. I did call on Monday and received an extension but am afraid it will take another day to get my full comments in. Attached are the attachments only, not the text. If for some reason you cannot accept the text, I still wish the attachments submitted...they are self explanatory as they contain mainly letters from others pertaining to historic and cultural resource issues.

I will send the text ASAP.

You will note that the first item is a DEIS comment from Professor Robert Proctor at Stanford. Unfortunately, Dr. Proctor made the mistake on Monday of e-mailing his comment to me instead of to NRC, and I did not realize it until Tuesday, when he was already on a plane to Germany. Therefore please accept his testimony as timely. His e-mail address is included. Other contact info. can be provided if necessary.

Thanks for your consideration,

Geoffrey Sea  
The Barnes Home  
P.O. Box 161  
Piketon, OH 45661  
Tel: 740-289-2473  
Cell: 740-835-1508  
E-mail: SargentsPigeon@aol.com

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**Created By:** SargentsPigeon@aol.com

**Recipients**

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NRCREP

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MXB6 (Matthew Blevins)

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**Concealed Subject:** No  
**Security:** Standard

## Index to Attachments submitted by Geoffrey Sea

(note: Exhibit designations refer to exhibits submitted to NRC as attachments to Geoffrey Sea's petition for intervention and subsequent filings)

1. DEIS Comment of Robert Proctor, PhD., Professor of History, Stanford University, 10/24/05
2. Map of Historic Sites in relation to American Centrifuge Project created by Petitioner Geoffrey Sea.
3. Exhibit B. Statement of Charles W. Beegle, former Professor of Education at the University of Virginia, widower of Jean Rittenour and owner of the historic Rittenour Home and Scioto Trail Farm that adjoins the DOE reservation in Piketon.
4. Exhibit E. Statement of Jerome C. Tinianow. Executive Director of Audubon Ohio and Vice President of the National Audubon Society.
5. Exhibit F. E-mail correspondence from Roger G. Kennedy, former director of the National Park Service and Director Emeritus of the National Museum of American History, author of *Hidden Cities: The Discovery and Loss of Ancient American Civilization*.
6. Exhibit H. Statement of John E. Hancock, Professor of Architecture and Associate Dean at the University of Cincinnati, Project Director of "EarthWorks: Virtual Explorations of the Ancient Ohio Valley"
7. Exhibit M. Letter from Linda A. Basye, Executive Director of the Pike County Convention and Visitors Bureau, 10/21/04
8. Exhibit N. Statement of Karen Kaniatobe, Tribal Historic Preservation Officer of the Absentee Shawnee Tribe of Oklahoma in Shawnee, Oklahoma.
9. Exhibit O. Plate XXIV from Ephraim Squier and Edwin Davis, *Ancient Monuments of the Mississippi Valley*, 1848.
10. Exhibit Q. Statement of Thomas F. King, preservation consultant, author of four books on federal preservation including *Federal Planning and Historic Places: the 106 Process*
11. Exhibit V. Statement of Thomas F. King, preservation consultant, author of four books on federal preservation including *Federal Planning and Historic Places: the 106 Process*, dated March 30, 2005.
12. Exhibit W. Letter from Chief Hawk Pope, Shawnee Nation, United Remnant Band, undated, received March 29, 2005.



13. Declaration by John Hancock, Frank L. Cowan, and Cathryn Long  
Regarding August 5, 2005 Visit to GCEP Water Field

14. Photographs in order: 1. The Barnes Home close-up, 2. The  
Barnes Home landscape 3. Surviving remnant of the Barnes Works,  
4. View of the Scioto River at the point where the creek of the  
Barnes Works joins it, which USEC and NRC say "is not a scenic  
river" 5. The kill-site of the Sargents Pigeon (remnants of the  
home where Press Clay Southworth lived in 1900)

15. Photograph of ACP Buildings across fence-line of Barnes Home  
property (previously provided.)

Comment on the Draft Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio

By Robert N. Proctor, PhD.

Submitted Oct. 24, 2005

I am Professor of the History of Science at Stanford University, and a tenured member of the faculty of the History Department at that University. I hold a doctoral degree in the History of Science from Harvard University and am the author of four books on the history of science, dozens of articles in peer-reviewed academic journals, including historical, scientific, and medical journals. I have won several prizes for my academic scholarship, including the Viseltear Prize from the American Public Health Association and the American Anthropological Association. I have held fellowships from the Guggenheim Foundation, the National Science Foundation, the National Institutes of Health, the Holocaust Memorial Museum in Washington, D.C., the Max Planck-Institute for the History of Science in Berlin, the National Library of Medicine, the Howard Foundation, the Hamburg Institute for Social Research in Germany, the National Center for Human Genome Research, the National Endowment for the Humanities, the Center for Advanced Study in the Behavioral Sciences at Stanford, the American Council of Learned Societies, the Andrew Mellon Foundation, the Woodrow Wilson Foundation (Charlotte W. Newcome Fellow), and the Shelby Cullom Davis Center for Historical Studies at Princeton University. I am also an elected Fellow of the American Academy of Arts and Sciences, the oldest scientific academy in the U.S., founded in 1780 by John Adams, John Hancock, and other American scholar-patriots.

I have visited the Piketon facility and am familiar with the historic and cultural value of the overall site, and the history of the uranium enrichment processes that have been operated there since the 1950s. I am also familiar with the work and writings of Mr. Geoffrey Sea, resident in the Barnes Home in Sargents, Ohio. I have reviewed the "Historic and Cultural Resources" section and the corresponding "impacts" and "alternatives" sections of the Draft Environmental Impact Statement for the facility.

I want to briefly note here my disappointment with the NRC assessment of the potential historical and cultural impacts of the proposed centrifuge facility. The report repeatedly states that the expected impacts to historical and cultural resources of the proposed facility are "small," "insignificant," "negligible," etc., when in fact we can expect the impact to be very significant.

Historians in recent years have become increasingly aware of the importance of preserving the integrity of historic and prehistoric sites, this includes protection of such sites in their landscape settings from noise, visual insults, traffic, access obstacles, commercial development, intrusion from physical and electronic security, threats to the safety of visiting members of the public, "aesthetic" or psychological impacts that might discourage tourism, and many other factors, and these concerns have been reflected in strengthened federal legislation and regulation starting with the 1966 National Historic Preservation Act. Sites such as Gettysburg and other parks valued for their historical significance have resisted efforts to compromise such values, and here, in Piketon, we have an instance where there is a threat of

significantly compromising unique historical and cultural values by going ahead with construction, operation and eventual decommissioning of the centrifuge facility.

In his published writing, with a rather unique literary style, Geoffrey Sea exemplifies a certain model of history that sees historical persons and events as interwoven over long spans of time. The locale of what used to be called Sargents, Ohio, has become a model for his analysis, and an ideal one, for the various individual locations in close proximity in Sargents weave together in that seamless fabric we call history.

Historians will be troubled by the shallow and cavalier treatment offered by NRC Staff's assessment of the impact of this proposed plant on historical and cultural resources. The site of the last passenger pigeon slaying and the Barnes family experience and homestead, together with the important earthworks, and the recently-closed Gaseous Diffusion Plant could be part of an important public historical site with both educational and recreational value. The integrity of this site must be protected for future generations; indeed it is precisely the kind of site our preservation laws are designed to protect.

The Barnes Home is at the center of this matrix, for the Barnes family brought to world attention the enormous prehistoric earthwork complex to the west of the house, which became known as the Barnes Works. South of the home is the kill-site of the last known wild passenger pigeon, which was mounted in the home. North is the Sargent Home, which was occupied by a family that married into the Barnes clan and brought Abraham Lincoln in to view the earthworks. East of the home is the centrifuge plant, close to the excavated site of a burial mound that became a waste pit for the Department of Energy; and the X-326 building, which has historic value as America's only dedicated facility for the production of bomb-grade uranium.

It makes no sense to analyze these locations individually, as is done in the DEIS, neglecting some of them entirely, at each step blind to the historic panorama that links and surrounds. That's an approach that intends to be dismissive of discovered impacts, and dismiss them it does, cutting the historical matrix into little segregated insignificant bits.

For example, the earthwork discovered at the Well Field site is considered separately from discussion of the Scioto Township Works (Barnes Works), even though a glance at the map and a consideration of known Hopewell patterns of construction leads to a reasonable conclusion that these once were connected. (Eminent historian Roger Kennedy has in fact suggested that they were connected and that the Great Hopewell Road extended through the Barnes Works in his book, *Hidden Cities: The Discovery and Loss of Ancient North American Civilization*, Free Press, 1994.)

Too, there is no suggestion from the DEIS that the Barnes Home and the Barnes Works have any connection whatsoever, as absurd as this segregation is on its face. The DEIS enforces this segregation by using the term "Scioto Township Works" – though "Barnes Works" was the name used in the last extensive survey and description by Gerard Fowke in *The Archaeological History of Ohio*. The name "Barnes Works" is also least confusing since the historical name, "Seal Township Works," no longer corresponds to the township jurisdiction.

NRC apparently would not like to acknowledge that the building where bomb-grade uranium was produced and the extinction of the passenger pigeon might have any connection. But they are connected, and that connection served as the basis for Geoffrey Sea's long meditation on extinction and survival published in the *American Scholar*, "A Pigeon in Piketon." At the end of that piece, which was published before USEC chose Piketon as site for its centrifuge plant, Mr. Sea proposed that the X-326 building, now awaiting decommissioning, be

dedicated as a monument to the passenger pigeon.

This is a serious proposal for a number of reasons. First, there is no national memorial to the passenger pigeon, though the species was the most abundant vertebrate species on the continent and its passing is considered to be the exemplar of man-made extinction. The famous ecologist Aldo Leopold erected an extraordinary monument at the site of the last passenger pigeon kill in Wisconsin. A national monument rightfully should be located at or near the last kill site of all, in Sargents. Arguably it has not happened only because that location was not precisely known. But now Mr. Sea has found it, within a mile or two of X-326 and the Barnes Home, and that is of paramount importance to environmental history.

Second, there are no current plans for the X-326 building, which may not be easily demolished owing to the high degree of radioactive contamination inside. Entombment of the building might be the only technically viable and cost-effective solution, and if safe entombment can serve the larger purpose of a national monument, as a structure to spur reflection upon the folly and avarice of Man, so much the better. That is the essence of Mr. Sea's proposal, as was perhaps anticipated by Aldo Leopold when he wrote, in 1949, in *A Sand County Almanac*, of human superiority lying in our capacity to remember and mourn the passenger pigeon, "rather than...in Mr. Vannevar Bush's bombs."

Remembrance and memorial are at the vanguard of historical thinking and historical preservation at the moment. I have served as an advisor to the Holocaust Museum, which set the trend, and there is now an active program, sponsored in part by the Department of Energy, to memorialize the cold war and Manhattan Project sites around the nation. Mr. Sea's proposal should be analyzed in the context of this program.

Which obviously is inconsistent with licensing and completion of USEC's centrifuge plant. The USEC plant would sit in between the Barnes Home and the X-326 building, physically obstructing the possibility of connecting these locations as a memorial site and visitor attraction. How on earth can that be considered as minimal impact?

The potential for a historical landmark site that encompasses the kill-site of the Sargents Pigeon, the Barnes Works, the Sargent and Rittenour homes, and the X-326 building – with the Barnes Home at its center – is great. But only if there is no centrifuge plant at the middle of it, obstructing passage with security fences, scaring visitors away with the potential for catastrophic events and toxic releases, obviating the memorial message that we have learned our lesson to overcome folly and greed.

The building and operating of a uranium enrichment plant right over the fence-line from the Barnes Home will severely impact prospects for a public center to develop this as a place for education, tourism, and long term commemoration. Archaeologists here at Stanford and elsewhere are developing models for how this can be done at sites designated by UNESCO as being of historic significance.

Threats to this integrated set of sites from construction of the centrifuge plant are of several types, including (but not limited to): fences; roads; traffic; security surveillance (including security gates and closed access to some roads); restrictions on movement; diminishment of attractiveness to visitors; risk of terrorist attack (keeping people away); compromises from noise; diminishment of the aesthetics of the site, public worries (real or justified) to the dangers of uranium enrichment near such a site, just to name a few; vulnerability of buildings, land and people to catastrophic accidents, toxic emissions and potential damage from decontamination activities. The USEC report does not grapple with the potential impacts

in a way that is historically responsible.

There is no evidence from the DEIS that NRC actually studied these impacts on-site, only that lots of papers were shuffled to rule out impacts by fiat of definition. For example, did NRC staff visit the Barnes Home to see if the ACP site activities could be heard at night? (Mr. Sea reports they can.) Did NRC staff visit the Barnes Home at all, or the kill site of the Sargents Pigeon, or the Sargent Home? (Apparently not.) Did NRC consult any experts on the development of historic commemoration sites? (Apparently not.)

The DEIS contains another fundamental flaw in its approach to assessing impact in that it compares life with the centrifuge plant to life as it exists today. If this were a green-field site, that would be a proper approach, because, if the plant were not built, the green-field would continue on as is, as far as we know.

In this case, however, the massive Gaseous Diffusion Plant on the site has just shut down. The site is now maintained by DOE as a production site, with all the attendant apparatus of infrastructure and security, in anticipation of USEC's plant. Thus it is a tautology that the centrifuge plant will have little impact on a site already in preparation for a centrifuge plant.

But if the plant is not licensed and built, then the site will not be a DOE production site any longer. It would revert to cleanup, environmental restoration, and alternative use, as has occurred at other closed DOE production plants like Fernald and Rocky Flats. Site ownership would pass from DOE to the Department of Interior, and DOI would implement a mixed-use development plan for the site as it has done elsewhere. That near future must be the baseline for comparison in any impact assessment, under both NEPA and NHPA.

Substantial potential exists for the development of historical attractions, tourism, and sites of economically sustained commemoration at Sargents. It is not true, as NRC reports, that "the impacts to historic and cultural resources identified onsite and around the site's perimeter would be small" (p. 2-38). The combination of the three historic homes of the Barnes, Sargent and Rittenour families, the Scioto River history, unique geological features, the passenger pigeon history (centered on the Barnes home), and the long-standing Native American presence--including a number of significant prehistoric earthworks--make this a site of substantial historical importance. There is an integrity to these various historical and cultural aspects taken together that is not reflected in the DEIS; these sites have to be evaluated as a whole.

010-1-2

I have visited the Picketon site, and have some understanding of its history and integrity. I have consulted with Mr. Sea, and have confidence in his assessment of the potential historic value of this site, and the threats posed to it by the expansion of the USEC facility. Mr. Sea has lectured at Stanford University on his research into this topic, and there is strong interest here and elsewhere in the story he has to tell. I should say that I was surprised--astonished in fact--to find his name not even mentioned in the DEIS, despite the fact that he knows more about the cultural history of this area than anyone alive. Mr. Sea has done important work evaluating the history and significance of this site, and it is absolutely essential that he be consulted in any effort to assess the potential impact of the centrifuge construction.

010-1-1

In conclusion, this site must be considered as an integrated whole, and should not be looked at piecemeal. Our federal preservation laws require that sites under consideration be studied for potential impacts on historical and cultural value, and the draft EIS certainly does not do an adequate job in exploring that potential impact.

Robert N. Proctor  
Professor of the History of Science  
Stanford University

e-mail: [rproctor@stanford.edu](mailto:rproctor@stanford.edu)

Map of Historic Sites in relation to American Centrifuge Project created by Geoffrey Sea. This map shows the historic sites as they once existed in conjunction with the current and proposed buildings of the ACP. It is intentionally anachronistic to give a sense of respective locations and distances. This map has been updated on the basis of new information as of 10/24/05.

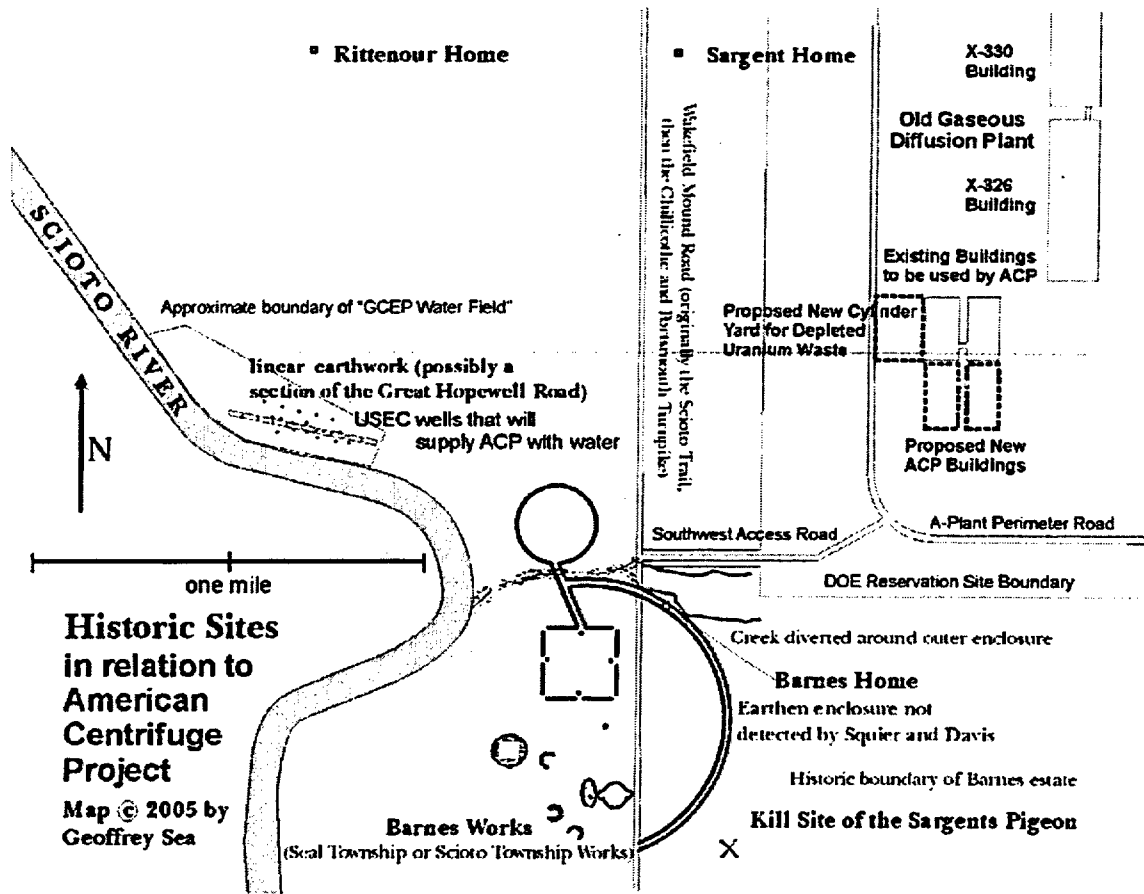


Exhibit B  
[hand-written original transmitted via facsimile]

Brookhill Farm  
2163 Scottsville Rd.  
Charlottesville, VA 22902  
27 February 2005

Nuclear Regulatory Commission

To Whom it may concern

Re: Piketon, Ohio Centrifuge Operation

As a neighboring landowner, I raise the following concerns about the expansions of the centrifuge operation at the Piketon, Ohio Plant.

1. I own the Scioto Trail Farm on State Route 23. Presently the farm is approximately 370 acres. The major portion is on the west side of State Route 23 and goes to the Scioto River.

2. The farm has been in my wife's family for generations. The Rittenours, Seargents, and Barnes were influential in the history of the Scioto Valley. From the oral history of the indian culture of the Scioto Valley, stories are told of the indian foot races along the lower portion of the farm. The historic nature of the property should qualify it for the National Historic Registry.

3. During 1966, the NHPA legislation was passed which mandated that government agencies had a moral and legal obligation to weigh the impact that projects have on historic surroundings. The government took 31.421 acres for a permanent easement in 1982. This was for a well field along the Scioto and for pipe lines and a road. Never was the NHPA legislation addressed.

4. At one time the farm was over five hundred acres. The DOE took a large portion of the farm during the early 1950s. There was a great projection on the financial benefits and jobs that would be gained with the nuclear energy project. The only thing that it did was ruin a once beautiful farming valley. There are few, if any, large landowner farmers remaining on their land. From my perspective, the plant has been a detriment and enlarging it will continue that degradation. In the process, it will destroy more Hopewell Indian relics and more of the early history of Ohio will be lost.

5. As an out of state land owner, I was not aware of the enlargement of the centrifuge plant. I would have objected earlier. This letter is written in support of Geoffrey Sea's intervention.

Sincerely,



Charles W. Beegle

Exhibit E. Statement of Jerome C. Tinianow, Executive Director of Audubon Ohio and Vice President of the National Audubon Society

Audubon Ohio  
692 North High Street, Suite 303  
Columbus, OH 43215-1585  
Tel: 614-224-3303  
Fax: 614-224-3305  
www. Audubon.org

February 24, 2005

Dear Friends,

I am the Executive Director of Audubon Ohio, a conservation and wildlife advocacy organization with over 14,000 members throughout the state, some of whom live in and around Pike County, Ohio. We currently have 18 past and present donors living in Piketon itself.

Audubon Ohio is the Ohio office of the National Audubon Society, a 100-year-old conservation organization with over 400,000 members nationwide. Our mission is to conserve and restore ecosystems, focusing on birds, other wildlife and their habitats, for the benefit of mankind and the Earth's biological diversity. Geoffrey Sea is one of our members.

In pursuit of our mission, Audubon Ohio and the National Audubon Society believe it is important to protect, preserve and commemorate sites that have a special place in the history of conservation and ecology. Two such sites are in Pike County, where the last passenger pigeon ever sighted in the wild was shot by Press Clay Southworth on March 22, 1900. Over the years, investigators have tried to locate the precise scene of the shooting, without success until Geoffrey Sea did find the former residence of the Southworths and the nearby Sargents Grain Mill along Wakefield Mound Road, approximately one mile south of the A-Plant southwest access road. An affiliated site is the Barnes Home at 1832 Wakefield Mound Road, where the bird was mounted and displayed between 1900 and 1915, when it was donated to the Ohio Historical Society. The specimen is now prominently displayed at the OHS Museum in Columbus.

The extinction of the passenger pigeon, once the most populous bird in the world, over the course of a single century, is generally regarded as the most important and most instructive of all extinctions made by man. That is one reason that preservation and commemoration of the Pike County sites are so crucial. The other reason is that this is the only place on earth where the slaying of the last-seen wild survivor of a species has been located. The sites should be preserved so that they can be properly marked and made available for public education. At the scene of the last passenger pigeon shooting in Wisconsin, the great American ecologist Aldo Leopold erected a famous bronze

statue. Pennsylvania also has its passenger pigeon memorial, erected by the Boy Scouts of America at Pigeon Hills. The proper place for a national memorial is in Pike County, Ohio, as proposed by Geoffrey Sea in his essay in *The American Scholar*.

John James Audubon himself was moved to conservation activism by his witness of pigeon hunts, and his description of them stands as one of the earliest and most compelling bits of ecological writing. Audubon described a raid on a nesting of passenger pigeons this way:

"The tyrant of the creation, man, interferes, disturbing the harmony of this peaceful scene. As the young birds grow up, their enemies, armed with axes, reach the spot, to seize and destroy all they can. The trees are felled, and made to fall in such a way that the cutting of one causes the overthrow of another, or shakes the neighbouring trees so much, that the young Pigeons, or squabs, as they are named, are violently hurried to the ground. In this manner also, immense quantities are destroyed." (John James Audubon, *Bird Biographies*, "The Passenger Pigeon.")

The proposed construction and operation of a uranium enrichment plant at the southwest corner of the Department of Energy reservation would impact these historic sites and potential future projects in a number of ways. The location of the new enrichment plant borders on the Barnes Home property, and some of the land was originally taken from the Barnes estate. Safety and environmental fears, along with the conspicuous security regime, if not crafted with sensitivity to the historic importance of the neighboring property, could certainly deter public visitation to and appreciation of the historic sites.

The National Historic Preservation Act provides mechanisms for averting and ameliorating such impact. Unfortunately, the Department of Energy has not complied with its obligation to implement the various provisions of the act, creating now a monumental challenge for how to bring the proposed project into accord with federal preservation law.

Audubon Ohio supports Geoffrey Sea's intervention in this case. There must be an advocate for preservation and ecological interests involved in the proceedings.

Sincerely,

Jerome C. Tinianow  
Vice President and Ohio Executive Director

Exhibit F. Statement of Roger G. Kennedy, former director of the National Park Service and Director Emeritus of the National Museum of American History, author of *Hidden Cities: The Discovery and Loss of Ancient American Civilization*

Subject: Intervention support  
Date: 2/24/2005 12:20:18 PM Eastern Standard Time  
From: roger@rkennedy.net  
To: GeoffreySeaNYC@aol.com

To the Commissioners, Secretary and Atomic Safety and Licensing Board of the US Nuclear Regulatory Commission and to Whom it May Concern.

I am traveling away from home and letterhead, lecturing at Stanford University and for a group of private foundations in San Francisco. However, I wish to use this electronic means to support the intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action.

Mr. Sea is entirely correct as to the importance of the Barnes works to American history and to our living cultures. It is among the half-dozen most important pre-Columbian sites in the Ohio Valley, and when more work is done on it by competent archaeologists it may turn out to be among the half dozen most important in the United States. If the people of Louisiana can save Poverty Point, and the people of East St. Louis can save Cahokia, surely the more affluent people of Ohio can rally to protect their heritage from desecration. The balance is hardly even between a mere adjustment for convenience of an atomic energy plant which can go anywhere within a hundred mile radius, and a precious place with no equals, no counterparts, and no chance of replication. This generation would be disgraced if further damage were done to an inheritance from the ages. The Barnes site must be saved.

For that to happen, it might be well for the site ultimately to be placed in responsible public hands, such as the National Park Service or the Ohio State Park System, or within the jurisdiction of the United States Forest Service.

I would be happy to verify the authenticity of this commendation by responding to an email sent the sending address.

Roger G. Kennedy

Director Emeritus, National Museum of American History

Former Director, the United States National Park Service

Exhibit H. Statement of John E. Hancock, Professor of Architecture and Associate Dean at the University of Cincinnati, Project Director of "EarthWorks: Virtual Explorations of the Ancient Ohio Valley"

University of Cincinnati  
College of Design, Architecture, Art, and Planning  
Office of the Dean  
P.O. Box 210016  
Cincinnati OH 45221-0016

Phone (513) 556-4933 / Fax (513) 556-3288  
Web <http://www.daap.uc.edu>

February 21, 2005

To: The Commissioners, Secretary and Atomic Safety and Licensing Board of  
the US Nuclear Regulatory Commission, and Whomever it May Concern

From: John E. Hancock, Professor of Architecture and Associate Dean  
Project Director "EarthWorks: Virtual Explorations of the Ancient Ohio Valley"

Re: Support of the Intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action.

One of North America's richest prehistoric legacies lies mostly buried or destroyed, and nearly invisible, beneath the modern landscapes of southern Ohio. The first settlers in this region stood in awe, amidst the largest concentration of monumental earthen architecture in the world. These included effigies like the Great Serpent Mound, and hilltop enclosures like Fort Ancient; but the most spectacular were the many embankments and enclosures formed into huge, perfect, geometric figures. Two centuries of archaeological research have shown that these were created by ancient Native cultures dating back as far as about 2000 years.

Apart from three of these figures at Newark, Ohio (two circles and an octagon), no others exist in complete, visible form, though several survive in ways still useful to archaeological research. The circle-and-square at Piketon, also known as the Barnes Works or the Seal Earthworks, despite its scant remains, is significant for several reasons:

- it is among the least known or investigated to date by archaeologists;

- its double-figure shape links it to two of the most culturally-revealing earthworks that have been investigated (Newark and High Bank), suggesting similarly-precise astronomical functions akin to those at Stonehenge;

- it is at the center of the thickest concentration of these works, between Portsmouth and Chillicothe, undoubtedly part of a culturally important series, and possibly linked by an extension of "The Great Hopewell Road";

- through its connections with the Barnes family it holds special significance in the history of the State of Ohio, its early links to Virginia, and the early importance of its earthworks in the birth of American archaeology and national identity;

- it may include as part of its design a heretofore unrecorded earthen circle, of a size unknown anywhere else in the world.

The preservation of this site has at least two major benefits:

- it will enable the continuing study of a unique asset from this ancient Ohio Valley culture, now beginning to make its way back into the public consciousness in our region and beyond.

- it will strengthen the resource base for the increasingly-lucrative cultural heritage tourism industry and its associated high-quality, non-intrusive economic development in southern Ohio.

The goal of our multimedia "EarthWorks Project" is make these hidden or vanished sites visible again, and offer them in new ways, to new audiences, in new electronic media such as museum exhibits, computer discs, and a Website. Three times funded in this work by the National Endowment for the Humanities, we have confirmed the national cultural and historical significance of this ancient culture and their spectacular architectural monuments. Numerous inquiries from Europe attest to the international significance of this unique Ohio heritage, and public awareness and interest here at home is also clearly increasing.

The opportunity to preserve a unique resource that sheds light on our predecessors in this valley should not be missed.

Yours sincerely,

John E. Hancock

Exhibit N. Statement of Karen Kaniatobe, Tribal Historic  
Preservation Officer of the Absentee Shawnee Tribe of Oklahoma

Absentee Shawnee Tribe of Oklahoma  
Cultural/Historic Preservation Department  
2025 S. Gordon Cooper  
Shawnee, Oklahoma 74801-9381  
(405) 275-4030 Fax: 405-878-4533

February 24, 2005

RE: Support of Geoffrey Sea's intervention in the USEC  
American Centrifuge Plant Licensing Action

To the Commissioners, Secretary and Atomic Safety and  
Licensing Board of the US Nuclear Regulatory Commission and  
to Whom it May Concern:

I am writing in support of the intervention of Geoffrey Sea  
in the USEC American Centrifuge Plant licensing action. I am  
the Tribal Historic Preservation Officer for the Absentee  
Shawnee Tribe. Our interest in supporting Mr. Sea is based  
on the fact that Ohio is part of our ancestral homelands.  
Through historical research we have identified a number of  
village sites in the Ohio Valley. In fact, quite a few are  
located along the Scioto River. Furthermore, if you look at  
a map, you will notice that the names of towns, cities and  
counties reflect the Shawnee's historical presence within  
the state of Ohio.

We are part of the Algonquian family of Native American  
peoples, and the Algonquian tribes of the Ohio/Great Lakes  
region are collectively believed to be descended from the  
culture called Ft Ancient. In turn the Ft Ancient are  
considered descendants of the Hopewell culture. The people  
of the Hopewell Culture built the many astounding geometric  
earthworks, including those called the Barnes Works in  
Scioto Township.

All of the historic and prehistoric sites in the region of  
Scioto Township have great meaning and significance. The  
Barnes Works, being one of the largest and most beautiful  
prehistoric architectural works in North America, is a site  
that has already suffered desecration and destruction--but  
what remains can be saved.

Many more historic sites may exist in the area, remaining to  
be found for lack of extensive survey. Surveys to find such  
sites should be conducted as part of any 106 review for the  
ACP.

The American Centrifuge Project may impact all these sites  
in many ways that have not been studied or considered.

Physical destruction caused by new buildings is only one concern. We also need to consider potential destruction of earthworks along the river caused by additional water pumping, the impacts of herbicides used to defoliate a security zone around the DOE site perimeter, the impacts of keeping the area under national-security restriction, rather than opening the area to study and tourism, and the aesthetic impacts of marring a sacred area with security fences, more roads, and shipments of radioactive fuel and waste.

Our tribe has not been contacted by DOE about the American Centrifuge Project for consultation. We first learned about the American Centrifuge Project from Geoffrey Sea. Please note that we count on being included as a consulting party in future 106 and 110 reviews at the Piketon site.

We understand that the NRC has initiated a section 106 review as part of its licensing process. That is good. However this is an important test for preservation law. If a major federal nuclear project involving two different federal agencies can proceed without any consideration of one of the largest sacred sites in North America next door, then it means that the provisions of the National Historic Preservation Act have become meaningless.

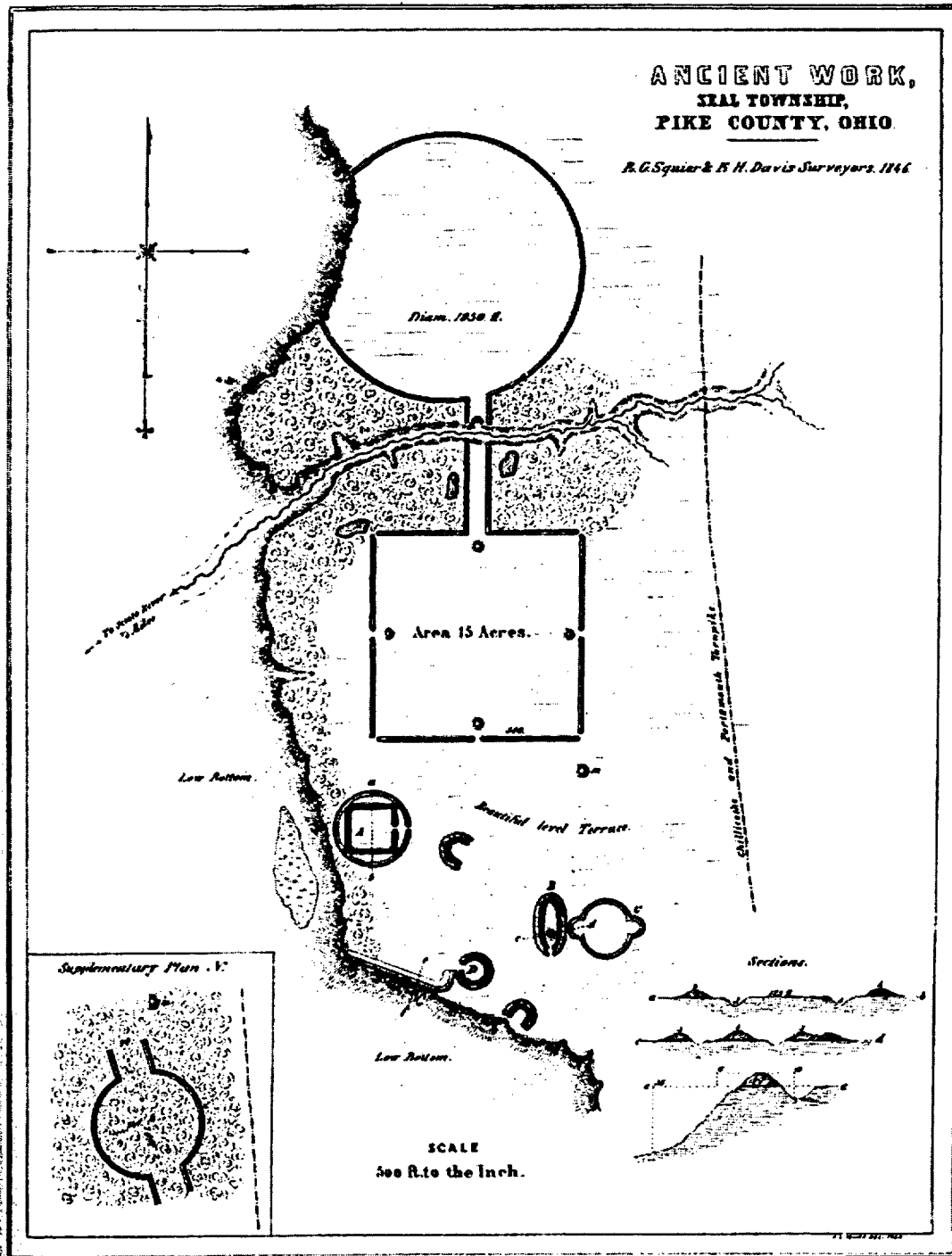
Many alternatives to the proposed action deserve full study and consideration. USEC's environmental report mentions the possible alternatives of moving ACP to the north side of the Piketon site or moving it from Piketon to Paducah, Kentucky. Since the current site at the southwest corner of the DOE reservation involves many potential impacts, those alternatives among others need careful review.

Respectfully,

Karen Kaniatobe  
Tribal Historic Preservation Officer



Exhibit O. The Seal Township Works, later called the Barnes Works or Scioto Township Works. Plate XXIV from Ephraim Squier and Edwin Davis, *Ancient Monuments of the Mississippi Valley*, 1848. (Note that the more accurate measurements given by Cyrus Thomas and Gerard Fowke half a century later are substantially different, making the areas of circle and square between 10% and 15% larger.)



Face P. 66.

Exhibit Q. Thomas F. King, preservation consultant, author of four books on federal preservation including *Federal Planning and Historic Places: the 106 Process*

Thomas F. King, PhD.  
P.O. Box 14515 Silver Spring MD 20911, USA  
Telephone (240) 475-0595 Facsimile (240) 465-1179 E-mail tfking106@aol.com

Cultural Resource Impact Assessment and Negotiation, Writing, Training

February 24, 2005

To: The Commissioners, Secretary and Atomic Safety and Licensing Board of  
the US Nuclear Regulatory Commission, and Whom it May Concern.

I am writing in support of the intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action. As a professional practitioner of archaeology and historic preservation in the United States, I am deeply concerned about the potential impacts of the proposed action on historic properties, and about the adequacy of NRC's and the Department of Energy's (DOE's) compliance with Section 106 and 110 of the National Historic Preservation Act and other federal environmental and cultural resource legal requirements.

A copy of my professional resume is attached. I hold a PhD in Anthropology from the University of California, Riverside, and have been practicing in historic preservation and environmental impact review for almost forty years, both within and outside the Federal government. I have some twenty years experience as a government official with the Advisory Council on Historic Preservation, the National Park Service, and the General Services Administration, and am currently self-employed as a consultant, writer, mediator, and trainer in historic preservation, tribal consultation, and environmental review. I am the author of four textbooks and numerous journal articles on these subjects, as well as a number of federal regulations and guidelines. My particular specialty lies in working with Section 106 of the National Historic Preservation Act, which requires Federal agencies to take into account the effects of their actions on places included in and eligible for the National Register of Historic Places.

It is because of my concern for the proper application of Section 106 and related authorities, and for the proper management of historic places, that I support Mr. Sea's intervention. Mr. Sea has, I believe, uncovered significant problems with NRC's and DOE's compliance with the historic preservation and environmental

laws, and identified significant potential impacts on places eligible for inclusion in the National Register. His intervention should be given your very close attention.

Respectfully,

Thomas F. King

EXHIBIT V

**Thomas F. King, PhD**

P.O. Box 14515, Silver Spring MD 20911, USA

Telephone (240) 475-0595 Facsimile (240) 465-1179 E-mail [tfking106@aol.com](mailto:tfking106@aol.com)

*Cultural Resource Impact Assessment and Negotiation, Writing, Training*

March 29, 2005

Geoffrey Sea  
340 Haven Ave., Apt. 3C  
New York NY 10033

Dear Geoffrey:

You've asked me for my observations on how the Nuclear Regulatory Commission (NRC) staff's positions on the scope of its responsibilities in the USEC matter, and on the tests that you must meet in order to intervene, relate to the purposes and requirements of the National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA). I provide these observations based on some 40 years of professional practice under both statutes, including participation in the development of amendments to the latter and federal regulations and guidelines implementing both.

Both NEPA and NHPA were enacted in order to protect the public interest in the human environment in general (in the case of NEPA) and historic resources in particular (NHPA). It follows that the interested public - made up of people like yourself - has a large role to play in implementation of these laws, and this is reflected in the regulations that agencies must follow in complying with them. Both the NEPA regulations (40 CFR 1500-1508) and the Section 106 NHPA regulations (36 CFR 800) provide for participation in review by interested parties and the general public. The Section 106 regulations are particularly directive in this regard, providing both for general public involvement and participation and for identifying particular "consulting parties" whose interests in the undertaking under review, or its effects, entitle them to ongoing active involvement in the negotiation of ways to resolve adverse effects on historic properties.

It appears that the NRC staff has a much, much more restrictive notion of public involvement than that underlying either NEPA or NHPA. I suspect that this reflects the fact that the staff's policies and procedures for environmental review spring from a different intellectual tradition than do those underlying laws like NEPA and NHPA. A thought-provoking (though rather turgid) recent book that explores this sort of

dichotomy is *Citizens, Experts, and the Environment: The Politics of Local Knowledge*, by Frank Fischer (Durham, Duke University Press, 2000). Fischer discusses the world-view that is common among environmental engineers and others involved in the sort of environmental review that is driven by the toxic, hazardous, and radiological substances laws, in which environmental impact analysis is construed to be a matter of rigorous, generally quantitative, scientific analysis. It is a matter for scientific experts to concern themselves with, and is viewed as far too complicated for ordinary citizens to understand. In this world-view, public involvement is a troublesome requirement imposed by the political system, which should be kept to a minimum so the experts can get on with their work. Fischer documents that this sort of thinking is widespread in the environmental specialist community from which agencies like NRC draw their staffs, and from which their personnel derive their intellectual direction. He also documents how thoroughly wrongheaded it is, but that's another matter. My point is simply that the NRC staff's thinking on how people like you should be involved and issues like yours should be considered in its decision making has much more to do with the philosophical biases of its members than it does with any actual legal requirements.

The NRC staff seeks to limit your access to its decision making process in a variety of ways - for example by insisting that to be recognized as having "presumptive standing" you not only be "injured," but be a resident of the surrounding vicinity, and at the same time insisting that your "injury" must be of a particular kind. Let's look at the last of these first.

The staff asserts that "(i)n Commission proceedings, the injury must fall within the zone of interests sought to be protected by the AEA or the National Environmental Policy Act ("NEPA")." It is not clear to me why only these two laws are pertinent and not, for instance, NHPA, but for the moment let's assume the staff is correct; your "injury" must relate to the "zone of interests sought to be protected" by the AEA and NEPA. I claim no expertise in the AEA, but I do know about NEPA, and it appears to me manifestly obvious that your "injury" falls well within the sphere of NEPA's "protected interests."

NEPA directs agencies to consider the impacts of their actions on "the quality of the human environment." At 40 CFR 1508.27(b) the NEPA regulations of the Council on Environmental Quality (CEQ) list a range of factors to be considered in judging the significance of impacts on the quality of that environment. It is a long and varied list, and it repeatedly refers to "cultural" and "historic" resources. It surely follows that "interests" in such resources are "protected" to the extent NEPA affords

protection to anything. Thus your interests in protecting the historic character of the area subject to effect by NRC's permit action are entirely within NEPA's "sphere of protection."

Why does the NRC staff not understand this? I suspect that - based on the intellectual tradition from which they come - the staff's experts honestly believe that the quality of the human environment is not affected by anything that fails to irradiate someone to a hazardous degree. It follows from that line of reasoning that your interests in the historic character of the area are irrelevant to the potential for environmental impacts.

It also follows, of course, that only actual residents of the vicinity can be "injured," because only residents are likely to suffer a high enough dosage of something emanating from the proposed facility to affect their health and safety. Therefore, it is logical within the staff's likely framework of assumptions, that only nearby residents should be recognized as having presumptive standing. But NEPA isn't about only health and safety. The great bulk of NEPA cases that have been litigated have been brought by parties whose injuries involved damage to places and things they enjoyed and thought important - forests, mountains, animals, bodies of water, beautiful vistas, wilderness, fish, sacred sites, historic places, archaeological sites. Courts routinely grant standing to plaintiffs under NEPA on such grounds; can the staff be seriously proposing that the Commission adhere to a more exclusive standard?

It is also difficult to understand why, if an "injury" within NEPA's "zone of protected interests" is a legitimate topic for NRC consideration, an "injury" within NHPA's "zone" is not equally legitimate. Both laws were enacted by Congress; both apply to all federal agencies; both impose rather similar requirements. To the best of my knowledge, NRC has never been granted an exemption from NHPA's requirements. Your interests clearly fall within NHPA's "zone," since they concern historic properties and effects on them. Under the Section 106 regulations, your interests entitle you to consult about the significance of such properties and how to resolve adverse effects on them. Why does the NRC staff think the Commission can or should deprive you of this entitlement?

Here again, I suspect that the culprit is the world-view of NRC's staff experts. If one believes that environmental impacts are limited to things that scientific experts can quantify, and ordinary citizens have nothing useful to contribute to the discussion, then it follows that all NRC need do to address impacts on historic properties under NHPA is to have expert surveys done and consult with the State's designated expert, the State Historic Preservation Officer. If further follows that the Commission's staff can and should

keep the results of its expert studies secret, as it has in this case, and simply present the public with its conclusions.

Within this framework of assumptions, the fact that the Section 106 regulations call repeatedly for participation by interested parties and the public is irrelevant; such requirements are mere politico-regulatory hoops to be gotten through with as little effort as possible.

But this interpretation of NHPA's requirements is inconsistent not only with the letter of the regulations but with routine practice in Section 106 review and with the record of case law. Courts have generally been quite liberal in recognizing the standing of interested parties in Section 106 litigation, and certainly have never imposed anything like a residency requirement. In the recent *Bonnichsen et.al. v. US* (Civil No. 96-1481JE, District of Oregon), for example, the court found that a group of physical anthropologists, none of whom lived in the vicinity of the discovery, not only were sufficiently "injured" by the Corps of Engineers' treatment of a human skeleton found on the bank of the Columbia River to give them standing to sue, but that the Corps had violated the NHPA by failing to consult them under Section 106. Here again, NRC's staff seems to be establishing for the Commission a more exclusive standard than that imposed by courts of law; I have to wonder about the basis for this.

In summary then, what I think we see in the NRC staff's conclusions about your intervention is the expression of a world-view that is common among experts in toxic, hazardous, and radiological impact analysis, that may be sensible in some contexts but thoroughly warps the process of review under NEPA and NHPA. To narrowly limit the range of interests in the public with whom one will engage in environmental impact analysis, and then to insist that these interests themselves demonstrate the existence of impacts ("injuries"), stands the process of environmental review on its head. It is the responsibility of the Commission and its staff to ascertain what impacts its permit action may have on the quality of the human environment under NEPA, and on historic properties under Section 106; it is not your responsibility to do so for them.

I realize that the NRC staff would doubtless argue that all the above factors might give you "regular" standing but not "presumptive" standing - you might have standing, but it would not be automatic unless you actually lived adjacent to the facility. But this distinction still reflects the assumption that one cannot be really "injured" unless one is likely to be subjected to irradiation. Setting aside the question of whether, as a near-term prospective resident, you are not likely to be subjected in the future to this kind of "injury," it seems to me that NHPA (among other laws) provides the basis for other standards for awarding "presumptive standing" that



are as good as nearby residency; one merely needs to recognize that exposure to radiation is not the only way one can be "injured" by a project like USEC's. Surely the owner of a National Register or Register-eligible property that is subject to potential effect by the project, who appreciates the historic qualities of the property, must be presumed to be subject to injury by the project. Similarly, I would suggest, someone whose cultural identity is tied up in a property that might or might not be eligible for the National Register, or who has research interests in such a property, or who traditionally uses or enjoys such a property, must be presumed to be subject to injury, and hence should be recognized as having presumptive standing. People in all these categories and others are routinely included as consulting parties under the Section 106 regulations; why should the Commission, acting in the public interest, not do the same?

Although the NRC staff does not comment on it, I have to believe that its beliefs about the environmental review process are in line with those of USEC, which in its response to your petition summarily rejected the earlier letter I provided you. USEC wrote:

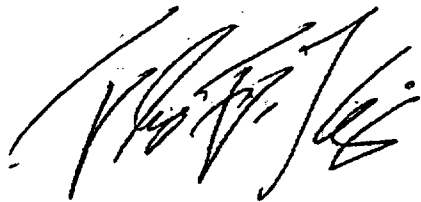
"(4) Finally, Petitioner cites a letter from Dr. Thomas F. King (Exhibit Q), which makes no reference to any specific aspect of the ACP application and therefor (sic) does not provide meaningful support for the contention."

My letter, of course, was intended simply to advise NRC that, in my fairly well-informed professional opinion, you had a point in your allegations, which I thought (and think) it appropriate for the Commission to consider further in its decision making. Under NHPA and NEPA it is not my job, or yours, to go out and conduct the studies necessary to identify and address the impacts of NRC's permit actions; it is NRC's job to do so, or to cause the applicant to do so, with our advice and assistance. You have provided substantive information indicating that NRC needs to take a further look at the historic preservation implications of its permit decision; I was advising NRC that I thought you had a good point, that I didn't think you were an eccentric who could safely be ignored. But because I did not refer to a "specific aspect" of the application, in the eyes of USEC my opinion - like yours - can be rejected out of hand. And of course, as you know, it was impossible for me (or anyone else trying to figure out how USEC had considered impacts on historic places) to address "a specific aspect of the ACP application" because neither the application nor the accompanying Environmental Report refer to the requirements of NHPA or to the National Register of Historic Places. The absence of specific evidence in my statement merely reflects the absence of specifics in USEC's application. To judge from the available record, at least (such as it is), USEC has not thoroughly identified historic properties subject to possible effect by its actions

- to say nothing of other kinds of cultural resources that ought to be considered under NEPA. This creates a flawed record for use by NRC in making its permit decision. I trust the Commission will understand this, and appreciate your efforts to provide it with a broader and more complete basis for its deliberations.

Good luck in your continuing efforts.

Sincerely,

A handwritten signature in black ink, appearing to be 'V. H. ...', written in a cursive style.

## EXHIBIT W

(original handwritten on letterhead)

SHAWNEE NATION, UNITED REMNANT BAND

TUKEMAS/HAWK POPE-PRINCIPLE CHIEF

ZANE SHAWNEE CAVERNS AND SOUTHWIND PARK  
SHAWNEE-WOODLAND NATIVE AMERICAN MUSEUM  
2911 ELMO PLACE, MIDDLETOWN, OHIO 45042

Nuclear Regulatory Commission and whomever it may concern,

Dear Sirs,

We were only recently informed of plans to further develop the nuclear project in Pike County, Ohio. I represent the Shawnee Nation, United Remnant Band. The U.R.B is recognized as a descendant group/Tribe of the historic Shawnee Nation in Ohio-SUB. AM. H.S.R.8-1980. Our people do have historic and cultural ties to the site in Pike County, near the Scioto river. We do consider the earth works and the other ceremonial and cultural features there to be sacred. We do, therefore object to the proposed project, for reasons of the project's incompatible and inappropriate use of the land. Any destruction of features on the site, further poisoning of the ground, or limits to access to the site would be very disturbing and considered by us, wrong.

We are regularly informed of sites for proposed transmission towers and pipe lines. We were not told of this project, similarly. In the future we want to be a consulting source. We await your response.

Chief Hawk Pope

P.S. We were informed by Jeffrey Sea, and we do support his intervention in this matter. In the Shawnee language Scioto means "Hair in the Water" as the river passes through so many burial sites and is so prone to flooding. Again, this place is sacred to Shawnee People.

Thank you for your time and consideration.

Chief Hawk Pope

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**ATOMIC SAFETY AND LICENSING BOARD**

**Before the Administrative Law Judges:  
Lawrence G. McDade, Chairman  
Paul B. Abramson  
Richard E. Wardwell**

In the Matter of	)	Filed August 15, 2005
	)	
USEC Inc.	)	Docket No. 70-7004
(American Centrifuge Plant)	)	
	)	
	)	

**Declaration by John Hancock, Frank L. Cowan, and Cathryn Long Regarding  
August 5, 2005 Visit to GCEP Water Field**

Under penalty of perjury, we the undersigned do jointly declare as follows:

**Statement of Qualifications**

1. My name is John Hancock. I am Professor of Architecture and Project Director of the "EarthWorks Project" being produced by the Center for the Electronic Reconstruction of Historical and Archaeological Sites (CERHAS) at the University of Cincinnati. I am an expert in ancient architectural history and in particular the forms, and the problems of visualization, of these earthen structures. A copy of my curriculum vitae is attached.
  
2. My name is Frank L. Cowan. I am a consulting archaeologist with the company of F. Cowan & Associates. I am a leading expert in the study and excavation of Hopewell earthwork sites with twenty-five years experience in Hopewell archaeology, including nine years of Hopewell research in Ohio. A copy of my curriculum vitae is attached.
  
3. My name is Cathryn Long. I am a writer and researcher with the Center for the Electronic Reconstruction of Historical and Archaeological Sites (CERHAS) at the University of Cincinnati. My expertise derives from eight years interviewing experts on

the Hopewell culture for CERHAS. A copy of my curriculum vitae is attached.

#### Purpose of Declaration

5. The purpose of this declaration is to describe the results of our August 5, 2005, visit to a site near to but not contiguous with the Piketon atomic reservation known as the GCEP Water Field or the X-6609 Raw Water Wells. We went to the GCEP Water Field to examine and evaluate the potential historical significance of earthworks reported to be on the site. As discussed below, we identified a human-made earthwork on the site, whose origin is unknown but which appears to pre-date the U.S. Department of Energy ("DOE") water system which is also visible on the site. We believe that further investigation is warranted in order to determine the origin of the earthworks with confidence. (JH, FLC, CL)

#### Description of Site Visit

6. The GCEP Water Field lies on the east bank of the Scioto River, due west of the main atomic reservation at Piketon. The Water Field is owned by the DOE and leased to USEC. It is our understanding that the DOE installed a water supply system on the Water Fields site in the early 1980s to supply a future centrifuge enrichment plant. The acronym GCEP stands for Gas Centrifuge Enrichment Plant, a project that later became known as ACP or American Centrifuge Plant. (JH, FLC, CL)

7. Though maps of the GCEP Water Field were requested, they were not provided, and we were not allowed to bring cameras or take pictures. Therefore, we are not able to provide a map or pictorial evidence of our observations and conclusions. Therefore, our observations and conclusions are described solely in narrative form. (JH, FLC, CL)

8. We were dropped off by a USEC van at the northern end of the Water Fields site, and walked towards the southern end, with well-heads evident all along the way. The site extends along the Scioto River, with a forested strip adjoining the river bank, and a cleared strip with a road adjoining that. We observed a DOE water supply system in the area, consisting of DOE well heads which appear as either single pipes coming vertically out of the ground, or groups of four larger pipes arranged in a cross-shape. Most of the well heads line the west side of the road, but many extend into the forested area at irregular intervals. (JH, FLC, CL)

9. The forested strip along the river contains a series of natural levee embankments that parallel the river. However, as we moved south about a half mile, the embankment closest to the road straightened out and became level on top. The further south we moved, the straighter and more level it became, with perfectly uniform width at the level top. The structure continues south as far as we could see. Because our escorts gave us no maps or clues about the site boundaries, and because we ran short of time, we could not investigate the southern terminus of the structure. (JH, FLC, CL)

10. From the top of this structure, looking in either direction, the structure was dead straight and regularly formed with a consistent width to the level upper surface, unlike the natural levee formations closer to the river and possible remnants of this structure as it presently appears further north. Given the linearity, we all are of the opinion that this is an artificial structure. We cannot say if other earthworks might lie on parts of the site we could not get to. (JH, FLC, CL)

11. Though the structure is man-made, it is impossible to say upon partial visual inspection what this structure is, how old it is (though it is not very recent), or who built it. However, it is within the realm of possibility that the structure is an Indian earthwork of the Middle Woodland period (about 300 B.C. to A.D. 500). The Ohio Hopewell culture of that period built large scale geometric earthworks, including long straight earthen walls; and their constructions once lined the valley of the Scioto River. (JH, FLC, CL)

12. The southern end of the structure we observed at the GCEP Water Field is very close (within a quarter of a mile) of the northern end of the great Hopewell circle-square complex known as the Barnes Works (also called the Seal Township Works or Scioto Township Works). The Barnes Works is listed on the National Register of Historic Places and is one of the large earthworks along the Scioto recorded in 1848 by E.G. Squier and E.H. Davis (*Ancient Monuments of the Mississippi Valley*, Smithsonian). (JH, FLC, CL)

13. It is also possible that the structure is a 19<sup>th</sup> or 20<sup>th</sup> century construction, although we are not aware of any major structures that were built in the area during this time. It is unlikely to be a modern levee because there has been no development in this area worthy of such elaborate protection. It is unlikely to be a remnant of the Erie Canal system, because the canal went along the west side of the Scioto River and this structure lies along the east side. It is unlikely to be part of an early pioneer road or railroad because those were built on dry ground to the east, not in the flood zone. (JH, FLC)

14. We believe it is highly unlikely that this structure could have been made by DOE or USEC, because there are trees on either side of it. Neither USEC nor DOE has identified this structure as related to the water field, and it appears unrelated as the structure is most evident at the south end of the site, while the pipes leading to the pump house and road extend from the north end of the site. In addition, it appears that as the structure proceeds north, it actually crosses the well field, which would negate its usefulness as a protective levee. There is also a report from a former land-owner, Charles Beegle, that earthworks at the site predated DOE's acquisition of the land, and that his deceased wife's family, the Rittenauer family, recognized these earthworks as ancient. This letter from Charles Beegle is attached as Exhibit A. (JH, FLC)

15. A research protocol is needed to determine the identity and age of this structure. That protocol should begin with access to all previous reports of cultural resource investigations conducted at the Water Field property prior to the development of the

Water Field, investigations that would have been required by Section 106 of the National Historic Preservation Act. Access will also be needed to the maps and survey records for the Water Field Site in possession of the DOE and USEC. This should be accompanied by historical research to determine if any known engineering work took place in that area prior to the DOE land purchase, and if the structure was noted on any older survey maps or in any archeological works. If the historical research draws a blank, a cross-sectional excavation of the structure and/or a series of soil cores through the structure would reveal much about its age and identity. (JH, FLC, CL)

16. If the structure is determined to have historic significance, an evaluation should be made of the visual and physical impact of the American Centrifuge Project on that structure. DOE well-heads, by the dozen, line both sides of the structure and some are in the midst of it. Whether pumping of water from beneath the structure damages the structure is a question that should be evaluated by hydrology experts. Further surveys of the entire Water Field Site, with maps, cameras, survey equipment, and unrestricted time are also warranted. (JH, FLC, CL)

17. The GCEP Water Field site lies close enough to the Barnes Works to warrant a close examination of its historic significance. Any prehistoric earthworks that may be identified at that location deserve the utmost attention and protection. Therefore, we urge a program of research at that site as rapidly as possible, in compliance with federal preservation law. (JH, FLC, CL)

\_\_\_\_\_[signed]\_\_\_\_\_  
John Hancock

\_\_\_\_\_[signed]\_\_\_\_\_  
Frank L. Cowan

\_\_\_\_\_[signed]\_\_\_\_\_  
Cathryn Long

August 11, 2005





PIKE COUNTY  
CHAMBER OF COMMERCE  
P.O. BOX 107 • 12455 STATE ROUTE 104  
WAVERLY, OHIO 45690  
740-947-7715 • FAX 740-947-7716  
www.pikechamber.org

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LEADS

2005 OCT 13 PM 4: 19

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September 30, 2005

9/8/05  
70FR53396

2

United States Nuclear  
Regulatory Commission  
Matthew Blevins, Project manager  
Mail Stop: T7J-8  
Washington, DC 20555-0001

Dear Matt,

I am enclosing a copy of the report the Chamber submitted to the Department of Energy and USEC. As we told Brian Smith yesterday, part of the dilemma we have experienced this summer has been deciding who should receive the information.

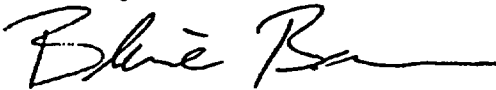
There are a couple of points that I want to emphasize. First, none of the people who contributed information received any monetary rewards. This was strictly a case where a number of people wanted to make the history of events clear.

Second, in Jeffery Sea's testimony last night he referred to an earthwork on the Rittenour property. That earthworks is referred to in the report as the Nier property levy. This was designed after the 1959 flood by the soil conservation service.

Should you desire, we would be happy to submit statements from the Pike Countians who knew about or who participated.

I appreciate your interest in this matter.

Sincerely,



Blaine Beekman  
Executive Director

ISP Better Complete

Template = ADM-013

E-RIDS = ADM-03  
Add = M. Blevins (MXB6)

PIKE COUNTY  
CHAMBER OF COMMERCE  
P.O. BOX 107 • 12455 STATE ROUTE 104  
WAVERLY, OHIO 45690  
740-947-7715 • FAX 740-947-7716  
www.pikechamber.org

September 28, 2005

United States Nuclear  
Regulatory Commission  
Matthew Blevins, Project Manager  
Mail Stop T7J-8  
Washington, DC 20555-0001

Dear Mr. Blevins,

011-1

In response to our conversation, I am submitting a brief report on the origin of a series of levies along the Scioto River in southern Pike County. There are three separate levies. The northernmost is on the Nier property at the U.S. Route 23 entrance to Piketon Department of Energy facility. The middle levy is partially located on a Department of Energy well field located next to the Scioto River on the old Billy Cutlip farm. The third levy extends across 10 farms beginning at the Barnes property and extending south along the river to the Will Acord farm.

The confusion about the origins of these levies was surprising to the Scioto Township residents with whom I spoke. All three were manmade, constructed within the past half-century. No levies had previously existed on the properties. Many of the people involved in the projects are still available to share the record of their experiences. The levy on the Nier property and the levy covering the 10 lower properties were built in direct response to a catastrophic 1959 flood. The third levy near the DOE well field was in response to an economic need rather than a need for flood control.

Each of the levies is located on the east side of the Scioto River. To the west of the river, south of Piketon, the terrain is hilly. To the east, the land rises in a terraced manner from the river bottoms. The lowest level is only a few feet above the Scioto River water level. The second level is about 50 feet higher in elevation and occurs from a few feet to a quarter mile from the river's edge. Flooding along the Scioto River has never reached the top of this second level. Much of the area in question also has a third terrace level, again rising a few feet above the second level.

Historically, the land at river level has been utilized for farming. Late winter flooding on a periodic basis made the construction of residences at this level impractical. Floods on the Scioto River in 1913 and 1937 were considered major, but farmers in our target area either lacked the means or did not feel the need to construct levies to protect their properties.

The 1959 flood had a disastrous effect on the lowest level of land. The current was so strong that it devastated the soil. Art Nelson a farm employee of Layton and Everett Hammond, saw areas where several feet of topsoil had literally washed away, leaving the slate underlay exposed. A mile to the south, deposits of sand left by the flood, measured as much as 25 feet in depth.

Everett and Layton Hammond decided they needed to build a levy. They contacted the Pike Soil and Water Conservation District for assistance. Vince Scott and Jim Steiner were employees of the Federal Soil Conservation Service on loan to the Pike SWCD. Vince and Jim provided technical assistance to the Hammond brothers, recommending that the levy be built perpendicular to the river to protect against current damage should another flood of the magnitude of the 1959 flood occur again. Paul "Bunk" Adams, a skilled bulldozer operator who completed a hundred projects for the Soil Conservation Service, completed the work under the supervision of Vince Scott and Jim Steiner. This is the levy on the Nier farm.

Everett and Layton Hammond also were instrumental in organizing the levy along the 10 farms further south. Several hundred acres of land at river level had basically been made untillable by the sand deposits. The final plan included reducing the sand piles by mixing them with soil to farm the levies. There was still plenty of sand left after the levy was completed. Art Nelson remembered that Bill Trusty, a Wakefield businessman hauled sand from one of the largest deposits. Teddy West, a local farmer, learned that much of the sand was sold to the Goodyear Atomic Corporation for use as backfill on a sewer project. Steve Acord, whose family farm was one of those involved in the levy project, stated that it took years to return to land to farm production.

The levy on the Cutlip farm was an entirely different situation. In 1968, Billy Cutlip sold his 390 acre farm to the Standard Slag Company of Youngstown. Standard Slag developed a sand and gravel quarry that eventually covered two-thirds of the property. In the early 1980s the Department of Energy built a series of wells at the river's edge of the Standard Slag property to furnish surface water for the centrifuge process being developed by Goodyear Atomic Corporation at the Piketon DOE facility. Teddy West farmed the lowest and second levels of the Standard Slag property from the 1970s to the early 1990s. He was farming the land when the DOE wells were being drilled. According to Bob Childers who was in charge of operations at the steam plant, the line was a 36" line which ran all the way from the river to the DOE facility. The project was engineered and the contracts were handled by DOE at Oak Ridge so there was not a lot of local DOE contact. Teddy West remembered that the line was not stable at its base. Ralph Beabout an employee at the plant's water system learned that pressure on the line at its source was too great for the concrete anchors designed to hold the line in place. Modifications included more concrete and ground cover. The result is a levy-like appearance.

The second factor was the need for Standard Slag to find a place to put a sizeable amount of overburden when it expanded its quarry operation. One solution, according to Don Nelson, the manager of the Standard Slag operation until 1992, was to take the overburden down to the river

and build a levy, essentially hooking it to the DOE well site. The dirt was placed between the wells and the river because Standard Slag hoped to begin quarrying at the level next to the river. However, when the company ran extensive tests near the river, Don discovered the overburden was too deep and the water table was too high to make quarrying of that area economically feasible.

At first, the levy was kept mowed and it was possible to drive on it. When the quarrying idea was discarded, the levy was left pretty much to itself.

I hope this will answer some of the questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Blaine Beekman", followed by a horizontal line extending to the right.

Blaine Beekman  
Executive Director

From: "Elisa Young" <elisay@earthlink.net>  
To: <NRCREP@nrc.gov>  
Date: Mon, Oct 24, 2005 10:57 PM  
Subject: Fw: Important/USEC ACP DEIS deadline

9/8/05

10 FR 53396

- > Dear Yawar Faraz:
- >
- > The DEIS seems to omit any information or analysis about the product of
- > the Centrifuge Facility.
- >
- > We believe the process will not be complete until the NRC evaluates the
- > impacts of the use of the product of the facility, and therefore cannot
- > logically or legally yield the favorable finding suggested in the
- > Statement.
- >
- > Sincerely,
- >
- > E.D. Arnold
- > Executive Director,
- > Physicians for Social Responsibility/Atlanta
- > P.O.Box 95190
- > Atlanta, GA 30347
- >

10

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USNFC

STSP Review Complete

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E-ADS = ADH-03

Call = M. Blevins (MXB6)

**Mail Envelope Properties (435D9F10.5EF : 9 : 62959)**

**Subject:** Fw: Important/USEC ACP DEIS deadline  
**Creation Date:** Mon, Oct 24, 2005 10:57 PM  
**From:** "Elisa Young" <elisay@earthlink.net>

**Created By:** elisay@earthlink.net

**Recipients**  
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twf2\_po.TWFN\_DO  
NRCREP

**Post Office**  
twf2\_po.TWFN\_DO

**Route**  
nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	508	Monday, October 24, 2005 10:57 PM
Mime.822	1728	

**Options**  
**Expiration Date:** None  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

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**From:** Ed Arnold [edarnold@mindspring.com]  
**Sent:** Monday, October 24, 2005 8:25 PM  
**To:** yhf@nrc.gov  
**Subject:** RE: DEIS, Gas Centrifuge Facility

Dear Yawar Faraz:

012-1

The DEIS seems to omit any information or analysis about the product of the Centrifuge Facility.

We believe the process will not be complete until the NRC evaluates the impacts of the use of the product of the facility, and therefore cannot logically or legally yield the favorable finding suggested in the Statement.

Sincerely,

E.D. Arnold  
Executive Director,  
Physicians for Social Responsibility/Atlanta  
P.O.Box 95190  
Atlanta, GA 30347

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United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Custom House, Room 244
200 Chestnut Street
Philadelphia, Pennsylvania 19106-2904



IN REPLY REFER TO:

October 12, 2005

ER 05/800

Chief, Rules Review and Directives Branch
U.S. Nuclear Regulatory Commission
Mail Stop T6-D59
Washington, DC 20555-0001

Attention: Mr. Matthew Blevins

Dear Mr. Blevins:

Handwritten notes: 9/14/05, 70FR53396, and a circled H

RECEIVED stamp

2005 OCT 18 AM 9:30 stamp

RULES AND DIRECTIVES BRANCH stamp

013-1 stamp

The U.S. Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (EIS), NUREG-1834, for the Possession and Use of Source, Byproduct, and Special Nuclear Materials at USEC Inc.'s American Centrifuge Plant, Pike County, Ohio (Docket No. 70-7004).

The Draft EIS adequately addresses the concerns of the Department regarding fish and wildlife resources, as well as species protected by the Endangered Species Act. We concur with the conclusions of the U. S. Nuclear Regulatory Commission staff with respect to the potential impacts of the proposed action and its reasonable alternatives on these resources and species. We have no comment on the adequacy of other resource discussions presented in the document.

We appreciate the opportunity to provide these comments.

Sincerely,

Handwritten signature of Michael T. Chezik

Michael T. Chezik
Regional Environmental Officer

cc:
L. MacLean, FWS, Ft. Snelling, MN

Handwritten notes: STSP Review Complete, Template = ADM-013

Handwritten notes: E-RFDS = ADM-03, Caldwell = M. Blevins (4XBL)





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGIONS 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

OCT 31 2005

2005 NOV -8 AM 9: 50

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US/EPC

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REPLY TO THE ATTENTION OF:  
B-19J

9/18/05  
70FR53394  
16

Chief, Rules Review and Directives Branch  
U.S. Nuclear Regulatory Commission  
Mail Stop T6-D59  
Washington, D.C. 20555-0001

Re: Draft Environmental Impact Statement for the Proposed American Centrifuge Plant,  
Pike County, Ohio, NUREG-1834, EIS No. 20050365

Dear Sir or Madam:

In accordance with Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (U.S. EPA) has reviewed the Draft Environmental Impact Statement (DEIS), issued by the U.S. Nuclear Regulatory Commission (NRC), for the project listed above.

The DEIS states that the proposed Federal action under consideration in the DEIS is for the NRC to issue a license that would authorize USEC Inc. to possess and use special nuclear material, source material and byproduct material at the American Centrifuge Plant (ACP), a gas centrifuge uranium enrichment facility, proposed to be located on the U.S. Department of Energy Portsmouth Reservation (Portsmouth Reservation), near Piketon, Ohio. The enriched uranium produced at the proposed ACP would be used to manufacture nuclear fuel for commercial nuclear power reactors.

The DEIS appears to evaluate this project as a generic case. However, the Portsmouth Reservation is a unique facility with extensive data documenting a variety of past uses and sources. Therefore, the DEIS should have provided a much more thorough background for this case. We urge the project proponents to document a more thorough site-specific evaluation in the final environmental impact statement (FEIS).

We are concerned about the project scope documented in the DEIS. The project proponents exclude security issues from the scope of the DEIS. The project scope, as documented in the DEIS, should include all of the activities planned at ACP. If the DEIS does not include certain planned activities, then they must be evaluated in a supplemental document. Given the historic production activities at the Portsmouth Reservation for military, as well as civilian uses, the FEIS should explicitly state whether the facility will be used for military purposes.

We are concerned about the alternatives screening process. Two alternate locations for a gas centrifuge uranium enrichment plant were evaluated in the DEIS (Paducah, Kentucky and Piketon, Ohio). Apparently, both sites are suitable for the project, but the Paducah site is eliminated from detailed evaluation, based on environmental, socioeconomic, and regulatory factors. While we do not dispute the project proponents' selection of Piketon as the preferred

*SESP Report Complete*

*FEIS = ADM-03*

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*Template = ADM-013*

K-85

*Att = M. Blewins (4/18/06)*

site, the FEIS needs to either (1) document a detailed analysis for Paducah, or (2) present a more thorough explanation as to why Paducah was dropped as a viable alternative.

We are concerned about the management of depleted uranium fluoride (DUF6) at the Portsmouth Reservation. The United States has produced DUF6 since the early 1950's as part of the process of enriching uranium for both civilian and military applications. DOE's Portsmouth DUF6 conversion facility will process that site's estimated 250,000 metric tons of DUF6, stored in about 16,000 cylinders onsite; an additional 4,800 cylinders will be transferred for processing from the Oak Ridge ETTP facility. The DEIS states that 571,000 metric tons of DUF6 will be generated in 30 years at ACP, producing nearly as much DUF6 as DOE has over nearly 50 years. Management of this large amount of DUF6 material was not fully accounted for in the DEIS. Therefore, the FEIS should include detailed information about DUF6 management and disposal from ACP operations, within the context of all DUF6 management and disposal activities at the Portsmouth Reservation.

We are concerned about cumulative erosion and sedimentation impacts from the construction of the Cylinder Storage Yard X-745H. According to the DEIS, excavation and grading activities in the future cylinder storage yard would make the area more susceptible to erosion. Little Beaver Creek would receive stormwater runoff from the construction area. Currently, Little Beaver Creek is impaired from siltation and sedimentation. Additional erosion and sedimentation from construction activities would cumulatively impact this creek. However, the DEIS does not document a cumulative impact analysis for this case. Such an analysis should be included in the FEIS. In addition, we urge the project proponents to commit to evaluating significant characteristics for the Little Beaver Creek habitat (e.g., fish spawning periods, mussel locations), and conducting appropriate mitigation activities to preserve these characteristics.

Based on our review of this DEIS, we have given the project an EC-2 rating. The "EC" means that we have environmental concerns with the proposed action, and the "2" means that additional information needs to be provided in the FEIS. Our concerns relate to the documentation of the following issues:

1. Purpose and need of the proposed project,
2. Project scope,
3. Alternatives screening process,
4. Description of preferred alternative,
5. Product Management,
6. Modeling data,
7. Proposed monitoring scheme,
8. Proposed mitigation,
9. Environmental impacts,
10. Cumulative impacts,
11. Applicable regulations,
12. Affected environment, and
13. Agency Involvement.

We have enclosed our comments and the U.S. EPA rating system summary. If you have any questions or wish to discuss any aspect of the comments, please contact Michael Murphy (for radiation-related issues) at (312) 353-6686, Eugene Jablonowski (for Superfund-related issues) at (312) 886-4591, or Newton Ellens (for NEPA-related issues) at (312) 353-5562.

Sincerely,

*Newton A. Ellens, for KAW*

Kenneth A. Westlake, Chief  
NEPA Implementation Section  
Office of Science, Ecosystems, and Communities

Enclosures

cc: Maria Galanti  
Ohio Environmental Protection Agency  
Southeast District Office

Kenneth Dewey  
Ohio Environmental Protection Agency  
Southeast District Office

## U.S. Environmental Protection Agency Comments on Environmental Impact Statement for the Proposed American Centrifuge Plant, Pike County, Ohio

### General Comments:

014-1

The draft environmental impact statement (DEIS or EIS) appears to evaluate this project as a generic case. This is not actually appropriate as this is the sole facility of this type with the variety of past uses and sources that are linked with this facility. Over fifty years of data have been collected on this site which can provide a much more thorough background, as well as provide a basis for a site specific document format. We recommend the final environmental impact statement (FEIS) be focused on site-specific analyses, impacts, and mitigation.

Some of the general descriptions of how the materials, source materials, product materials, and the waste materials will be handled and controlled at the U.S. Department of Energy's (DOE's) Portsmouth, Ohio Reservation (Portsmouth Reservation) appear to be incomplete and fragmented, which made it difficult to properly evaluate whether or not requirements under other Federal regulations can be met with the necessary degree of completeness to authorize this project.

014-2

The FEIS should describe what the Nuclear Regulatory Commission (NRC) is doing to ensure that funding sufficient for the American Centrifuge Plant's (ACP's) decontamination and decommissioning, as well as waste management, is in place prior to issuing a license.

014-3

We are concerned about the cancer rate data provided in the DEIS. The DEIS provides estimated latent cancer fatality data, but does not include non-fatal cancer rate data. The FEIS should provide more comprehensive cancer rate data.

014-4

We are concerned about dated annual radiological emission data in the DEIS. In some cases, data is provided for radiation emitted several years ago. The FEIS should reference the most current annual radiological emissions data—for 2004, in this case.

### Specific Comments:

#### **Purpose and need of the proposed project**

014-5

- 1) (Page xix, Line 41 and Page 1-5, Line 34) The justification of the rationale used for the purpose and need of the proposed project is insufficient. The DEIS states that the proposed ACP is needed because only one uranium enrichment plant currently operates in the United States, the Paducah, Kentucky Gaseous Diffusion Plant (Paducah Plant). A supply disruption with the Paducah Plant would leave the nation's

commercial nuclear reactors fully dependent on foreign sources for enriched uranium—a situation which could impact national security. However, the DEIS also states that the Paducah Plant would be shut down, decontaminated, and decommissioned after ACP begins operating. Therefore, ACP would not satisfy the national security facet of the purpose and need of the proposed project, because the project would merely replace, instead of supplement, the nation's only operating uranium enrichment plant. Therefore, we urge NRC to reevaluate this aspect of the stated Purpose and Need.

014-6

- 2) (Page 1-2, Line 38 and footnote of Page 4-53) We are concerned about the lack of a justification in the DEIS for the need to enrich uranium up to 10% by weight of uranium-235. According to the DEIS, the license issued by NRC would authorize USEC Inc. (USEC) to produce enriched uranium up to 10% by weight of uranium-235. However, the DEIS also states that most power plants use enriched uranium with less than 5.5% of uranium-235 by weight, and that it would be unlikely for USEC to enrich uranium up to the higher weight. Finally, the DEIS states that, of the cylinders used to ship enriched uranium, none of them are certified to ship uranium enriched to higher than 5% by weight of uranium-235. Given that it would not be feasible for USEC to enrich uranium above 5% by weight of uranium-235 (for civilian use), NRC should explain why the proposed license would authorize a higher level of enrichment. If the project proponents foresee a scenario under which USEC would need to enrich uranium up to 10% of uranium-235, then that scenario should be documented in the Purpose and Need Section of the FEIS. Otherwise, we would urge NRC to reconsider the limit of uranium enrichment cited in its license for USEC.

014-7

- 3) (Executive Summary, Purpose and Need For the Proposed Action, Page xx, paragraph 1) The description appears to be incomplete and does not address the range or possibilities of materials that can be reasonably assumed to be produced at this facility. This is based on the type and range of enrichments that have been conducted in past operations at the gaseous diffusion facility at this site.

014-8

- 4) (Introduction, Section 1.3.2 The Need for Domestic Supplies of Enriched Uranium for National Energy Security, page 1-5, paragraph 1) It is unclear whether future inclusion of additional nuclear power plants and their needs for enriched fuel is taken into account in this evaluation. It would be reasonable to include at least one to two new plants and their potential needs to be included in this evaluation to assure that a more representative range of possible customers for this facility's output is evaluated.

#### Project scope

014-9

- 5) (Page 2-1, Line 44) The scope of the DEIS does not include decommissioning and related activities of the Paducah, Kentucky Gas Diffusion Plant. The DEIS states that

after uranium enrichment operations begin at ACP, the Paducah Plant would cease its uranium enrichment operations. According to the DEIS:

For the purposes of this analysis, cessation of uranium enrichment operations at Paducah would include stopping uranium enrichment plant operations, but would not include decommissioning of the Paducah Gaseous Diffusion Plant, changes to any other activities at that site, or any alternative uses of that site in the future. Those other actions at Paducah would be the subject of other decisions and other environmental reviews.

The scope of DEIS should have included the cessation of all uranium enrichment operations at the Paducah Plant, because it is a connected action under the National Environmental Policy Act (NEPA). The start of ACP's uranium enrichment operations and the cessation of uranium enrichment operations at the Paducah Plant are closely related—the Paducah Plant's operations would not cease if ACP's operations did not start. Therefore, the FEIS should document a comprehensive evaluation of the cessation of all uranium enrichment operations at the Paducah Plant.

- 014-10 6) (Page 2-35, Line 19) The ACP FEIS should discuss the former Portsmouth, Ohio gaseous diffusion plant, and any ACP interactions with it, considering that the Portsmouth plant is either in cold standby or cold iron and that the ACP will be in close proximity to it.
- 014-11 7) (Introduction, Section 1.2, The Proposed Action, Page 1-2, paragraph 5) The potential range of produced materials does not include the possibility of production for the Department of Defense. If this is potentially a reasonably assumed product, it needs to be included for evaluation.
- 014-12 8) (Introduction, Section 1.4, Scope of the Environmental Analysis, Page 1-7, paragraph 3) The scope of the environmental analysis may not meet the actual needs to be addressed for the new facility to be created and put into operation. The scope may need to be expanded to assure that all of the environmental issues are adequately addressed.
- 014-13 9) (Introduction, Section 1.4.4 Issues Outside the Scope of the EIS, Page 1-9) This section artificially narrows the scope of this evaluation to exclude security issues relevant to this facility. Safety and Security, Credibility and Terrorism must be addressed in any project of this type. The DEIS is incomplete and inadequate to properly address these issues.
- 014-14 10) (Page 2-2, Line 26) The ACP FEIS should identify: 1) all of the uranium enrichment projects expected for the facility; 2) all of the projects that the facility is capable of

performing; 3) whether this facility will be reprocessing feed materials from spent nuclear fuel; and 4) whether this FEIS encompasses all of the activities that an enrichment facility may be called to perform.

014-15

- 11) (Page D-5) Considering the exceptionally large amount of depleted uranium that will be generated by ACP operations, and since it's a credible option, the ACP FEIS should also assess the transportation of depleted uranium and other radioactive wastes to Andrews, Texas, and the location of another disposal facility that should have an Agreement State license for disposal within the next year.

#### Alternatives screening process

014-16

- 12) (Page 2-37, Line 4) We are concerned about the lack of a sufficient number of reasonable alternatives selected for detailed study. Only the preferred alternative is retained as a reasonable alternative in the DEIS for detailed study. The DEIS initially describes an evaluation of several alternatives, including the construction and operation of a gas centrifuge uranium enrichment plant at the existing Paducah Plant site. The DEIS states that construction and operation of such a plant at Paducah was considered a reasonable alternative to the proposed action. Additionally, the DEIS states that both Piketon and Paducah were suitable sites for the construction of a gas centrifuge uranium enrichment plant, when regarding environmental, socioeconomic, and regulatory factors. Under NEPA, the project proponents should have rigorously explored and objectively evaluated all reasonable alternatives. However, the project proponents eliminated the Paducah Plant site from further consideration because of construction, engineering, and plant safety concerns. The FEIS should either (1) document a detailed analysis for the Paducah site, or (2) offer a more thorough justification for why the Paducah site was not studied in detail in the DEIS.

014-17

- 13) The ACP DEIS states:

"The DOE-USEC Agreement stipulates that USEC deploy the ACP at either the DOE reservation in Piketon or Paducah. Also, no other sites offered the unique combination of (1) readily accessible environmental data; (2) past history and experience in uranium enrichment; and (3) the availability of skilled labor with uranium enrichment industry experience."

Was the DOE-USEC Agreement the appropriate legal means for determining the location of the ACP in the absence of an EIS? Considering that the Piketon gaseous diffusion ceased enrichment operations in 2001, the ACP won't begin operations until 2009, and that the gas centrifuge facility proposed by Louisiana Energy Services near Eunice, New Mexico would be located at a "green field" site where there have been no prior enrichment operations, are the three reasons provided for siting the ACP at

Piketon truly valid for the purposes of an EIS?

**Description of preferred alternative**

014-18

14) (Page 2-34, Line 19) The ACP DEIS states that the intent of decommissioning is to return the proposed ACP site to a state that meets NRC requirements for release for unrestricted use after decontamination and decommissioning is completed. The ACP FEIS should define and discuss what NRC considers "unrestricted use" to mean. Are the NRC requirements consistent with Comprehensive Environmental Response Compensation and Liability Act (CERCLA) standards for free release of property without institutional controls? Who owns the ACP buildings? Are they owned by DOE and leased to USEC, or does USEC have ownership of buildings on the Portsmouth Reservation? If USEC or a subsequent owner goes bankrupt, would DOE then be the primary responsible party responsible for cleanup and have priority access to the cleanup funds in the ACP's surety bond (or other financial mechanisms) over other entities such as tax authorities and commercial lenders?

014-19

15) (Page 2-35, Line 1) The ACP DEIS states that the decontamination and decommissioning (D&D) activities for the proposed ACP are anticipated to occur approximately 30 years in the future, and therefore only a general description of the activities that would be conducted for the proposed ACP can be developed at this time for the DEIS. Will NRC review and approve the ACP engineering design prior to its construction? Does NRC require the concurrent development of a D&D plan while the facility is being designed? Does NRC regard issues such as cost, implementability, ease of D&D, worker safety during D&D, and waste minimization to be considerations in the design of radiological facilities such as the ACP?

**Product Management**

014-20

16) We are concerned about the use and/or disposal of chlorofluorocarbons (CFCs) at the Portsmouth Reservation. We understand that there was a large use of CFCs at the reservation, and that a significant amount of the Nation's CFC emissions came from the reservation. Therefore, the FEIS should describe the types and amounts of CFCs at the reservation, and it should describe the planned use and/or disposal of CFCs at the reservation. This discussion should describe how CFC management will comply with the Clean Air Act.

014-21

17) (Page 2-12, Line 48) The ACP DEIS states that uranium hexafluoride (UF<sub>6</sub>) cylinders may be stored in any storage yard. It should be clarified whether all of the cylinders will have comparable management and security whether they are depleted uranium or enriched product. Also, will there be any long-term staging of enriched materials for subsequent blending operations? It appears that distinctions should be



made between UF6 cylinders that are tails/waste (suitable for processing and disposal), UF6 product, and UF6 materials that support production. Otherwise, mixing these UF6 materials up on any of the storage yards seems to provide an opportunity for negative impacts related to UF6 management.

014-22

- 18) (Page 2-19, Line 29) The ACP DEIS text and Table 2-3 provide information that approximately 8,000 cubic meters of low-level waste will be generated during refurbishment and construction activities. The ACP FEIS should discuss its waste disposition, where the low-level waste is being shipped for processing and disposal, and whether any of this low-level waste is considered "mixed waste" under the Resource Conservation and Recovery Act (RCRA).

014-23

- 19) (Page 2-27, Line 18) This section of the FEIS should discuss: 1) at what point the depleted uranium tails are considered a waste or a product; 2) who has the authority to make the determination that the depleted uranium tails are waste (especially considering that DOE may be the recipient of these materials); 3) at what time is the waste determination made; 4) how much tailings/waste is expected to be generated annually; 5) whether there will be sufficient capacity on-site to process the tailings/waste for use or disposal; and 6) the disposal options currently available and potentially available in the future for the off-site storage or disposal of the tailings/waste.

014-24

- 20) (Page 2-30, Line 45) The United States has produced depleted uranium hexafluoride (DUF6) since the early 1950s as part of the process of enriching natural uranium for both civilian and military applications. DOE's Paducah DUF6 conversion facility will process that site's estimated 450,000 metric tons of DUF6 over a 25 year processing period. DOE's Portsmouth DUF6 conversion facility will process that site's estimated 250,000 metric tons of DUF6 that is currently stored in about 16,000 cylinders on the Portsmouth Reservation, as well as process an additional 4,800 cylinders that will be transferred from the Oak Ridge ETTP facility to the Portsmouth Reservation; the overall processing period is expected to be 18 years. DOE expects the conversion of all its stored DUF6 to cost approximately \$2.6 billion, excluding costs for the decontamination and decommissioning of the conversion facilities.

The ACP DEIS states that 571,000 metric tons of DUF6 will be generated during ACP operations, in 30 years generating as nearly as much DUF6 as DOE has over nearly 50 years. This is a large amount of DUF6 material that should be fully characterized in the ACP FEIS. Detailed information should be provided on DUF6 management and disposal including: how long the ACP-generated DUF6 will be stored on site prior to conversion; whether the Portsmouth DUF6 conversion facility has the capacity to process ACP-generated DUF6 in an expedient timeframe; whether there are off-site facilities that have the capacity to process ACP-generated DUF6,

cost data, financial responsibilities and liabilities; and any NRC requirements for financial assurance or surety funds that will ensure that DUF6 and other wastes generated due to ACP activities are properly managed, processed and disposed, without the cost passed on to other federal agencies and the public. Specifically, the ACP FEIS should include:

- a) Detailed information on the Portsmouth DUF6 conversion facility since conversion of DUF6 is really an integral part of the overall enrichment process, with conversion of the mostly unmarketable DUF6 being necessary for the long-term stability and management of that waste stream. Does the Portsmouth DUF6 conversion facility have adequate capacity to process the DUF6 that the ACP will generate, in addition to the DUF6 already in DOE's inventory? Is there off-site DUF6 conversion capacity in case that the Portsmouth DUF6 conversion facility cannot meet demand?
- b) Section 3113 of the 1996 United States Enrichment Corporation Privatization Act that states the DOE "shall accept for disposal low-level radioactive waste, including depleted uranium if it were ultimately determined to be low-level radioactive waste, generated by [...] any person licensed by the Nuclear Regulatory Commission to operate a uranium enrichment facility under Sections 53, 63, and 193 of the Atomic Energy Act of 1954 (42 U.S.C. 2073, 2093, and 2243)." If the gas centrifuge facility proposed by Louisiana Energy Services (LES) near Eunice, New Mexico is licensed by the NRC, is DOE obligated to accept its waste and DUF6? Could accepting LES wastes impact the capacity of the Portsmouth DUF6 conversion facility and the ACP's ability to deal with the DUF6 that it generates?
- c) How long is the ACP-generated DUF6 expected to be stored or accumulate on the Portsmouth Reservation prior to its conversion and off-site disposal? Information should be provided on a total inventory and per cylinder basis.
- d) Considering the number of DUF6 cylinders stored on the Portsmouth Reservation, and the number that will be generated by the ACP, is the Portsmouth Reservation the most suitable environment for the long-term storage of DUF6, whether prior to or after conversion?
- e) What are all of the facilities available for the off-site storage and/or disposal of the post-conversion DUF6, both currently available and anticipated for licensing in the future? Will they have the capacity to accept all of the post-conversion DUF6 generated as a result of ACP and historic ACP operations? Are there any issues that could affect DOE's ability to dispose of post-conversion DUF6 off-site from the Portsmouth reservation?

f) The Portsmouth DUF6 conversion facility is stated to have an operating life of 18 years, while the ACP is expected to operate for 30 years. Where will the ACP-generated DUF6 be converted after operation of the Portsmouth DUF6 conversion facility ceases? Does DOE have an obligation to operate a conversion facility to accommodate DUF6 generated by the ACP and other enrichment facilities licensed by the NRC?

014-27

21) (Page 2-48, Line 23) The ACP DEIS states:

"The NRC staff has determined that unless USEC can demonstrate a use for uranium in the depleted tails as a potential resource, the depleted UF6 generated by the proposed ACP should be considered a waste product."

The ACP FEIS should state who has the authority to make the waste determination: NRC, DOE or USEC? The ACP FEIS should state when that determination is required to be made, or whether that determination should be made immediately upon DUF6 generation. The ACP FEIS should define "depleted uranium" in terms of its uranium-235 content for the purposes of management and waste disposition. Although depleted uranium is commonly referred to as uranium having a percentage of uranium-235 smaller than the 0.7 percent found in natural uranium, does that definition hold true for the purposes of management and waste disposition, and DOE's acceptance of depleted uranium materials generated by NRC-licensed enrichment plants?

014-26

22) (Page 3-71, Line 42) The ACP DEIS states:

"Section 3113(a) of the USEC Privatization Act (Public Law 42 104-134) requires DOE to accept low-level radioactive waste, including depleted uranium that has been determined to be low-level waste, for disposal, upon the request of, and reimbursement of costs by, the United States Enrichment Corporation. To date, this provision has not been invoked, and the form in which the depleted uranium would be transferred to DOE has not been specified."

The ACP FEIS should state who makes the low-level waste determination. Considering that during its operation the ACP is expected to generate about 571,000 metric tons of DUF6, nearly as much as DOE generated during its 50 years of enrichment operations, the ACP FEIS should clearly specify how ACP will manage DUF6 throughout the full term of the NRC license, including the form in which the depleted uranium would be transferred to DOE. The FEIS should describe an implementable and legally defensible disposition path for all of the wastes that the ACP will generate.

014-27

- 23) (Page 3-75, Line 5) The ACP DEIS states:

"Classified/sensitive waste is any waste considered as such for security reasons. These materials may be classified due to configuration, composition, contamination, or contained information. Classified waste may be categorized as non-hazardous waste or as low-level radioactive depending upon its point of and method of generation."

The ACP will be a commercial facility operating on leased federal property for commercial production purposes. The ACP FEIS should state and describe: 1) who will have the authority at the ACP to make "classified/sensitive" determinations; 2) 3<sup>rd</sup> party federal reviews of the "classified/sensitive" waste determinations that are made; 3) whether any of the "classified/sensitive" wastes are exempt in any way from U.S. Environmental Protection Agency (U.S. EPA), Ohio Environmental Protection Agency, or NRC regulatory authority; 4) whether it is possible for ACP personnel to make "classified/sensitive" waste determinations; 5) whether ACP personnel will have authorities delegated to it by DOE, such as under the Atomic Energy Act; 6) whether there will be activities at the ACP that are subject to DOE oversight and exempt from NRC regulation; and 7) why a commercial facility with a civilian mission would generate "classified/sensitive" wastes requiring "classified/sensitive" determinations. Also, the ACP FEIS should state whether RCRA-regulated mixed wastes could be generated that are considered classified.

014-28

- 24) (Page 3-75, Line 12) The ACP DEIS states:

"Classified waste is stored onsite prior to disposal in classified offsite disposal facilities."

The ACP FEIS should state the duration that classified waste is stored on site prior to offsite disposal and who has the regulatory authority for classified waste generated by ACP personnel or any other personnel at the USEC-leased areas.

#### Modeling data

014-29

- 25) (Page 4-11, Table 4-1) We are concerned about modeling data for air contaminants missing from the DEIS. The DEIS provides predicted concentrations for some criteria pollutants during site preparation and construction activities at the project site. The DEIS, however, omits data for ozone and lead. In order to complete the modeling data provided in the DEIS, the FEIS should include this information. The ozone forecast data should be presented as an 8-hour average, and the lead forecast data should be presented as a quarterly average, in order to compare the data to the

National Ambient Air Quality Standards for these pollutants.

014-30

- 26) (Page C-3) Throughout this appendix, the isotope list should include technetium and transuranic isotopes such as those listed on page 3-31 to reflect activities anticipated at the ACP.

#### Proposed monitoring scheme

014-31

- 27) (Page 2-28, Line 20) Considering the emissions from the former gaseous diffusion plant, the processing of recycled material and the processing of former Russian materials, ACP emissions should also be analyzed for transuranic radionuclides routinely.

014-32

- 28) (Page 2-28, Line 20) The ACP DEIS states that recycled feed may be used, and that four radionuclides will be analyzed in the ACP emissions routinely, although this paragraph discusses five radionuclides (uranium-234, uranium-235, uranium-236, uranium-238 and technetium-99). The ACP FEIS should clearly state which radionuclides will be analyzed, as well as any non-radioactive hazardous emissions.

014-33

- 29) (Page 6-3, Line 14) The ACP DEIS states that uranium isotopes anticipated to be released as airborne emissions would include uranium-234, uranium-235, uranium-236, and uranium-238. The ACP FEIS should also include the isotopes of americium, neptunium, plutonium, and technetium (listed on the bottom of page 3-31) that have been known emissions from the former Portsmouth Gaseous Diffusion Plant, which had uranium feed similar to what is anticipated for the ACP.

#### Proposed mitigation

014-34

- 30) (Page 4-10) We commend NRC for proposing mitigation measures during construction of the proposed project to reduce air quality impacts. According to the DEIS, the NRC staff determined that the majority of particulate emissions emitted during construction would come from construction vehicle exhaust. Therefore, in order to reduce particulate emissions from construction vehicle exhaust, NRC recommended that USEC: (1) use Tier 2 construction-related vehicles, which would reduce diesel particulate emissions by about 40%, and (2) use ultra-low sulfur diesel fuel. We urge NRC to establish these mitigation measures in the construction contracts for the proposed project, and to document these mitigation measures in the Record of Decision (ROD).

#### Environmental impacts

014-35

- 31) (Environmental Impacts Section 4.2.4.2, Facility Operation, Radiological Emissions,

Pages 4-14, 4-15) Several different isotopes are mentioned in this discussion, but emissions appear to be aggregated without a clear discussion of the relative percentages of each radionuclide's contribution to the total emissions. Disaggregating should be done in the FEIS, so that a more accurate determination of potential exposures can be made and evaluated for the resulting health consequences, if any, attributable to ACP.

014-36

- 32) (Executive Summary, Public and Occupational Health and Safety, Page xxvi) In the statement of standards that protect the health and safety of the public, 40 CFR 61, Subpart H, has been left out of the DEIS. That reference should be properly incorporated throughout the document. This regulation was used to determine public health protection, whereas the NRC regulations deal more with occupational levels for exposures rather than a public health exposure level.

014-37

- 33) (Alternatives, Section 2.4 Comparison of Predicted Environmental Impacts, Table 2-8, Page 2-60) The NESHAPs 40 CFR 61 Subpart H evaluation has not been submitted for determination of appropriateness and to demonstrate potential compliance status of this type of facility to the regulating agency as of this time. The DEIS characterized impacts as "SMALL." Until this determination is made under Subpart H, classifying impacts is premature. We encourage NRC to involve us and other appropriate Federal agencies earlier in this determination process.

014-38

- 34) (Affected Environment Section 3.5.3.1 Current Emissions at the DOB Reservation, Radiological Emissions, Page 3-20) The regulations for the radionuclide NESHAPs are dose standards from emissions, so the notation of the becquerel and/or curie emissions is misleading. A variety of radionuclides are potential contributors, each with different doses associated with each becquerel or curie amount. The standard is a maximum dose to the potential Maximally Exposed Individual (MEI) of 10 millirem per year in excess of background exposures. The 2004 values should be referenced, since this is an annual compliance demonstration and earlier demonstrations are not relevant to the current compliance status of the Portsmouth Reservation.

014-39

- 35) (Environmental Impacts Section 4.2.4.1 Site Preparation and Construction, Radiological Emissions, Page 4-11 paragraph 1) The statements here regarding 40 CFR 61, Subpart H are potentially misleading as to the potential health effects from exposures, by subtly indicating that the data and standard are not based on any measured data. This is incorrect. This should be either appropriately discussed in the FEIS, or the FEIS should state the standard's requirements or demonstration of compliance.

**Cumulative impacts**

014-40

36) (Page 4-16, Line 21, and Page 4-19, Line 3) We are concerned about cumulative erosion and sedimentation impacts which could be caused by construction of Cylinder Storage Yard X-745H. According to the DEIS, the cylinder storage yard would be constructed in an area characterized by steep slopes. The DEIS states, "During excavation and grading, the steep slopes would be more susceptible to soil erosion, and the streams at the bottom of the slopes may receive an increased amount of silt." Construction activities would be close to Little Beaver Creek, an impaired stream. Presently, siltation and sedimentation are two causes of the creek's impairment. Additional erosion and sedimentation from the construction of the cylinder storage yard could result in cumulative impacts to Little Beaver Creek. The DEIS does not perform a cumulative impact analysis for this case. Such an analysis should be included in the FEIS. We commend the project proponents for proposing the use of best management practices to mitigate erosion and sedimentation impacts (e.g., silt fences, straw bales, re-seeding disturbed areas, etc.). In addition, the project proponents should commit to evaluating significant characteristics for the Little Beaver Creek habitat (e.g., fish spawning periods, mussel locations), and conducting appropriate mitigation activities to preserve these characteristics. We urge NRC to establish such mitigation commitments in the construction contracts for the proposed project, and to document these mitigation measures in the Record of Decision (ROD).

014-41

37) (Page 6-9, Line 3) The ACP DEIS states that due to historical operations, The DOE reservation has multiple plumes of groundwater contamination. The ACP FEIS should also describe: 1) whether any of these plumes reside in areas leased for the ACP facilities; 2) whether the ACP facilities and areas have been certified as being free of environmental media contamination (soil, groundwater, etc.); 3) whether ACP operations are expected to contribute to groundwater contamination and to what extent; and 4) whether the ACP will have its own groundwater monitoring program independent of DOE's. The FEIS should include maps of groundwater contamination at the Portsmouth complex to aid in the description.

**Applicable regulations**

014-42

38) (Introduction, Section 1.5 Applicable Regulatory Requirement, Pages 1-11 through 1-33) Executive Directive and Presidential Orders that make specific requirements on all Federal Agencies that would apply or impact this project need to be included.

014-43

39) (Introduction, Table 1-3, Pages 1-20 through 1-29) Table 1-3 is incomplete. All potential applicable requirements for the construction of the ACP have not been included and need to be thoroughly re-evaluated.

014-44

40) (Alternatives, Section 2.1.4.3 Facility Operations, Air Emissions Monitoring and Treatment Systems, Page 2-28, paragraph 3) The appropriate regulations should

include 40 CFR 61, Subpart H for this facility. This facility is subject to this regulation and must meet all of the requirements of this rule before construction of this project can begin.

- 41) (Alternatives, Section 2.1.4.3 Facility Operations, Liquid effluent Collection and Treatment Systems, Page 2-29, paragraph 4) The appropriate regulations have not included 40 CFR 61, Subpart H for this facility. This facility is subject to this regulation and must meet all of the requirements of this rule before construction of this project can begin.

#### Affected environment

014-45

- 42) (Affected Environment Section 3.10.2 Low-Income Populations, Table 3-25, Page 3-59) There appears to be a typographical error in the Weighted Average Threshold for "One Person" in the table. This needs to be clarified for any type of comparability.

014-46

- 43) (Affected Environment Section 3.13.1 Background Radiological Exposure, Page 3-65 paragraph 1) The standard is a maximum dose to the potential Maximally Exposed Individual (MEI) of 10 millirem per year in excess of background exposures. The 2004 values should be referenced since this is an annual compliance demonstration and earlier demonstrations do not reflect the current compliance status of the facility. Neither of the new proposed facilities at the Portsmouth Reservation has submitted information to demonstrate their potential compliance status in an operating status to date. The estimates provided cannot be considered to be adequate until such time as they have been fully evaluated.

014-47

- 44) (Page 1-4, Line 23) The ACP DEIS states that the Portsmouth Gaseous Diffusion Plant is currently in "cold standby" mode (possible to restart in 18 to 24 months). The FEIS should include a schedule for when the facility will be placed into "cold iron" mode (unable to be restarted) and become ready for decontamination and demolition (D&D) work to proceed.

014-48

- 45) (Page 2-6, Line 1) Under DOE's RCRA Corrective Action activities, various facilities across the Portsmouth Reservation had their environmental assessment and restoration activities "deferred" until the time when the gaseous diffusion plant (GDP) D&D work is performed. The ACP FEIS should state whether any of the facilities under Table 2-1 are considered "deferred," and if so, whether RCRA corrective actions have been performed at those facilities. This table should also state which facilities will have NRC-licensed activities occurring.

014-49

- 46) (Page 2-7, Line 2) The ACP FEIS should list and describe the primary facilities and areas leased by DOE for the proposed ACP.



## Agency Involvement

014-50

- 47) (Introduction, Section 1.5.5 Cooperating Agencies, Page 1-19) The DEIS states that during the scoping process, no Federal, State, or local agencies were identified as potential cooperating agencies in the preparation of the DEIS. It is not addressed that there was any contact with other regulating Agencies at any level that could have been considered cooperating Agencies. All of the current Federal, as well as State and Local regulators for this site would have been potential Cooperating Agencies in the development of this document and process.

014-51

- 48) (Introduction, Section 1.5.6 Consultations, Page 1-19) When the NRC was first given some regulatory authority at this site, a consultative procedure was to have been used with U.S. EPA, to assure that the site could be "certified" for their regulation. A similar process should have been used with all current regulating Agencies of this facility prior to preparation of this document.

## SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION\*

### Environmental Impact of the Action

#### LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

#### EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

### Adequacy of the Impact Statement

#### Category 1-Adequate

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### Category 2-Insufficient Information

The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

#### Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment



October 21, 2005  
AET 05-0075

Michael T. Lesar  
Chief, Rules Review and Directives Branch  
Attention: Document Control Desk  
Mail Stop T6-D59  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

**American Centrifuge Plant  
Docket Number 70-7004  
Comments on the Draft Environmental Impact Statement for the Proposed American  
Centrifuge Plant in Piketon, Ohio (TAC No. L32308)**

Dear Mr. Lesar:

The purpose of this letter is to provide USEC Inc. (USEC) comments on the U.S. Nuclear Regulatory Commission's Draft Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio (NUREG-1834). Enclosure 1 of this letter provides USEC's comments.

If you have any questions regarding this matter, please contact Peter J. Miner at (301) 564-3470.

Sincerely,

Steven A. Toelle  
Director, Nuclear Regulatory Affairs

cc: M. Blevins, NRC HQ  
J. Davis, NRC HQ  
Y. Faraz, NRC HQ  
B. Smith, NRC HQ  
J. Strosnider, NRC HQ

Reference:

1. NUREG-1834, Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Draft Report for Comment. Published August 2005.

USEC Inc.  
6903 Rockledge Drive, Bethesda, MD 20817-1818  
Telephone 301-564-3200 Fax 301-564-3201 <http://www.usec.com>

**Enclosure 1 of AET 05-0075**

**USEC's Comments Regarding the Draft Environmental Impact Statement**

**Enclosure 1 of AET 05-0075**  
**USEC's Comments Regarding the Draft Environmental Impact Statement**

Comment Number	Page	Line	Comments	
015-1	1	1-13	30	Change "municipal" to "public"
015-2	2	1-35	23 and 26	Change "United States Enrichment Corporation" to "USEC Inc."
015-3	3	2-10	13 and 23	Change "48X source cylinder" to "10-ton source cylinder." (See page 1-5 of the License Application, Revision 1).
015-4	4	2-14	47	Change "The X-7725B building..." to "The X-7725C building..." (See Environmental Report page 2-5.)
015-5	5	2-27	40-42	The Draft Environmental Impact Statement (DEIS) phrasing can be read to mean that the vent monitors have the capacity to monitor HF gas in real-time. This would not be accurate. The actual text should be clarified to state that the "gas flow monitoring instrumentation with local readouts" refers to total gas flow and accumulated radioactivity in the sample traps.
015-6	6	2-27/2-28	43-2	The description of the emission control systems on these lines is correct only for the X-3346, X-3356, and X-3366 buildings (the feed and withdrawal buildings). It explicitly cites the cold traps used to control UF <sub>6</sub> from process gas piping and states that the alumina traps can not be bypassed. The process buildings emission controls do not directly connect to process gas piping, do not have cold traps, and the alumina traps can be bypassed by the Evacuation Vacuum system.
015-7	7	2-29	32-36	The DEIS gives the same value for the As Low As Reasonably Achievable (ALARA) goal for liquid radioactive effluent releases as for the ALARA goal for gaseous radioactive effluent releases (0.5 mrem/year). The liquid effluent ALARA goal USEC actually proposed in the License Application is ten percent of this value (0.05 mrem/year).
015-8	8		40-43	Paragraph should state, "Satellite accumulation areas would be established throughout the proposed ACP as necessary.... Waste is then moved to the XT-847 Waste Management Staging Facility to be sampled and measured...."
015-9	9	2-30	33	Change "OAC 37455-103" to "OAC 3745-51-03"
015-10	10	2-34	33	Change "19,040" to "19,030" and change "(21,000 tons)" to "(20,980 tons)" (See Environmental Report, page 4-130, Revision 5)
015-11	11		34	Change "42,800" to "41,105" and "571,200" to "512,730" (See Environmental Report, page 4-130, Revision 5)
015-12	12		35	Change "(630,000 tons)" to "(565,200 tons)"
015-13	13		39	Change "\$1,433 million" to "\$1,842 million" and delete the footnote. (Revision 5 of the Decommissioning Funding Plan assumes \$4.83/Kg U for disposal cost of tails.)
015-14	14	2-64	13, 16, 19, 22, and 25	Change "United States Enrichment Corporation" to "USEC Inc."
015-15	15	2-64	14, 17, and 20	Change "NRC Docket No. 70-2004" to "NRC Docket No. 70-7004"
015-16	16	2-88	27	Change to read as, "...activity would involve a filament winding process,

Comment Number	Page	Line	Comments
			which will not..."
015-17	17	3-24	19 Technetium-99 is misspelled.
015-18	18	3-25	40 The DEIS states that Little Beaver Creek receives "treated process wastewater...ditch)." Since November 1988, the only wastewater the east drainage ditch routinely receives is stormwater runoff, non-contact cooling water (essentially tap water), condensate from air conditioners and steam lines, and treated groundwater from the U.S. Department of Energy's (DOE) X-624 facility. None of these are "process wastewater." In addition, the only treatment any of these waters (except the groundwater) receive is a settling period in the X-230J-7 East Holding Pond. The DEIS phrasing implies that decontamination solutions, or a comparable material, are being discharged to the creek.
015-19	19		40 Delete word "process"
015-20	20		49 Change "612" to "012"
015-21	21	3-27	15 Change "19 permits" to "19 permitted outfalls,"
015-22	22		16 Change "19 permits" to "19 permitted outfalls,"
015-23	23		28 Change "permits" to "permitted outfalls."
015-24	24	3-28	5 Outfall Column - Change "1" to "001"
015-25	26		7 Outfall Column - Change "2" to "002"
015-26	27		9 Outfall Column - Change "0.125" to "003"
015-27	28		11 Outfall Column - Change "4" to "004"
015-28	29		13 Outfall Column - Change "5" to "005"
015-29	30		15 Outfall Column - Change "0.375" to "009"
015-30	31		17 Outfall Column - Change "0.4167" to "010"
015-31	32		19 Outfall Column - Change "11" to "011"
015-32	33		21 Outfall Column - Change "0" to "012"
015-33	34		22 Outfall Column - Change "0.042" to "013"
015-34	35		23 Outfall Column - Change "0.125" to "015"
015-35	36	3-30	7 Delete "manganese," from the Parameters column.
015-36	37	3-30	7 Add "Cadmium," to the Parameters column.
015-37	38	3-30	9 Delete "Fluoride, manganese," from the Parameters column.
015-38	39	3-30	9 Add "Cadmium, mercury," to the Parameters column.
015-39	40	3-31	8 Change "weekly composite" to "monthly grab"
015-40	41		11 Add "are taken quarterly." to the end of the sentence.
015-41	42		15 Add "are taken quarterly." to the end of the sentence.
015-42	43	3-40	34 Change "X-611a," to "X-611A,"
015-43	44	3-40	35 Change "X-611b" to "X-611B"
015-44	45	3-41	37 Notes: Q1 and Q4 are not used in Table 3-12, delete reference.
015-45	46	3-69	24 Change "healthy work effect," to "healthy worker effect,"
015-46	47	3-74	38 Section 3.14.3.1 lists 16,190 of containers, but the number should be 16,109 to be consistent with Table 3-31.
015-47	48	3-74	13 Change "XT847" to "XT-847"
015-48	49	3-80	33, 36, and 42 Change "United States Enrichment Corporation" to "USEC Inc."
015-49	50	3-80	34 Add "NRC Docket No. 70-7003" before the date.

Comment Number		Page	Line	Comments
015-50	51	4-14	7	Revise bulletized item as follows, "X-3356 and X-3366 Product and Tails Withdrawal Buildings;"
015-51	51		25	Add "X-3366," after "X-3356,"
015-52	52	4-21	17	Change "012" to "013"
015-53	53		18	Change "013" to "012"
015-54	54	4-23	33	Change "weekly composite" to "monthly grab"
015-55	55		37	Add "are taken quarterly." to the end of the sentence.
015-56	56	4-65	9-31	The radiation dose analyses on this page apparently used the same rural food source assumptions appropriate for the offsite locations. This pattern assumes that a fixed percentage of the receptor's food is produced at the home location. This is not a reasonable assumption for the on-site tenant organizations (ONG and OVEC). No foodstuffs are being produced on the DOE reservation and the percentages of the food sources for the on-site tenants should be adjusted to reflect this. CAP88-PC does allow this.
015-57	57	4-123	31	Add "NRC Docket No. 70-7004" before the date.
015-58	58	4-123	42	Change "USEC, Inc." to "USEC Inc."
015-59	59	4-123	46	Change "USEC, , Inc." to "USEC Inc."
015-60	60	5-4	31 and 34	Change "United States Enrichment Corporation" to "USEC Inc."
015-61	61	6-3	7	Revise bulletized item as follows, "X-3001, X-3002, X-3003, and X-3004 Process Buildings;"
015-62	62		8	Revise bulletized item as follows, "X-3356 and X-3366 Product and Tails Withdrawal Buildings;"
015-63	63	6-4	4	Revise subtitle as follows, " <u>X-3001, X-3002, X-3003, and X-3004 Process Buildings</u> "
015-64	64		6	Revise sentence to read as follows, "The X-3001, X-3002, X-3003, and X-3004 Process Buildings would..."
015-65	65		25	Revise subtitle as follows, " <u>X-3356 and X-3366 Product and Tails Withdrawal Buildings</u> "
015-66	66		26	Revise sentence to read as follows, "The X-3356 and X-3366 buildings would..."
015-67	67		6-6	6
015-68	68	7		Change "013" to "012"
015-69	69	6-12	34	Change "United States Enrichment Corporation" to "USEC Inc."
015-70		7-10	43 and 46	Change "United States Enrichment Corporation" to "USEC Inc."
015-71	70		8-4	13
015-72	71	8-5	3	Change "United States Enrichment Corporation" to "USEC Inc."

**Official Transcript of Proceedings**  
**NUCLEAR REGULATORY COMMISSION**

**ORIGINAL**

Title: American Centrifuge Plant Draft EIS  
Public Meeting

Docket Number: (not applicable)

Location: Piketon, Ohio

Date: Thursday, September 29, 2005

Work Order No.: NRC-627

Pages 1-101

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

+ + + + +

PUBLIC MEETING TO DISCUSS  
DRAFT ENVIRONMENTAL IMPACT STATEMENT  
FOR AMERICAN CENTRIFUGE PLANT

+ + + + +

THURSDAY

SEPTEMBER 29, 2005

+ + + + +

PIKETON, OHIO

+ + + + +

The public meeting was held in the  
auditorium of the Verne Riffe Career and Technical Center,  
at 7:00 p.m., Chip Cameron, Facilitator, presiding.

PRESENT:

JIM CLIFFORD, NRC  
SCOTT FLANDERS, NRC  
BRIAN SMITH, NRC  
YAWAR FARAZ, NRC

## I-N-D-E-X

## AGENDA ITEM PAGE

- I. Welcome and Purpose of Meeting 3
- II. Overview of License Renewal Process 11
- III. Results of the Environmental Review 14
- IV. How Comments can be Submitted 26
- V. Public Comments 54
- VI. Closing/Availability of Transcripts, etc. 111

## P-R-O-C-E-E-D-I-N-G-S

(6:59 p.m.)

1  
2  
3 FACILITATOR CAMERON: Good evening  
4 everyone. My name is Chip Cameron, I'm the Special  
5 Counsel for Public Liaison at the Nuclear Regulatory  
6 Commission, the NRC, and I'd like to welcome you to the  
7 NRC's public meeting tonight. The subject that we're  
8 going to discuss is the NRC's environmental review. As  
9 part of it's evaluation of a application we received from  
10 USEC to construct and operate a uranium enrichment  
11 facility known as the American Centrifuge Plant, and the  
12 NRC staff will be telling you about other parts of our  
13 evaluation as we make a decision on whether to grant this  
14 license, and I would just thank all of you for being here.

15 I'm going to serve as your Facilitator  
16 tonight, and generally my role will be to try to assist  
17 all of you in having a productive meeting.

18 I just want to cover three points on  
19 meeting process before we get into the substance of  
20 tonight's discussion and I'd like to tell you a little bit  
21 about the format for the meeting, tell you about some  
22 simple ground rules and go over the agenda and introduce  
23 our speaker for tonight.

24 In terms of format, it's going to be a  
25 two-part meeting. For the first part is for us to give

1           you information about the NRC's evaluation process, and  
2           also the findings in the draft environmental impact  
3           statement that we prepared, and then to go on to you to  
4           answer the questions that you might have about either the  
5           process or the environmental impact statement. The second  
6           part of the meeting is going to give us an opportunity to  
7           listen to you, to your comments, to your recommendations,  
8           to your concerns about the draft departmental impact  
9           statement.

10                        I would emphasize the word "draft" to you,  
11           because it will not be finalized until we evaluate all the  
12           comments that we hear tonight, as well as written comments  
13           that we're going to be soliciting from you, and the staff  
14           will tell you more about that in a few minutes.

15                        In terms of ground rules, when we go on to  
16           you after the NRC presentation for any questions that you  
17           might have, if you have a question, just signal me and  
18           I'll come out to you with this cordless microphone.  
19           Please introduce yourself to us and any affiliation, if  
20           that's appropriate, and ask your question and we'll try to  
21           answer it for you.

22                        I would ask that only one person speak at  
23           a time for two reasons: one, most importantly, is so we  
24           can give her full attention to whomever has the floor at  
25           the moment and secondly, so that we can get a clean

1 transcript. Our stenographer tonight is Kris Kaun, over  
2 here, and that will be the public record of the meeting,  
3 and it will be available to anybody who wants to get a  
4 copy of the transcript.

5 I would -- during the question part of the  
6 meeting, I would ask you to just keep it to questions.  
7 There will be an opportunity for comment later. I know  
8 that often, when we're getting a question out there may be  
9 comment attached or wrapped around it. That's fine, but I  
10 would try to -- ask you to try to keep your comments to  
11 when we get to the comment part of then meeting, and try  
12 to be as brief as you can. It's hard to --- and in terms  
13 of these complex and sometimes emotional issues -- but try  
14 to be brief so that we can make sure that we give everyone  
15 an opportunity to participate tonight. In fact, when we  
16 go to the second part of the meeting and you come up to  
17 the podium to talk, I would ask you try to follow a  
18 five-minute guideline. That's not a hard and fast rule,  
19 but after about five minutes, I'm going to have to ask you  
20 to wrap up. If you have material that you'd like us to  
21 attach to the transcript, either graphics or if you have a  
22 prepared statement, we will be glad to attach that to the  
23 transcript and obviously, you can submit more detailed  
24 comments to amplify on what you say tonight during the  
25 written comment period. Usually five minutes is enough

1 time for people to summarize their most important points,  
2 and it accomplishes two important things: it alerts the  
3 NRC to issues that it should start looking at beginning  
4 tonight, talking to you after the meeting, perhaps, to get  
5 more information about those issues, and it also alerts  
6 those in the audience to concerns that you might have. So  
7 the public comment part of the meeting is extremely  
8 important.

9 In terms of our, agenda we have one  
10 speaker who is going to talk about the NRC process and  
11 then the findings in the draft environmental impact  
12 statement, and that's Mr. Matthew Blevins, who's right  
13 here. Matt is the project manager in the environmental  
14 review on this license application, and to give you little  
15 bit of his background, he's been with the NRC for  
16 approximately six years doing environmental reviews on  
17 various types of license applications, various types of  
18 projects that we get. He was a private consultant before  
19 he came to the NRC, working in low-level waste disposal  
20 and decommissioning and he is a master's degree in  
21 environmental engineering from Clemson University and a  
22 bachelor's in chemistry from West Virginia University --  
23 or, is that the University of West Virginia? He's not  
24 sure. Well, hopefully, he knows more about chemistry than  
25 that, but Matt will talk to you -- and if you just told

1 your questions until he's done, it won't be that long, and  
2 then, we'll come out to you for questions and then we'll  
3 proceed with the rest of the program. We have to be out,  
4 I think -- wrap up by about 9:45 tonight so that the  
5 custodians can close the school down by 10:00 or so, but  
6 the NRC staff will be here after the meeting two talk to  
7 anybody, and you'll be getting some contact information  
8 from them. Please feel free to call them or send an  
9 e-mail if you have concern or questions and thank you all  
10 for being here. This is an important decision that the  
11 NRC has to make, and we thank you for helping us in making  
12 that decision.

13 Before we go to Matt and his presentation,  
14 we do have one of our senior managers here tonight, Mr.  
15 Jim Clifford, who is chief of the special projects branch  
16 at the NRC. He's been with the NRC for about 25 years and  
17 has been involved in a wide range of activities, and he's  
18 just going to give you a little bit of perspective on all  
19 this. Jim?

20 MR. CLIFFORD: Thank you. This is the  
21 only time that Chip will ever give up his microphone,  
22 because I -- after I give it back him, he maintains it for  
23 the rest of the night. And, Chip and I have done a number  
24 of these meetings together.

25 My name is Jim Clifford. You know my

1 title, but the responsibilities I have are for the  
2 technical review for this application and for overall  
3 project management for the successful completion of the  
4 review, whether that ends up allowing a license or  
5 deciding not to allow a license.

6 My counterpart for the environmental side  
7 of the activities is Scott Flanders who's sitting in the  
8 middle of the table and he has responsibility for the  
9 environmental side of the review as well.

10 Just to let you know who's available at  
11 the table to answer any questions that may come up and  
12 will be listening to comments as well, Brian Smith is my  
13 supervisor -- the supervisor who works for me who's  
14 responsible for all the gas centrifuge reviews including  
15 this one and then Yawar Faraz is the technical and overall  
16 project manager for our review.

17 So, I just wanted to end my welcome to  
18 everybody who has come out tonight and shown interest. We  
19 are here to listen to your comments and take your comments  
20 back. I will tell you, we've done similar meetings. We  
21 did one for the Louisiana Energy Services. We got over  
22 4,400 comments by the end of the comment period, and we do  
23 go through and we do look at them, and we do address  
24 everyone of them. So make sure you speak out, we're here  
25 to listen to your comments tonight. Thank you.



1 FACILITATOR CAMERON: Okay, thank you very  
2 much Jim, and let's go to Matt for his presentation. This  
3 is Matt Blevins. Matt?

4 MR. BLEVINS: Okay, thanks Jim. Hello  
5 everyone, my name is Matt Blevins -- is this on? Can you  
6 hear me? Okay.

7 As Chip mentioned, we're here tonight to  
8 discuss the proposed American Centrifuge Plant and on  
9 behalf of myself and the other staff we want to welcome  
10 you to the meeting. Now just one clarification, I did  
11 graduate from West Virginia University, but I heard they  
12 changed their name, so that's the point of uncertainty.

13 PARTICIPANT: The microphone is not  
14 working.

15 MR. BLEVINS: I may need to stand closer.  
16 Is that better? I'll stand closer. Can you hear me now?

17 PARTICIPANT: I can hear you verbally from  
18 where you're standing but I don't know about anybody else  
19 back there.

20 MR. BLEVINS: Anybody in the back, can  
21 you hear the speakers, do you think?

22 PARTICIPANT: Yes.

23 FACILITATOR CAMERON: Okay, good. Thank  
24 you, sir.

25 MR. BLEVINS: Okay, thank you. As Chip

1 told you, our main goal tonight here is to listen to your  
2 comments. First, I'm going to briefly describe the NRC's  
3 license and review process, and then go into the findings,  
4 at least in a summary fashion, of the environmental  
5 review. When I've completed the short presentation, we're  
6 going to have a short question and answer session and then  
7 we're going to -- for the bulk of the time, we're going to  
8 sit here and listen to your comments.

9 Now, the important thing is, I want to  
10 point out that tonight is not the only time that you can  
11 submit comments, and I'll describe in more detail at the  
12 end of the presentation how you can submit other comments.

13 This was last-minute addition. The NRC is  
14 an independent regulatory agency. We report directly to  
15 Congress. We are not part of the Department of Energy,  
16 they are a separate agency and the report to the  
17 President. Now, the NRC has oversight responsibilities  
18 for wide variety of facilities, the most obvious of which  
19 are commercial power reactors, but we also regulate things  
20 such as medical uses, such as the radiation used to treat  
21 cancer.

22 The NRC's mission is to protect public  
23 health and safety as well as worker health and safety,  
24 along with the environment. The NRC does not promote  
25 nuclear projects. All nuclear projects must meet strict

1 safety and environmental requirements before the NRC will  
2 issue a license. Commercial nuclear facilities must have  
3 a license from the NRC before they can hold or use nuclear  
4 materials. In addition, the NRC conducts frequent and  
5 periodic inspections of our licensees. If we find out  
6 that the licensees are not following the requirements of  
7 the license, we can take enforcement action. The NRC  
8 would provide regulatory and inspection oversight for the  
9 proposed USEC facility.

10 Currently, we are reviewing USEC's license  
11 application to determine whether we can issue to license.  
12 There are three main portions of NRC's licensing review:  
13 We have the safety and security review, we have the  
14 environmental review, and then we have a formal hearing  
15 process.

16 Yawar's in charge of the safety and  
17 security review, and he's currently prepared -- he's  
18 currently preparing what is called a safety evaluation  
19 report. I'm in charge of the environmental review and the  
20 draft environmental impact statement, which we're  
21 discussing here this evening. Those two documents form  
22 part of the basis for whether or not we issue the license.

23 Additionally, as I mentioned there's a  
24 formal hearing process made up of a panel of Judges. They  
25 will ultimately make a recommendation to the NRC's

1           commissioners about whether to issue a license. Then,  
2           those NRC commissioners will then publicly vote on whether  
3           or not to issue the license, and that vote is based on all  
4           the information in those different reviews I just  
5           discussed.

6                               Now, the next slide, I'm going to switch  
7           gears and we're going to talk just briefly about what USEC  
8           is proposing just make sure that everyone understands just  
9           we're talking about. USEC is proposing to build a uranium  
10          enrichment facility. It would be known as the American  
11          Centrifuge Plant, and in this plant, USEC intends to  
12          enrich uranium using a gas centrifuge process. Now, a gas  
13          centrifuge, shown here in the diagram, it's a machine  
14          used to enrich uranium. Basically, the machine uses  
15          high-speed rotors that's able to spin the different  
16          isotopes into different fractions. In other words the  
17          heavier uranium-238 isotopes are able to be separated from  
18          the lighter uranium-235 isotopes. The gas centrifuge  
19          process will be used to enrich natural uranium from its  
20          natural concentration of about .7 percent to somewhere  
21          between 3 and ten percent, and that's dependent on what  
22          USEC's customers need.

23                              The proposed facility would be located  
24          within the existing Department of Energy reservation.  
25          USEC does propose to make use of some of the existing

1 buildings. For example, two large process buildings which  
2 are already present would be used to house the  
3 centrifuges. Other facilities would have to be built such  
4 as a tails withdrawal facility.

5 Now, I'm going to switch gears again and  
6 we're going to move onto the environmental review and what  
7 some of the results that were. First, I want to show you  
8 the various resource areas that we looked at in  
9 preparation of the draft EIS. We looked to see whether  
10 there would be impacts to each of these resource areas  
11 including such important concerns as public health and  
12 transportation. As you can see, it's a pretty extensive  
13 list. In terms of how we evaluated the impacts, first we  
14 looked at all phases of the project, both construction,  
15 operation, and decommissioning for each of those resource  
16 areas that we talked about on the previous slide. Now,  
17 once our experts determine what the impacts were, we went  
18 back and then we categorized those impacts as being either  
19 small, moderate, or large. And we'll -- on the very next  
20 slide, I'll define what those slides are, or what those  
21 terms are.

22 Now, the draft EIS also discusses  
23 mitigation measures. Mitigation measures are things that  
24 USEC can do to help decrease a potential negative  
25 environmental impact. For example, USEC has stated that

1       they will use dust suppression techniques for excavation  
2       under dry conditions, and this relates to an air-quality  
3       impact. All the impacts on all these resource areas are  
4       discussed in the draft environmental impact statement in  
5       chapter four, and that's the thick document that's back  
6       there on that back table if you didn't get a copy already.

7               Now as I just said, once the experts  
8       determine the impacts, we then categories them into small,  
9       moderate, or large. The definition of those categories  
10      are shown here. Small impacts are those that are either  
11      not detectable or they're so minor that they would neither  
12      destabilize nor noticeably alter any important attribute  
13      of a resource. Moderate impacts would be noticeable, but  
14      they wouldn't destabilize any important attribute of  
15      resource. The large impacts would clearly be noticeable,  
16      and they could eventually -- or, they could destabilize a  
17      resource. We did not find any large impacts for the  
18      proposed USEC facility.

19              Before we move on to the discussion of  
20      those areas that had moderate impacts, I want to briefly  
21      show you the areas that we estimated to receive small  
22      impacts. In particular, I want to focus on two areas that  
23      have received a lot of attention, starting with cultural  
24      resources. I wanted to provide a little more detail so  
25      you all know what we considered during the review.

1           In analyzing the impacts to cultural  
2 resources, we followed the procedures as required under  
3 the National Historic Preservation Act for consultation  
4 and more specifically, we used the criteria for  
5 determining eligibility to the National Register of  
6 Historic Places.

7           In this analysis we define what is called  
8 an area of potential effect. This includes the immediate  
9 area of construction, and this is what we call for the  
10 direct effects, and this could -- a direct effect could  
11 include a piece of heavy equipment uncovering a cultural  
12 resource. Now, we also extended this area of potential  
13 effects out of the DOE or the Department of Energy  
14 preservation boundary. And, this was for what we call  
15 indirect effects such as noise or visual intrusion. Now,  
16 in addition to those cultural resources which were inside  
17 the area of potential effects, we also looked to cultural  
18 resources which were immediately near the DOE reservation,  
19 and that was based on scoping comments we received when we  
20 were here last January, and based on information has been  
21 presented in the ongoing legal hearing. Based on this  
22 review, we determined that the impacts to cultural  
23 resources would be small.

24           I also want to briefly discuss water  
25 resources. Our analysis found that the impacts on water

1 supply would be small because the withdrawals would only  
2 -- are only expected to increase by 10 percent over the  
3 existing usage. Moreover, the total withdrawal is  
4 estimated to be only 31 percent of the currently permitted  
5 levels. So, in other words, the supply wells were  
6 originally designed and permitted to pump more water than  
7 is currently anticipated for the USEC proposal.

8 Our analysis also found that the impacts  
9 to water quality will be small. This is based on the fact  
10 that the USEC will not routinely discharge process water.  
11 To explain in a little more detail, the Centrifuges are  
12 cooled a closed loop cooling system. The important part  
13 of that is that none of the water that comes into contact  
14 with the centrifuges is discharge into the environment.  
15 That primary cooling water system gets rid of its heat to  
16 a secondary cooling water system and it does that through  
17 heat exchangers. The important part of that is that the  
18 two waters don't come in physical contact, so there's no  
19 mixing. Additionally, any leakage or spills would be  
20 collected in a separate system. If this collected water  
21 meets NRC regulations then it can be discharged to the  
22 site's sanitary sewer treatment system. If it doesn't  
23 meet the NRC regulations, it would have to be  
24 containerized and shipped offsite.

25 During our analysis, we found that five



1 resources areas may experience small to moderate impacts.  
2 They may experience moderate impacts during some portion  
3 of the facility's lifetime -- that's probably a better way  
4 to say it -- but, not necessarily for the entire facility  
5 lifetime. For example, the impacts during the  
6 construction phase might be moderate but then once they to  
7 go to the operations phase, those impacts may become  
8 small. The five areas that have moderate impacts are  
9 air-quality, socioeconomics, transportation, public and  
10 occupational health, and waste management, And I'm going  
11 to discuss each of these areas in detail in the next set  
12 of slides.

13 For air-quality, we analyze various  
14 pollutants. The moderate impact was found to exist for  
15 particulate matter. More technically, the particulate  
16 matter is known as PM2.5. The PM2.5, it refers to the  
17 average size of the particulate matter. In this case,  
18 it's 2.5 microns in average on the diameter. In other  
19 words, it's very small particulate matter. The level of  
20 PM2.5 would slightly exceed the existing air-quality  
21 regulations for a distance of about 3,000 feet beyond the  
22 site boundary. This is primarily related to the exhaust  
23 from the construction equipment. It should also be noted  
24 that this area of Ohio has high background of PM2.5. The  
25 numeric details can be found in the draft EIS, but a good

1 way to summarize it is that the proposed USEC facility  
2 would increase those levels by about 16 percent. Again,  
3 this is related just to the construction phase from about  
4 2007 to about 2011.

5 Now, we also looked at emissions during  
6 the facility -- during the operation of the facility,  
7 including the emissions of hydrogen fluoride, or HF, and  
8 -- as well as emissions of uranium. The release of HF and  
9 uranium would be very small -- very -- I guess you'd say  
10 very far below the background -- I'm sorry, below the  
11 regulatory thresholds. The actual numbers, for example,  
12 the hydrogen fluoride is about .003 micrograms per cubic  
13 meter, and to put that in perspective, the regulatory  
14 threshold is 2500, so you can see that there's a large  
15 difference between those two numbers. And that's similar  
16 for the uranium numbers as well. The numeric details,  
17 again, are found in chapter four of the draft EIS.

18 Socioeconomics includes a wide range of  
19 areas. We analyze employment, population, housing, public  
20 services, and financing -- finances. We found that the  
21 employment impacts would be moderate because the proposed  
22 facility would either create or sustain jobs in the local  
23 area. We also found that impacts to the population  
24 increases would be small and that's primarily because of  
25 the small number of people expected to move to the area,

1 and I have some of the job numbers here listed on the  
2 screen.

3 For transportation, we looked at both  
4 materials and equipment coming to the site as well as  
5 workers commuting back and forth. Now, during both the  
6 construction in the operations phases combined, we  
7 estimated -- the estimate was less than five combined  
8 fatalities from either the shipment of the materials and  
9 equipment or from workers daily commutes, and this is just  
10 from normal routine daily traffic accidents, not including  
11 -- you know, in other words, if another vehicle were to  
12 run off the road, in other words a non-radiological  
13 accident.

14 Then, we looked at the radiological  
15 impacts from the transportation or the routine shipment of  
16 these radioactive materials, and when we say "routine  
17 shipment" we mean, if there weren't any accidents, and  
18 then, we also looked at what would happen if there were  
19 different accident scenarios involved with that  
20 transportation. Again combining those two estimates over  
21 the 30-year period, we expect less than one additional  
22 cancer death over that time frame. We consider the  
23 impacts of these areas to be small.

24 Now this analysis assumed that all the  
25 materials would be shipped by truck except for the

1 depleted uranium tails, which is a type of radioactive  
2 waste, which we'll talk about on the next slide. For that  
3 analysis, we assume that the depleted uranium tails would  
4 be shipped by rail. For that shipment scenario, we would  
5 expect far less than one additional cancer death over the  
6 shipping time frame. And again, we expect this to be a  
7 small impact.

8 Now, during construction, we expect minor  
9 congestion primarily on US Route 23. Route 32 will see  
10 increase traffic but it won't be as noticeable as on 23.  
11 Because the speed of these routes will be slightly reduced  
12 and because of the increased number of vehicles, we've  
13 concluded this would be a moderate impact.

14 Now, in addition to the small radiological  
15 impacts which we just talked about, it's also possible  
16 that an accident could have nonradiological impacts. For  
17 example, the formation of a hydrogen fluoride gas could be  
18 created. The exact impacts vary based on several factors,  
19 for example, whether it happens in a rural location or  
20 whether it happens in a city. It also depends on the  
21 meteorological conditions. It depends on which way the  
22 winds are blowing and whether it's a stable atmosphere.  
23 And, it also depends on what the material is, whether it's  
24 UF<sub>6</sub>, which is the uranium hexafluoride, or whether it's  
25 U-308. The results are summarized in detail in chapter --

1 in table 416, and there were a lot of numbers so I think  
2 you have to go look at that to get a feel for what the  
3 ranges are. Now, because of the low probability of such a  
4 severe accident occurring, we found that the  
5 nonradiological impacts from accidents would be moderate.

6 Now, as you know, USEC would be handling  
7 radioactive materials. So, we do a careful assessment of  
8 any possible health effects that may occur. We look at  
9 both workers at the facility as well as the public living  
10 near the facility. We found that for construction, normal  
11 operations, and decommissioning, the radiological health  
12 impacts to both workers and the public would be small.  
13 During operations, it was estimated that the nearest  
14 member of the public would receive between .2 and 1  
15 millirem per year and this is dependant upon the location  
16 around the facility. The south and southwest direction  
17 receives its highest exposure from the airborne emission,  
18 and that relates to about the .2 millirem per year number.  
19 The direct radiation contributes the highest dose to a  
20 theoretical member of the public at the north boundary,  
21 and we say and we say theoretical because nobody currently  
22 lives there. But, that number -- that -- the highest dose  
23 in that area was about 1 millirem per year. Both of these  
24 doses are well below the NRC's regulatory requirements of  
25 25 millirem per year.

1                   We also looked at accidents and we found  
2 high or intermediate consequences for several accidents  
3 that were analyzed. Now, however, there are safety  
4 equipment that's at the facility that makes such as severe  
5 accident highly unlikely. Based again on the low  
6 probability that such a severe accident would occur, we  
7 determined those impacts would be moderate as well.

8                   The last area I'm going to discuss is  
9 waste management. The facility would generate both  
10 non-radiological waste and radiological waste. The  
11 non-radiological waste could include things such as scrap  
12 metal from construction and the radiological waste could  
13 include things such as dirty rags or laundry, but most of  
14 the radioactive waste is depleted uranium tails. The  
15 uranium tails could be stored on site until their eventual  
16 conversion and disposal.

17                   Now, we found that the impacts from the  
18 non-radiological waste and most of the radiological waste  
19 to be small. That is, there's adequate capacity at an  
20 appropriate licensed disposal facilities. The impact --  
21 now specifically to the depleted uranium tails, the  
22 impacts from the storage of the depleted uranium tails was  
23 also estimated to be small to moderate. It was estimated  
24 to have small impacts on the nation's disposal capacity,  
25 small impacts from transportation of the depleted uranium

1       once it's converted into a more stable form, and small  
2       health impacts once it's eventually disposed of. The  
3       moderate impact is the necessary extension of DOE's  
4       depleted uranium conversion facility that's also going to  
5       be located on the DOE reservation.

6                 That conversion facility, the one that's  
7       currently under construction, would have to operate for a  
8       much longer period of time than if it were just converting  
9       the existing inventory. DOE has considered this operating  
10      extension in their previous environmental reviews.

11                Now that concludes my technical overview  
12      of the draft EIS findings, and now, I'm going to switch  
13      gears and tell you how to submit comments.

14                First off, we're going to be accepting  
15      oral and written comments this evening. You may not have  
16      anything to say this evening, and that's okay, but you may  
17      hear something or something may come to you afterwards,  
18      and that's why the comment period ends October 24. It's  
19      important that you understand that we consider all the  
20      comments when we're preparing the final EIS. All those  
21      comments are going to be included in an appendix to that  
22      final EIS. Along with that -- along with your comments,  
23      there's going to be a NRC response, and that way you  
24      understand how we addressed your comments.

25                The important thing is when you're

1 something comments outside of the meeting, I want you to  
2 note the docket number on your comments. That way, it  
3 gets routed to the right people, it doesn't get lost in  
4 some of the different paper mailboxes that we have at the  
5 NRC. You can send your comments via regular post office  
6 mail or you can send them to the e-mail address listed.  
7 Also, we have some blank comment forms back here on one of  
8 the tables. Feel free to write your comments out on those  
9 blank forms as well, if you'd like, and you can provide  
10 those on your way out the door this evening.

11 Now in the next two slides, we're going to  
12 talk about some of the different web addresses where you  
13 can get more technical information. On the first web  
14 address, it's where you can see an electronic version of  
15 the draft environmental impact statement, and I think this  
16 is important because it has better resolution of the  
17 pictures. The second web site address takes you to the  
18 NRC's web site and it talks -- it has general information  
19 about the USEC licensing proceeding and generally has some  
20 of the more important documents. Now, this web site  
21 address may be the most important because it takes you  
22 directly to the NRC's electronic reading room, and on that  
23 web site, you can get all the publicly available documents  
24 about the USEC licensing action. Examples of documents  
25 that you can find this web site include records of phone



1       conversations, e-mails, meeting summaries and other public  
2       comments, and of course, all of USEC's submittals. Now,  
3       if you're having trouble finding a document in his  
4       electronic reading room, I've given you public document  
5       room, they have staff that said there and their job is to  
6       help you find it and provide you electronic copies, so  
7       just e-mail them or give them a call and they should be  
8       able to help you find something.

9                 Now in terms of the NRC staff, if you have  
10       an overall licensing question or a safety and security  
11       review question, probably the best person to contact is  
12       Yawar, and I've given his contact information here. If  
13       you have any questions on the environmental review, you  
14       can contact myself, and we have -- again, these are on  
15       copies of the slides if you got one of those when you came  
16       in.

17                So that wraps up my presentation, and --  
18       do you want me to sit down, or --FACILITATOR CAMERON: Why  
19       don't you just stay up there because I think we'll have  
20       some questions now. The NRC points of contact, can we  
21       leave that up there because I didn't see a slide.

22                MR. BLEVINS: It should be in the last  
23       page there on the back.

24                FACILITATOR CAMERON: All right.

25                MR. BLEVINS: Maybe you have a bad copy.

1 FACILITATOR CAMERON: Okay, but we'll --

2 MR. BLEVINS: We can --

3 FACILITATOR CAMERON: -- leave this up so  
4 that you can have time to look at it, and Matt, you can --  
5 people can submit comments by e-mail, --

6 MR. BLEVINS: Yes.

7 FACILITATOR CAMERON: -- also, right?

8 MR. BLEVINS: Yes.

9 FACILITATOR CAMERON: Okay.

10 MR. BLEVINS: On the previous slide, there  
11 was an e-mail address.

12 FACILITATOR CAMERON: And, note that there  
13 is an e-mail address on their for --

14 MR. BLEVINS: Or, you can e-mail it to me  
15 and I'll forward it to the e-mail address.

16 FACILITATOR CAMERON: Okay, great. Now,  
17 are there questions? Yes, sir, please introduce yourself  
18 to us.

19 MR. KITE: Fred Kite from WEB News, in  
20 Athens. If, in fact, you have your EIS issued -- the  
21 final EIS issued by April 2006, when would the final,  
22 final approval of the NRC come?

23 MR. BLEVINS: I'm going to defer -- I  
24 think it's in early '07, but Yawar probably has the best  
25 time frame for that.

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1 FACILITATOR CAMERON: And, it would be the  
2 final decision. It may not necessarily be an approval.

3 MR. BLEVINS: Right.

4 FACILITATOR CAMERON: But, it would be the  
5 final decision. Yawar?

6 MR. FARAZ: The NRC Commissioner has  
7 issued an order and in the order, they have set a goal for  
8 the entire review. It was a 30 month, review from the  
9 submittal of the application to the final decision. Based  
10 on the 30 month schedule, it's February of '07.

11 FACILITATOR CAMERON: Thank you very much,  
12 Yawar. And, let's go right out here. Yes?

13 MS. BAKER: I had two questions if you  
14 don't mind. My name is Deborah Baker. I have two  
15 questions, if that's alright. I wonder if you could  
16 compare your -- you're talking about the millirems that  
17 were the very small doses that were going to affect the  
18 locals around here. How does that compare to the doses  
19 that are estimated -- the real doses -- of people around  
20 nuclear power plants?

21 MR. BLEVINS: I'm going to give that to --  
22 Scott, you want that one?

23 MR. FLANDERS: The doses that Matt spoke  
24 of, I believe, he said it was approximately about 1  
25 millirem at the -- to a theoretical person at the

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1 boundary, and around nuclear power plants, the doses vary  
2 based on the affluence, but they're typically very low,  
3 similar in nature to around nuclear power plants.

4 There's -- the regulatory limit for this  
5 type of facility is about 25 millirem, which represents a  
6 relatively small fraction of what the general public would  
7 receive from just day-to-day normal activities. It's  
8 about 300 millirem per year that's received to all of us  
9 just based on -- from natural sources, and there's about  
10 60 millirem and that's assumed from activities, man-made  
11 type activities such as x-rays, flying in airplanes, et  
12 cetera, so the doses represent a very small fraction of  
13 the regulatory limit and an even smaller fraction of what  
14 a general member of the public would receive on a yearly  
15 basis.

16 FACILITATOR CAMERON: Okay, Deborah, your  
17 other --

18 MS. BAKER: Yeah, I just wanted to comment  
19 on that, that, as you know, cancer rates have gone up  
20 since nuclear testing has been going on in the atmosphere.  
21 So, the radioactivity in the air does affect cancer rates,  
22 and there is more radioactivity around nuclear plants and  
23 in fact, the cancer rates around nuclear plants -- power  
24 plants are higher than the cancer rates away from the  
25 nuclear power plants. If the rates are similar, then I

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1 expect to see the same thing here, and of course some of  
2 the workers here have been contact -- contracting cancer.  
3 So, whatever the background rates are it sounds like that  
4 the industry is bad for people's health.

5 MR. FLANDERS: Well, just to add a few  
6 points, the background rates, I spoke of, the 360 millirem  
7 are not specific to exposure around a nuclear power plant.  
8 That's a general average of exposure.

9 PARTICIPANT: Can you speak into the mic?

10 MR. FLANDERS: Can you hear me? The  
11 background rates I was speaking of are general background  
12 rates, not necessarily background rates associated with  
13 nuclear power plants, or 360 millirem. That's just a  
14 general member of the public based on information  
15 collected by various radiological groups such as NCRP and  
16 international groups as well.

17 FACILITATOR CAMERON: And, Deborah, do you  
18 have another question?

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19 MS. BAKER: I was wondering, who is the  
20 panel of Judges who will be making the recommendation?

21 MR. FLANDERS: There's a panel, there's a  
22 -- what's called an atomic safety and licensing board.  
23 It's made up of three Judges, and I'm not necessarily sure  
24 who the specific names of the Judges are, but these are  
25 what you would call -- I'm lost in my words, Chip. You

1 know better than I do -- Administrative Law Judges. It's  
2 made up of the three panel members. Usually one is a  
3 person with a technical background. Others are  
4 individuals with a legal background as well. So that's  
5 what makes up the panel.

6 FACILITATOR CAMERON: And if you need the  
7 exact names, we can get those to you off-line, Deborah.

8 And, Deborah made one statement and I  
9 believe that was that the radioactive emissions around  
10 nuclear power plants are higher than in areas away from  
11 cancer rates. I -- and I just would ask the NRC staff to  
12 think about whether there has been than any studies that  
13 demonstrate that or provide other information. We don't  
14 need to do it now but I just want to make sure that we get  
15 all the information on the record.

16 Thank you, Deborah. Thank you, Scott.  
17 Other questions? Let's go to Vina. We apologize for the  
18 feedback. Vina?

19 MS. COLLEY: Yes, I'd like to ask the NRC,  
20 would you be willing to sign a legal paper stating that  
21 this facility will cause no harm to the workers or the  
22 community, and if it did, who can they sue?

23 FACILITATOR CAMERON: And, this is Scott  
24 Flanders again.

25 MR. FLANDERS: The NRC has a set of

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1 regulatory standards, which Matt spoke of briefly, that we  
2 do as a part of our safety evaluation report and those  
3 regulations are based on analysis by the NRC that we put  
4 those regulations in place, that we believe that if those  
5 regulations are satisfied, they're protective of public  
6 health and safety. So, in order for us to issue a  
7 license, we have to first ensure that the facility will be  
8 built in accordance with those regulations and then later  
9 operated in accordance with those regulations, and if  
10 they're not operated within accordance with those  
11 regulations, we would take enforcement action.

12 So, through that process is the NRC's way  
13 of ensuring and having reasonable assurance that they'll  
14 be protective of public health and safety. So, that's our  
15 regulatory process.

16 Our regulatory process does not include  
17 the signing of any specific documents, but our regulatory  
18 process includes this review and it's later reviewed by  
19 our Commission as well.

20 FACILITATOR CAMERON: Okay, thank you very  
21 much Scott, we didn't answer the --

22 MR. FLANDERS: Did I miss a --

23 FACILITATOR CAMERON: -- question, it's --  
24 the way Vina phrased it is, if there's damage, who could  
25 be sued. In other words, liability for any --

1 MR. FLANDERS: Well, if --

2 FACILITATOR CAMERON: -- type of damage.

3 I don't know if we can have the knowledge to address that  
4 right now, if you want to say anything about it in  
5 general, then --

6 MR. FLANDERS: I would say, generally,  
7 that if it was found that there was an accident or a  
8 violation of NRC's regulations, an enforcement action  
9 would be taken and the licensee would be held accountable  
10 for any violations of the regulations.

11 FACILITATOR CAMERON: And, in terms of any  
12 sorts of harm to people it would be handled in the typical  
13 way that any damage, I think, would be handled from any  
14 type of industrial facility, through a tort action in the  
15 courts. Vina, do you have a -- excuse me. Vina, do you  
16 have a follow up?

17 MS. COLLEY: Yeah, I'm just wondering if  
18 sovereign immunity is going to play into this liability to  
19 compensate these workers of the community, because right  
20 now, we have a compensation bill that's not working that's  
21 been in place for six years and not the first worker who  
22 had toxic chemical exposure -- if they didn't have cancer  
23 they can get paid, and they're still not even getting paid  
24 if they got cancer. So, I'm still wanting to know who is  
25 going to be liable if you guys give this company another

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1 license to kill more people. I want to know who's going  
2 to be liable.

3 FACILITATOR CAMERON: If any of the NRC  
4 staff, or others, if we can try to piece together the  
5 framework of an answer that we can give to Vina after the  
6 meeting, let's try to do that. We do have some people  
7 here from our Office of General Counsel, so we'll talk to  
8 them about it. Yes, ma'am?

9 MS. SWAIN: Yes, this is a follow up on  
10 the comment that you made about violations -- NRC  
11 violations. I understand that USEC does have quite a few,  
12 in fact, a disgraceful record. They have, like, 16  
13 violations of NRC regulations, and has that been taken  
14 into account? Has that been factored into this impact  
15 statement? And I have another question after that.

16 FACILITATOR CAMERON: Scott, or Yawar?

17 MR. FLANDERS: I'll start and I'll look  
18 for Yawar to see if he can answer. I assume you're  
19 speaking of violations as it relates to the operation of  
20 the gaseous diffusion facility?

21 MS. SWAIN: Right.

22 MR. FLANDERS: That -- the license for the  
23 gaseous diffusion facility is a separate activity. This  
24 is a review for a proposed license that they are proposing  
25 and we're evaluating right now the technical basis of how

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1 they would construct and operate the facility. So we're  
2 about -- were doing a technical evaluation at this point  
3 in time. The aspect of looking at violations are done as  
4 a part of our inspection activities, which this plant  
5 will also have inspection activities.

6 FACILITATOR CAMERON: And, but, I don't  
7 think that in terms of whether violations are addressed in  
8 the environmental impact statement itself, as opposed to  
9 other parts of the licensing process, --

10 MR. FLANDERS: The operational -- the way  
11 in which they will operate the facility and the way in  
12 which we will be -- we will inspect the facility is  
13 addressed separate from the environmental impact  
14 statement.

15 FACILITATOR CAMERON: Okay, so you won't  
16 find any thing on that in the environmental impact  
17 statement, and as Matt and Jim Clifford talked about,  
18 there's other aspects to this review and this decision.  
19 Yawar, do you want to add anything on this? Yawar Faraz.

20 MR. FARAZ: As Scott mentioned, it's a  
21 certificate that we issued for the gaseous diffusion plant  
22 where the violations have occurred. We are reviewing the  
23 application for its merits -- this, for the centrifuge  
24 facility, and it would -- that's what we would base our  
25 review on, on the merits of the application. We look at

1 not, you know other -- if you find the application  
2 acceptable, we would conduct preoperation inspections to  
3 make sure that they construct the facility as described in  
4 the application, and then we will continue our oversight  
5 by conducting routine inspections and also unannounced  
6 inspections once they begin operations. So, that's how we  
7 would make sure that the facility is maintained -- safety  
8 is maintained.

9 FACILITATOR CAMERON: Okay, and if you  
10 want to -- yeah, I know you have another question. I  
11 think that for any licensee of the NRC, the enforcement  
12 record, the violations are all part of the public record  
13 and you can judge how, you know, serious you think they  
14 are and see what the fine wants. And, your --

15 MS. SWAIN: The second question is, has  
16 the NRC ever not licensed an applicant, other than LES,  
17 which was denied in a couple of places, but is still under  
18 application?

19 FACILITATOR CAMERON: And, I'll translate  
20 that into any type of facility, okay? Not just a facility  
21 like this.

22 MS. SWAIN: Not just a centrifuge.

23 FACILITATOR CAMERON: Scott?MR. FLANDERS:  
24 Throughout the NRC's regulatory history, I mean, there's  
25 been times where an application has come in and the NRC

1 has not approved that application. We approve the  
2 application only after it's been demonstrated that they  
3 can satisfy our regulatory requirements. So if it's  
4 demonstrated that the regulatory requirements can be  
5 satisfied after we've done our technical and environmental  
6 review, then we would issue a license, but until that  
7 point in time, so there's been cases where we did not find  
8 that the application demonstrated and satisfied all the  
9 safety requirements, and in some cases there's a need,  
10 also, to condition the license as well, which what -- is  
11 another way of adding additional requirements -- or,  
12 additional conditions to ensure that they satisfy our  
13 regulatory requirements.

14 FACILITATOR CAMERON: And, Scott, along  
15 those lines, there have been some cases, have there not,  
16 where we have requested that a licensed applicant do  
17 something to improve safety or to meet the regulations and  
18 they might have withdrawn their application?

19 All right, yes, let's go -- we'll go right  
20 here and then go to you, and please introduce yourself,  
21 sir.

22 MR. WEINER: Alan Wiener. I have two  
23 questions too, it's going around. One question is the  
24 nuclear fuel cycle in the back has, like, a one-way  
25 direction and there's no circle in it, and I wonder if

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1 USEC or NRC determines the safety of the spent fuel. And  
2 the second question also -- I'll wait on the second one.

3 FACILITATOR CAMERON: Do you understand  
4 Allen's question in terms of what the NRC role is in  
5 regulating either the storage or disposal of spent nuclear  
6 fuel? Is that basically it?

7 MR. WEINER: And, the ultimate disposal.

8 FACILITATOR CAMERON: Ultimate disposal,  
9 okay. Scott?

10 MR. FLANDERS: The NRC has rules specific  
11 to the spent fuel, both storage and ultimate disposal. We  
12 have specific regulations in place that are in  
13 requirements for storage of spent nuclear fuel, as well as  
14 requirements in place that provide guidelines for ultimate  
15 disposal of spent nuclear fuel, as well.

16 FACILITATOR CAMERON: And, that last part,  
17 Scott, is referring to the fact that the Department of  
18 Energy has to get a license from the NRC. They have to  
19 meet all of our regulations to be able to construct and  
20 operate a repository for the disposal of waste at Yucca  
21 Mountain. Second question, Alan?

22 MR. WEINER: I wondered why there's an  
23 absence of any mention of higher percentages of  
24 concentration, meaning for other uses like bomb making.

25 MR. FLANDERS: The NRC does not regulate

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1 the Defense uses of nuclear materials. That's separate  
2 from our responsibility.

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3 MR. WEINER: Is that out of the question  
4 for this plant?

5 MR. FLANDERS: Under the NRC -- under the  
6 license that the NRC would grant, yes, the -- it would be  
7 limited in to -- as to how much they can enrich the fuel,  
8 so they -- or the material, I should say.

9 FACILITATOR CAMERON: Okay, does anybody  
10 from the NRC want to add anything on that last -- Yawar?  
11 Can you go up to the podium, please? Thank you.

12 MR. FARAZ: Just as Scott mentioned USEC  
13 would be authorized up to 10 percent for enrichment, and  
14 we have a separate plan that would require USEC to submit  
15 that plan to us. It's called the Fundamental Nuclear  
16 Material Control Plan, and that's a way to -- for USEC to  
17 demonstrate to us that they would not go above the 10  
18 percent, and then the NRC would be -- would review that  
19 plant, obviously, and would be part of the application  
20 review and then the NRC would again, you know, conduct  
21 inspections to make sure that they are abiding by this  
22 FNMC Plan to make sure that there's no unauthorized  
23 enrichments, or any kind of divergent off of material.

24 In addition to the NRC, we expect the IEA,  
25 which is the international -- the UN body to -- if it

1 selects the American Centrifuge Plant for -- to conduct  
2 inspections for the IE to come in -- and also on its own,  
3 independently make sure that there are no unauthorized  
4 enrichments being conducted at this facility or material  
5 is not be diverted.

6 FACILITATOR CAMERON: Okay thank you.  
7 Let's go right here, excuse me, Dr. Manuta.

8 MS. PUCKSTEIN: I'm Jean Puckstein and my  
9 question is about the scoping process which some of us  
10 make contributions to. The document, as it appears as --  
11 on the internet, the ADAMS Reading Room, did a summary of  
12 the scoping remarks, and it included after the summary  
13 remarks, pages or copies -- or some of the letters that  
14 have been sent in about the scoping process and in my  
15 computer and others I've talked with, we were not able to  
16 unscramble who those letters were from. In my experience  
17 reading other environmental impact statements and scoping  
18 reports, you usually include those letters in their  
19 entirety instead of a summary. Will that be done after  
20 this process?

21 MR. FLANDERS: For the scoping summary  
22 report, the NRC normally summarizes the comments, and  
23 that's so we can quickly and efficiently get the comments  
24 and the issues that out of the public so to make sure we  
25 understood what you said at the meeting. We don't --

1           there shouldn't have been any letters attached that  
2           scoping summary report that we issued in April, 2005.

3                         Now for this -- for the draft EIS, when we  
4           go to finalize it, what we'll do is add an appendix,  
5           and then, what you're talking about is everyone of the  
6           public comment letters will be in the appendix, and then  
7           we'll sort of cross-reference that the where the --  
8           because that's a large document, we'll cross-reference  
9           that to where the NRC response will be nearby or will be  
10          cross-referenced so you can find it easily.

11                        FACILITATOR CAMERON: If Jean wanted to  
12          see the actual letters that were submitted during scoping,  
13          those are part of the public record, and she can get to  
14          those, right?

15                        MR. FLANDERS: Certainly. One of the  
16          things you can do is -- probably the most efficient way is  
17          if you contact the public document room at the number I  
18          listed, the 1-800 number, if you tell them what you're  
19          looking for, they're pretty efficient, and they'll be able  
20          to locate those numbers and they can tell you how to get  
21          those electronically. They're pretty small documents, the  
22          letters themselves, because they're probably one to two  
23          pages. We might have had some that were a little larger,  
24          but those would all show up on the record in a certain  
25          time frame.



1 FACILITATOR CAMERON: And if Jean is  
2 having trouble with this, she can contact you and see if  
3 you can give her some assistance from --

4 MR. FLANDERS: Yeah, I can too. The most  
5 efficient, though, is --

6 FACILITATOR CAMERON: Is to go --

7 MR. FLANDERS: -- public document.  
8 They're the professional people that do that.

9 FACILITATOR CAMERON: Okay. All right,  
10 did you have a follow-up?

11 MS. PUCKSTEIN: I wanted to ask Mr.  
12 Blevins, if I send a copy -- it's only one page of this  
13 scrambly language, would you be able to explain it to me?

14 MR. FLANDERS: I might. The only thing  
15 that we put on ADAMS are portable document files, PDFs.  
16 It's in an Acrobat reader file. It sounds like maybe a  
17 different file format was opened on a different program,  
18 maybe, in your computer, because I've seen some sort-of  
19 scrambled documents too. It's important just to use the  
20 right application.

21 MS. PUCKSTEIN: Okay.

22 FACILITATOR CAMERON: Well, you can give  
23 it a try.

24 MR. FLANDERS: Yeah, you can give it a try  
25 --

PMT-006-1

1 FACILITATOR CAMERON: Send it to him.

2 MR. FLANDERS: I'll try to find out what  
3 document it really is and then send you back the original  
4 version of that.

5 FACILITATOR CAMERON: All right, Dr.  
6 Manuta, you have a question?

7 DR. MANUTA: Well, it's actually to  
8 clarify what Mrs. Lever (phonetic spelling) just asked a  
9 few minutes ago. The gaseous diffusion process actually  
10 did at one time make what you defined as bomb-grade  
11 material, which is up to 97 percent. That process stopped  
12 in 1964 and the building was subsequently shut down in the  
13 early 1990s, around 1992. But, keep in mind that that's  
14 the gaseous diffusion plant, so that's an entirely  
15 different animal.

16 Now related in with the centrifuge is the  
17 fact that the licensing process here has a lot more  
18 knowledge base going into it because the NRC is involved,  
19 so there's kind of a talk the talk and walk the talk  
20 attitude -- walk the walk -- when the gaseous diffusion  
21 plant came about in the 1950s, the NRC didn't exist.  
22 Okay, very very important.

23 And so a lot -- and then getting back to  
24 what Vina was mentioning, I've dealt with a lot of this  
25 over the years. There are long periods of time where

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PMT-007-2

1 people were not given all the information about the work  
2 that they were getting involved in. That era has come and  
3 gone, fortunately, and that's really critical to  
4 understand that as we move into the new era with the  
5 centrifuge, when the document is prepared with the  
6 assistance of USEC personnel to meet the criteria that NRC  
7 has and then for the judges to then pass their judgment at  
8 some point on the road, what you're going to find is that  
9 the legal mechanisms are in place so that if things happen  
10 which are unplanned and the object is that you've  
11 accounted for 99 plus percent of what the average employee  
12 is likely to encounter, there should be many fewer  
13 problems with the centrifuge than there were with the  
14 gaseous diffusion.

15 FACILITATOR CAMERON: Thanks, Dr. Manuta.  
16 Other questions out here? Anybody before we -- okay.  
17 Yes, ma'am?

18 MS. RAINEY: Carol Rainey. What happened  
19 with the centrifuge plant back in the seventies and was  
20 there environmental impact on what happened then? That's  
21 one of my questions.

22 MR. FLANDERS: I can briefly answer. The  
23 NRC wasn't involved in that original -- what was  
24 originally called the GSEC facility, that was a DOE  
25 project. My understanding is it was run for a very brief

PMT-008-1

1 period of time and currently, my understanding is some of  
2 the centrifuges did have radioactive material in them, but  
3 some did not. They're currently dismantling or  
4 refurbishing some of those centrifuges from the facility.

PMT-008-1

5 MS. RAINEY: Why didn't it work?

6 MR. FLANDERS: That I don't know. Yawar,  
7 do you have -- I think it might have been more of a budget  
8 issue but I'll let Yawar --

9 FACILITATOR CAMERON: And after that, can  
10 we -- let's move on and if there is more information, if  
11 anybody has it -- let's provide it off-line. Yawar?

12 MR. FARAZ: Well, from what I understand  
13 it was a political decision. The plant was operated  
14 successfully for short period of time, but then there was  
15 this AVLIS method that was on the horizon and the decision  
16 was made that, you know, AVLIS would be pursued as opposed  
17 to a gas centrifuge.

18 FACILITATOR CAMERON: Okay, and if --  
19 whatever we can provide to her on that after the meeting,  
20 I think we'd best do it.

21 MR. FLANDERS: Question from up here that  
22 was new.

23 FACILITATOR CAMERON: Okay, and let's --  
24 we'll take this question and then let's go to all of you  
25 to hear from you with comment. Yes, ma'am?

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1 MS. WAHLEY: Lois Wahley. I have two sort  
2 of general questions which come from the background, which  
3 is provided in the report.

4 First is about how much this fuel, which  
5 is going to provide -- how much will that supply -- that  
6 is to say, will it supply five power plants, 10, 100?  
7 There seems to be only this one facility for this gaseous  
8 diffusion. There must be other methods which are being  
9 used, or something.

10 MR. FLANDERS: There are several methods  
11 and I think I can talk more generally, and to get into  
12 very detailed, we will have to go to Yawar or Brian, but  
13 the whole fuel -- the -- think of the 100 nuclear power  
14 reactors we have, the current demand is about 11 million  
15 SWU, which is called a separate work unit. This proposed  
16 facility would initially -- the initial license  
17 application is for 3.5 million SWU, or separate work  
18 units. There's also some capacity, or SWU capacity from  
19 the Russian down blending of high enriched uranium and I'm  
20 pretty sure you can find some of that information of USEC  
21 internet web site.

22 And then, there's also this proposal --  
23 well, and before we get to that, there's the Paducah  
24 gaseous diffusion plant, which -- is that about 5 million  
25 SWU right now?

1 MR. FARAZ: It varies.

2 MR. FLANDERS: Okay, so it varies, but I  
3 think that's the number, I think, we used in the draft  
4 EIS, and then there's the proposed facility in New Mexico,  
5 which its licensed application was for 3 million SWU. So  
6 you can see, total, they're getting close to the number  
7 for the 11 million SWU needed for the fuel cycle. Right  
8 now, a lot of the SWU comes from overseas and one of the  
9 purpose it needs was the -- that Congress thought we  
10 perhaps needed a more secure domestic supply of this  
11 energy, this SWU capacity.

12 MS. WAHLEY: So, this would be about a  
13 third. Is that --

14 MR. FLANDERS: Roughly, yes.

15 MS. WAHLEY: The other question has to do  
16 with the -- what is it, megatons to megawatts, and the use  
17 of Russian nuclear warheads as background or source  
18 material for fuel source for the gaseous diffusion, is  
19 that correct? And a, you know, how many warheads are  
20 going to use up? I certainly hope -- and is there also,  
21 what about the US warheads? I guess that this plant would  
22 not be using dismantled US warheads, is that correct?

23 MR. FLANDERS: The American Centrifuge  
24 Plant isn't involved in the megatons to megawatts. When I  
25 said earlier --

PMT-009-2

1 MS. WAHLEY: Okay.

2 MR. FLANDERS: -- the Russian, the high  
3 enriched uranium, you are correct, the proper term is the  
4 megatons to megawatts. That agreement, my understanding,  
5 expires in 2013. So that's one of the reasons they feel  
6 we need to bring additional capacity online, they being  
7 the Department of Energy, for the more -- to get more of  
8 the domestic sources. The -- but the Russian material of  
9 the megatons to megawatts wouldn't, or isn't involved in  
10 the American Centrifuge Plant. The American Centrifuge  
11 Plant only uses natural-feed uranium, or natural assay  
12 uranium. Does that help?

13 FACILITATOR CAMERON: Okay, and is there  
14 any project that is involved in the mega to mega?

15 MR. FLANDERS: Yawar can answer that, I  
16 think that --

17 FACILITATOR CAMERON: I say, it isn't  
18 involved here, but for complete information, maybe we can  
19 give you that. Yawar?

20 MR. FARAZ: The material that's coming  
21 from Russia is essentially what the clients, the USEC's  
22 clients are requesting, so it comes down, downblended to  
23 whatever the customer needs.

24 So it's not a feed to the gaseous  
25 diffusion process nor is it going to be a feed to the gas

1 centrifuge process. It essentially taking -- it's brought  
2 in from Russia then provided to the plants directly.

3 FACILITATOR CAMERON: All right, thank you  
4 very much. Thank you all. Okay, one quick question,  
5 Geoffrey, before we go to comment?

6 MR. SEA: Yes, Geoffrey Sea. The draft  
7 EIS says in the beginning that one of the main  
8 justifications for the facility is that if ACP goes  
9 into operation, Paducah will be shut down. What you just  
10 said was that Paducah would be needed to stay in operation  
11 to meet the total domestic demand for enriched uranium, so  
12 which is it? If this facility is not going to result in  
13 the shut down of the Paducah plant, then everything you  
14 say in here about how the cleaner technology and more  
15 efficient technology will be acquired by shutting down  
16 Paducah is irrelevant.

17 MR. FLANDERS: Right, if I gave the  
18 impression that USEC or the Paducah facility would have to  
19 stay online, that's not necessarily the case, but again,  
20 that's a USEC business decision. Even if they do license  
21 this, they're not required to shut down Paducah, so it's  
22 an issue of what the demand is for the SWU and how they  
23 produce that, how to decide on the business model to  
24 produce that SWU. What they have told us as they plan on  
25 shutting it down because the centrifuge process is more

PMT-010-1



1 efficient. Does that --

2 FACILITATOR CAMERON: Okay, thanks for  
3 asking that clarification, Geoffrey, and thank you, Matt  
4 and Scott, and we're going to go to the portion of the  
5 meeting where we hear from all of you, and our first  
6 commentor is MarJean Kennedy from the Governor's regional  
7 office. MarJean?

8 MS. KENNEDY: Thank you. We are confident  
9 in the NRC's evaluation that potentially there could only  
10 be very minimal impact to the public and occupational  
11 safety and health, especially given USEC's history of safe  
12 operation. Since USEC has operated the gaseous diffusion  
13 plant, it has -- excuse me -- it has a proven safety  
14 record. The plant is consistently below the national  
15 average in the number of OSHA-recordable illnesses and  
16 injuries.

17 Just like the gaseous diffusion plant, the  
18 centrifuge's commercial plant will also be a highly  
19 regulated facility, requiring strong safety programs in  
20 order to maintain strict compliance with all state and  
21 federal regulations for the safety and health of the  
22 employees, as well as the public.

23 As part of its review, the draft  
24 environmental impact statement, the NRC evaluated both the  
25 direct and indirect economic impacts from the plant, and

PMT-011-1

PMT-011-2

1 as stated earlier by Mr. Blevins, they determined that  
2 there be small to moderate impacts. Most are positive  
3 impacts, such as jobs and tax revenues. This conclusion  
4 seems reasonable, based on our understanding of USEC's  
5 project.

6 Site preparation and construction is  
7 estimated to cost 1.4 billion between 2006 and 2010. USEC  
8 tells us they're going to spend approximately 1.7 billion  
9 on the plant from 2002 until its completion. That's a lot  
10 of money for the local economies here in Piketon,  
11 Chillicothe, and all of southern Ohio. It means up to 500  
12 jobs, both direct for the reservation and indirect for  
13 contractors in the region.

14 In addition to the multiplier effect, that  
15 money -- of that money on the local economy, these workers  
16 will be supporting our local businesses and that's good  
17 for everyone.

18 The cost estimates to construct and  
19 operate the plant were based on a facility that would  
20 generate 3.5 million SWU per year, as you just heard, but  
21 the draft environmental impact statement and USEC's  
22 environmental report anticipated growing the plant's  
23 output to 7 million SWU per year and that means more  
24 machines, more jobs, and more money into your local  
25 economy. The draft EIS does not anticipate any additional

1 problems from increasing the plant's output to 7 million  
2 SWU.

3           During the site preparation,  
4 refurbishment, and construction, it is anticipated that  
5 there will be 3,362 new full-time jobs created in the  
6 local economy. There is also an anticipated increase of  
7 \$2.3 million in annual state income tax revenues and an  
8 increase of \$3.7 million in annual state tax receipts.  
9 During American Centrifuge operation, 1,500 jobs are  
10 anticipated to be created as a ripple effect into the  
11 community. The state will potentially benefit from \$1.8  
12 million to \$2.4 million in additional annual income in  
13 sales tax receipts, respectively.

14           At the end of the life of the centrifuge  
15 project -- centrifuge plant, excuse me, there will then be  
16 decommissioning phase. When the plant is closed, that  
17 time frame could be much longer as the experience from the  
18 gaseous diffusion plant shows. The gaseous diffusion  
19 plant began operation in 1956 and wasn't shut down until  
20 2001 and it still has not been decommissioned, but when it  
21 is, there will be jobs for that work as well. The NRC  
22 estimates that \$435 million will be spent over six years  
23 to decommission the American Centrifuge plant.

24           In closing, we appreciate the fact that  
25 the NRC has been taking a very hard, but a very fair look

1 at this project for the State of Ohio. Thank you.

2 FACILITATOR CAMERON: Okay, thank you  
3 Margie, and you're going to hear a lot of -- all of you  
4 are going to hear things tonight from other people that  
5 you may not agree with, you may really disagree with, and  
6 I would just ask all of you to just extend the courtesy to  
7 one another and respect for their opinions as we go along  
8 tonight.

9 Second speaker, Judy Newman from  
10 Congressman Ted Strickland. Judy Newman?

11 MS. NEWMAN: Thank you very much. I'm  
12 very pleased to be here to represent Congressman  
13 Strickland tonight, and I have a brief statement from him.  
14 Congressman Strickland is very  
15 enthusiastic about the deployment of advanced enrichment  
16 technology in southern Ohio. He recognizes the importance  
17 of this program to the local area and to it's economy.  
18 Ted would also like me to express his appreciation for the  
19 dedicated workforce and their commitment to protect the  
20 health and safety of their colleagues and the community  
21 surrounding this facility, and Ted strongly urges USEC to  
22 employ these his local workers and capitalize on their  
23 expertise. Thank you so much.

24 FACILITATOR CAMERON: Okay, thank you,  
25 Judy, and thank the Congressman, too, for those remarks.

1 Lorry Swain?

2 MS. SWAIN: I'd like to give my five  
3 minutes to anyone else.

4 FACILITATOR CAMERON: Well, we don't -- if  
5 you want to take the time to comment, please come up and  
6 do it, but we usually don't give five minutes to anybody  
7 else, so maybe you want to come up and just tell us what's  
8 on your mind, all right? Thank you.

9 MS. SWAIN: Aside from the two concerns  
10 that I raised earlier, one about USEC's safety record and  
11 their violations at the gaseous diffusion plant, I also  
12 have a concern many of us carry, and that's that we do not  
13 buy into the idea that there is any safe place on earth in  
14 which to permanently and safely store the radioactive  
15 waste that would be generated by this plant. Thank you.

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16 FACILITATOR CAMERON: Okay, thank you  
17 Lorry, and for your questions and comments from before.  
18 Deborah, do you want to come up and talk to us? I think  
19 we heard some of your concerns before. You want to talk  
20 from there? All right. This is Deborah Baker.

21 MS. BAKER: One of the comments that a  
22 proponent of this plant made was that the USEC plant that  
23 is there now has had an OSHA safety record better than the  
24 national average, but I would like to point out also that  
25 there was a whistleblower there who was fired, so there

PMT-002-4

1 are things that are going on that aren't being talked  
2 about.

3 Also, I did get the draft environmental  
4 impact statement. I didn't read it all. It's very large,  
5 and there was not a lot of time to look at it for those of  
6 us don't get paid 40 hours a week to do this kind of work  
7 -- to read, so I didn't read all of that so excuse that,  
8 but there are things that concern me.

9 For example, centrifuge technology -- the  
10 things that concern me are not the details like how many  
11 -- whether it's one millirem or 17 millirem, you know, 5  
12 feet away or 5 miles away, but the facts like Lorry was  
13 talking about.

14 One is that the Centrifuge technology as  
15 we all know is -- as you were telling me, it's easier to  
16 make weapons-grade material from the centrifuge technology  
17 than from the gaseous diffusion. I'm not promoting  
18 gaseous diffusion, I'm just saying this is dangerous -- I  
19 think this is dangerous. I mean, this is a dangerous way  
20 to go.

21 The United States has not been honoring  
22 the Nuclear Proliferation Treaty, it's not decommissioning  
23 its weapons. In fact, there was a question about this and  
24 that question was not answered. And, in addition, the  
25 Bush administration wants to develop more nuclear weapons,

PMT-002-5

1 and they also said that they would be willing to make a  
2 first nuclear strike. I think this is very disturbing and  
3 I think this has a lot to do with centrifuge technology,  
4 and I don't think it's something that we should have.

5 I don't think any nuclear technology is  
6 something we should use, but this particular one is very  
7 dangerous for all the peoples of the world, not just  
8 people here in Piketon. That's one of my worries about  
9 this plant.

10 Another is that the fiscal responsibility.  
11 Ohio, as well as this county here, have paid a lot of  
12 money for this plant to locate here. Ohio has paid, like,  
13 \$100 million, an awful lot of money, for 1,500 jobs?  
14 That's not a very good return. I understand that the  
15 local county also has given a complete tax abatement, that  
16 USEC is not paying local taxes. And so, this is not  
17 something that's good for the community, and according to  
18 the tax base.

19 In other ways, the tax payer subsidizes  
20 the nuclear industry. For example, the Price Anderson  
21 Act, Vina was asking, what -- who do you sue? The nuclear  
22 industry is not taking fiscal responsibility for accidents  
23 that will happen. They have very limited responsibility  
24 and I think even the newer acts, newer Patriot Acts have  
25 made the responsibility even less. The taxpayers are

PMT-002-6

1 responsible. We are the taxpayers and I, for one, don't  
2 want to subsidize the nuclear industry. Accidents will  
3 happen, accidents have happened, and I don't think we  
4 should be paying for it.

PMT-002-7

5 Other concerns are having contractors and  
6 subcontractors in smaller and smaller companies  
7 responsible for this work. Who do you sue? They're going  
8 to go out of business by the time you get your cancer.  
9 Where is your health benefits going to be paid by? Who's  
10 been to be paying your health benefits? Who's going to be  
11 responsible for -- that's just going to disappear by the  
12 way this is being done, you know, I mean, do we talk to  
13 DOE, to talk to USEC, do we talk to -- I mean, it's too  
14 confusing for response -- as far as responsibility is  
15 going.

PMT-002-8

16 And of course, as was mentioned before,  
17 also, there is no way too store radioactive waste until  
18 the time that it's no longer a danger. There is no way.  
19 It doesn't matter how thick this book is there is no way  
20 to do that. It's not safe. Yucca Mountain has not been  
21 approved. The people in Nevada do not want that waste  
22 going there. We wouldn't want that waste going here. If  
23 we can't send it out from here, it will probably say stay  
24 here. We don't want it here, it's dangerous.

25 I don't think I can say more than that.



1 FACILITATOR CAMERON: Okay, thank you  
2 Deborah. Jean -- and, is it Puckstein? All right. Jean  
3 Puckstein.

4 MS. PUCKSTEIN: Yes, I'm Jean Puckstein,  
5 and I'm speaking as a member of the public today.

6 For the past 20-some years I have been  
7 reading and critiquing environmental impact statements for  
8 licenses that would continue to endanger the public by the  
9 spread of radioactive materials. I offer my  
10 congratulations to your staff -- I'll say something good  
11 about it -- for writing the best looking DEIS I have ever  
12 seen, also the longest, at of some 450 pages.

13 Mr. Blevins is already repeated some of  
14 this, but I think it's so important, I'm going to go ahead  
15 and repeat it from my written statement. Quoting from the  
16 NRC's DEIS, This proposed action is the issuance of an NRC  
17 license for USEC under the provisions of the Atomic Energy  
18 Act. This license would authorize USEC to possess and use  
19 special nuclear material, source material, and byproduct  
20 material at the proposed American Centrifuge Plant in  
21 accordance with the NRC regulations, and the scope of  
22 activities to be -- this is a continuation of the quote  
23 -- the scope of activities to be conducted under the  
24 license would include the construction, operation and  
25 decommissioning of the plant.

PMT-006-2

1                   The glossary included at the end of your  
2 DEIS defines special nuclear material, plutonium,  
3 uranium-233, or uranium enriched in the isotopes, ores  
4 containing .05% uranium or thorium, regulated under the  
5 Atomic Energy Act. In general, this includes all  
6 materials containing radioactive isotopes concentrations  
7 greater than the natural and the byproduct trailings from  
8 the formation of this concentrated material, and byproduct  
9 materials is defined as the tailings or waste products  
10 produced by the extraction or concentration of uranium or  
11 thorium from any ore processed primarily its source  
12 material content. See also source material, which I just  
13 read.

14                   These very broad definitions seem to  
15 include any and all radioactive materials that USEC will  
16 be authorized to possess and use if NRC grants this  
17 license. Now, we've heard some discussion about the  
18 weapons-grade materials, and the -- I think it would be  
19 helpful in your final impact statement to include a list  
20 of the nuclear material that will not be used at the site.

21                   Okay, then, quoting again from the DEIS  
22 under the heading, Staff preliminary recommendations  
23 regarding the proposed action, After weighing the impacts  
24 of the proposed action and comparing alternatives, the NRC  
25 staff, in accordance with the law blank sets forth its

1 recommendations regarding the proposed action. The NRC  
2 staff recommends that unless safety issues mandate  
3 otherwise, the proposed license to be issued to USEC in  
4 this regard, the NRC staff has concluded that  
5 environmental impacts are generally small, although they  
6 could be as high as moderate in the areas of air-quality,  
7 socioeconomics, and transportation.

8 Small is defined in the introduction as  
9 the environmental effects are not detectable or are so  
10 minor that they would neither destabilize nor noticeably  
11 alter any important attribute of the resource. Moderate  
12 is defined as the environmental effects are sufficiently  
13 -- sufficient to noticeably alter, but not the stable ways  
14 important attribute of the resource. And, large is defined  
15 as the environmental effects are clearly noticeable and  
16 are sufficient to destabilize important attributes of the  
17 resource.

18 As Mr. Blevins has pointed out, that the  
19 NRC staff did not find any environmental effects that were  
20 considered large, very few, small the moderate, and almost  
21 all of their analysis and conclusions in this 450 page  
22 report would have small effects. Some of the examples of  
23 effects judged to be small, and because of our time  
24 constraint tonight, I'm only going to review one page, and  
25 that's page XXII in the summary introduction, and I'm

PMT-006-3

1 quoting, I'm giving three examples of how difficult it is  
2 to understand in these broad categories the real impacts  
3 when they're called small, medium, and large. Okay, the  
4 quote is, Construction of the new large cylinder storage  
5 yard, again, in addition to the other plant facilities  
6 that they license, would enable USEC to build in existing  
7 locations on the site, there's a proposed new cylinder  
8 storage yard, would result in small -- but the  
9 environmental impact statement goes on to state it would  
10 result in small impacts of flora and fauna in or around  
11 the tributaries of little Beaver Creek.

12 On the same page, the noise impact is  
13 rated small for a catastrophic failure of a centrifuge  
14 could cause a sudden but brief loud noise due to the high  
15 rotational speed of the centrifuge. However, the  
16 likelihood of a single centrifuge catastrophically failing  
17 is very low.

18 No mention is made of several centrifuges  
19 failing or the large screams of employees who are the  
20 victims of such an accident on the same page under the  
21 heading, Transportation, subheading, Small radiological  
22 impacts from routine transportation and transportation  
23 accidents, again, this is the same page. You know, I'm --  
24 this is my last analysis, but it's to give you an idea of  
25 some of the doubletalk language used in this environmental

1 impact statement. The transportation of materials  
2 containing radio nuclides would result in some increased  
3 cancer risk to both the occupational workers transporting  
4 and handling the material, and two, members of the public  
5 driving along the road or living along the transportation  
6 routes, continuing the quote, the probability of a severe  
7 transportation accident that releases sufficient quantities  
8 of uranium hexafluoride that could pose health breath  
9 risks is low, but the consequences of such an accident,  
10 should it occur, are high -- I suppose that's -- yeah --  
11 based on this analysis, the impacts associated with such  
12 an accident as part of the proposed action are considered  
13 moderate.

14 No mention is made of accidents with  
15 enriched, radioactive material leaving the plant to become  
16 fuel for nuclear plants and other critical safety  
17 concerns. I believe that these and many other safety  
18 issues not adequately addressed in your DEIS mandate that  
19 NRC deny issuing the license to USEC. I believe that  
20 these and -- because of the time constraints again, this  
21 evening, I will continue my remarks in writing and submit  
22 them before your October 24 deadline and I'll give you  
23 printed copy of my comments tonight.

24 FACILITATOR CAMERON: Okay, thank you very  
25 much, Jean, and obviously you did a careful reading of the

PMT-006-4

PMT-006-5

1 document. Thank you for that, too. All right, thank you,  
2 and we'll attach these to the transcript. We can do that,  
3 right, Kris?

4 COURT REPORTER: Yes.

5 FACILITATOR CAMERON: All right, thank  
6 you. Mr. Beekman? Blaine Beekman?

7 MR. BEEKMAN: I, too, have spent quite a  
8 time in that document, and I guess that my view differs a  
9 little bit because sometimes it does take 450 pages to  
10 tell his story if it's complete. I don't have a lot to  
11 complain about it. In fact, I thought it was pretty  
12 well-done piece at this point, but I'm still waiting to  
13 see the final document.

14 Last year, we brought up 8,000 letters of  
15 support, because it was important to understand that the  
16 community where this plant, if it is licensed and built,  
17 resides. It was impressive. It was certainly, I think,  
18 representative of the basic feeling of most of the  
19 residents, but that's basically all that those folks did.  
20 We didn't have 8,000 people show up for the meeting and --  
21 but still, I think it was clear and the picture got  
22 across, both to USEC, and people who needed to see it  
23 there was a lot of support for it.

24 This summer, we've had something entirely  
25 different. We've had a group of things put forward that

1 appeared to be very difficult to understand, almost  
2 unfathomable. Now basically, most of the folks that live  
3 in this community are not nuclear scientists, we're not  
4 architects, we're not archaeologists. A lot of things we  
5 aren't, and so when people say, or you see lists of things  
6 which are absolutely -- something that we've never  
7 experienced, it was really somewhat confusing except, the  
8 strange thing that developed, because when we began to ask  
9 around in this community about certain issues we found out  
10 people had attitudes about them, then found out that those  
11 attitudes went back to experiences and facts that they had  
12 had, and when you begin to put the community together and  
13 let them speak out about what they knew about things that  
14 had happened in this community over the past 50 years, we  
15 found out that they had really a lot of information to  
16 give. It's just that no one had asked them and what it  
17 really -- and there are people in the community, I know  
18 --or, in this room tonight, I see -- looking back and see  
19 Bob Childers, I see Teddy West, I see Steve Eckhard, guys  
20 who are able to bring information into events and  
21 situations that were trying to be explained that nobody  
22 else seemed to have an explanation for.

23                   What I really think that that shows, on  
24 top of the fact that they had stuff to give, was the  
25 amount of effort that went into it by certainly -- in one

1 incidence, a couple of dozen individuals who -- some still  
2 live in the community, some have moved away, but we wanted  
3 to be able to locate them and people went out of their way  
4 to give us addresses, phone numbers and whatever so that  
5 we could try to answer these questions which, when you put  
6 everyone who have information about them, they weren't  
7 really all that tough to understand, and they certainly  
8 weren't quite as exciting as the theories put forward  
9 behind them, but I think the important thing here is that  
10 these people in the community, some of whom signed the  
11 8,000 letters last year, they were willing to put out the  
12 time and effort to try to show what some of the facts were  
13 because again, it's a different level of support in this  
14 community, and it's what we've learned to live with, with  
15 the gaseous diffusion plan for 50 years. Now, we look at  
16 a technology that by any standard that we can see, appears  
17 to be safer and whatever, but again, we brought 8,000  
18 letters last year. This time it was a smaller number of  
19 people, but a much more intense effort, but the result of  
20 each of them is the same. It's a support for this project  
21 and an attempt to make sure that the NRC regulators who  
22 are studying it get as correct the information as  
23 possible. Thank you.

PMT-013-1

24 FACILITATOR CAMERON: Okay, thank you, Mr.  
25 Beekman. Then I'm assuming that some of that information,



1 or all of it is -- has been presented to the NRC or will  
2 be presented?

3 MR. BEEKMAN: Yeah.

4 FACILITATOR CAMERON: Okay, thank you.  
5 Next we have, I guess I would call it a collegial effort.  
6 We have four women from the same organization, which is  
7 PRESS, which they will tell us what PRESS stands for, but  
8 we're going to hear four speakers, and we're going to  
9 start with Pat Marida, and then we'll go to Kathy Arnold,  
10 then Nancy Walker, and then Vina Colley, right, Pat? And,  
11 you're going to lead off for us? Okay.

12 MS. MARIDA: Hi, my name is Pat Marida. I  
13 do have some -- a written copy of my statement for the  
14 NRC. I am, tonight, reading comments from a PRESS -- the  
15 Portsmouth/Piketon Residents for Environmental Safety and  
16 Security.

17 According to this Draft Environmental  
18 Impact Statement, the ACP would cost about \$3 billion to  
19 construct with centrifuges. The Enterprise Zone program  
20 of the State of Ohio would expect about 15,000 new jobs to  
21 be created for that scale of capital investment. In other  
22 words, put an average non-nuclear industry on this site  
23 and you would get 15,000 jobs. On page 3-50 of the DEIS,  
24 we find that USEC currently employs 1,223 workers at the  
25 site. On page 4-34 of the DEIS, we learn that in the

PMT-014-1

1 operation phase, the ACP is expected to create 600 direct,  
2 full-time jobs. This is clarified on page 494 of USEC's  
3 ACP application, where it states that the operation of the  
4 ACP is projected to employ 600 personnel. In other words,  
5 the ACP would result in a net loss of 623 jobs. We  
6 estimate that the indirect jobs lost based on 900 indirect  
7 ACP jobs created would be about 935, for a total net loss  
8 of 1,358 jobs caused by the ACP. That's not counting the  
9 750 jobs that would be lost at Paducah.

10           However, if we assume that those 6,000 --  
11 excuse me, 600 created jobs result from the \$3 billion  
12 investment, the ACP underperforms in job creation by a  
13 factor of 25 by Enterprise Zone standards. So, if \$25 --  
14 25 times less money, less jobs for the money. Differently  
15 put, the Enterprise Zone would create the same number of  
16 new jobs for an investment of just \$120 million in  
17 capitol.

18           In the building phase, the assessment of  
19 impacts to tax revenue is treated differently from the  
20 impacts to population characteristics. For tax impacts,  
21 the DEIS states that building will create 3,362 jobs, but  
22 for population impacts, the DEIS states that 2,998 of  
23 those jobs are on a continuum of existing jobs generated  
24 or supported by current USEC activities, thus, the DEIS  
25 tells us, 374 new jobs would be created during

1 construction.

2 To summarize the job situation, the DEIS  
3 contains enough information for us to predict that the ACP  
4 would create 374 new jobs over the short-term building  
5 period, followed by a net loss of 1,358 jobs in the  
6 operations period.

7 On safety, if we add up all the deaths and  
8 injuries presented in the DEIS due to routine  
9 transportation and due to transport accidents and  
10 non-occupational accidents, we get a total of six -- of  
11 just six deaths and 1,117 injuries; however, the DEIS  
12 neglects to express the injury rates in several  
13 significant categories related to routine and accidental  
14 radiological exposures in both the occupational and  
15 transport categories of both the operations stage and in  
16 the decommissioning stage.

17 Further, the DEIS treatment of  
18 occupational injury rates depends on statistics from the  
19 Bureau of Labor Statistics, the BLS, but overlooks an  
20 important statement in the BLS study which says some  
21 conditions, for example, long-term latent illnesses caused  
22 by exposure to carcinogens, are often difficult to  
23 regulate -- excuse me, difficult to relate to the  
24 workplace and are not adequately recognized and reported.  
25 These long-term latent illnesses are believed to be

PMT-014-2

1 understated in the surveys illness measures. That is end  
2 of quote from the Bureau of Labor Statistics.

3 On page 462, the DEIS describes that  
4 workers may be exposed to puff releases of uranium  
5 hexafluoride gas which is exactly the type of puff -- of  
6 exposure that would result in a long-term latent illness.

7 To be fair, the DEIS does show in table  
8 3-29 that mortality rates in Pike County, due to renal  
9 failure, are between two and four times that of the rates  
10 in Ross County and Scioto County; however, although renal  
11 failure is associated with uranium poisoning, the DEIS  
12 suggests that this death rate may instead be associated  
13 with diabetes and hypertension. The NRC staff has made no  
14 attempt to determine whether uranium poisoning has, in  
15 fact, caused those deaths.

16 Blindly following USEC's analysis, the  
17 DEIS compares potential ACP occupational injury rates to  
18 those from the broad and now obsolete Standard Industrial  
19 Classification, which is called Industrial and organic  
20 chemicals, not elsewhere classified.

21 Not only is this inappropriate, but the  
22 ACP occupational injury rates are projected using Piketon  
23 operations in 2002 and 2003. Uranium enrichment  
24 operations at the DOE reservation in Piketon, Ohio, ceased  
25 in May, 2001. In fact, as measured by the NRC's

1 enforcement action notices, USEC has, by far, the worst  
2 safety record of all NRC materials licensees. Of 516  
3 materials licensees that have been issued with NRC  
4 enforcement notices, USEC has the most, with 16, followed  
5 by Mallinckrodt Incorporated, with nine, and Westinghouse  
6 Electric, with six. Most violations have just one or two  
7 -- most violators have just one or two notices.

8 On security, this type of plant has a poor  
9 history. The Uranco Centrifuge Plant is responsible for  
10 allowing the Con Network access to the centrifuge  
11 technology behind the enrichment programs of Pakistan,  
12 Iran, Iraq, and Libya. So, that is how they got access.  
13 Some of USEC's violation notices have involved lax control  
14 over classified computers.

15 So, that's the end of my statement. I  
16 would like to point out that over on the table, I have put  
17 out some information from the Nuclear Information and  
18 Resource Services. It's called "The Myth of the  
19 Millirem," and in ten sentence -- a ten-word description  
20 of what that says, it says that the rem is not based on  
21 any standard unit that can be verified. So, thank you  
22 very much.

23 FACILITATOR CAMERON: You're welcome, and  
24 the table you are referring to is --

25 MS. MARIDA: Is -- it's right over here.

PMT-014-3

1 FACILITATOR CAMERON: Right over there  
2 somewhere.

3 MS. MARIDA: Right over -- right.

4 FACILITATOR CAMERON: Okay.

5 MS. MARIDA: The round table on my left.

6 FACILITATOR CAMERON: The round table,  
7 okay.

8 MS. MARIDA: The Myth of the Millirem, and  
9 so I think there are -- we -- our statement is long so  
10 we've got enough people to finish it.

11 FACILITATOR CAMERON: Okay, thank you,  
12 Pat. And, Kathy Arnold?

13 PARTICIPANT: (Inaudible comment from an  
14 unmarked location)

15 FACILITATOR CAMERON: Yeah, I think this  
16 is all one statement that we'll attach.

17 MS. ARNOLD: Although we have yet to  
18 complete our analysis of the 470-page Draft Environmental  
19 Impact Statement itself, we have already identified  
20 contradictions, bad advice, poor treatment of  
21 alternatives, incompetent data entry, and incompetent  
22 modeling --

23 FACILITATOR CAMERON: You're going to have  
24 to --

25 MS. ARNOLD: Come closer?

PMT-015-1

1 FACILITATOR CAMERON: Yeah, because I  
2 think they're -- that's --

PMT-015-1

3 MS. ARNOLD: Okay. Where am I? We've  
4 already identified contradictions, bad advice, poor  
5 treatment of alternatives, incompetent data entry, and  
6 incompetent modeling based on unverifiable methods.  
7 Moreover, the DEIS has overlooked some obvious problems,  
8 and it overlooks the possibility that USEC may have misled  
9 the State about the costs of the ACP, or that the ACP may  
10 be too expensive for investors to back it.

11 Further, DEIS contains little in the way  
12 of independent investigation and it does little to open  
13 the details of the project to public scrutiny from under  
14 two layers of secrecy: classified information and  
15 proprietary information.

PMT-015-4

16 In addition to this, we feel that the NRC  
17 staff has neglected it's obligations under 40 CFR 15.03 to  
18 respond, in satisfactory manner, to the scoping comments  
19 submitted by opponents of the ACP for the Draft  
20 Environmental Impact Statement. Most of these flaws seem  
21 to result from the NRC's staff repeating rather  
22 uncritically the assertions in the analysis of the USEC  
23 ACP application documents.

PMT-015-5

24 We should remember that the ACP  
25 application is such a highly -- such a high-qualified

1 application that although it models the highest possible  
2 flood using the low rate five times that of the historical  
3 flood of 1937, it finds that the highest possible flood  
4 actually reached a lower height than the 1937 flood.

5 The DEIS contradicts itself. For example,  
6 the annual number of feed cylinders is different on page  
7 2-22 than it is on page 4-47. The DEIS also offers bad  
8 advice. For example, on page 2-18, it recommended that  
9 the GCEP documents from the 1980s be destroyed. This  
10 would make it more difficult to determine what  
11 contaminants have historically polluted the groundwater at  
12 the site, thereby, impeding cleanup.

13 The DEIS treats alternatives very poorly.  
14 For example, there is very little discussion of the  
15 potential benefits of simply cleaning the site up once and  
16 for all and using Enterprise Zone incentives to  
17 reindustrialize the site.

18 Another alternative for the industry would  
19 be a scheme in which laser isotope separation units were  
20 located at all the major power stations. Laser isotope  
21 separation costs less in capitol startup and electricity  
22 for operations, and is capable of processing smaller  
23 amounts of fuel. Moreover, by processing fuel at the  
24 reactor site, the risk to the public due to transportation  
25 of low-enriched uranium would be effectively eliminated.

PMT-015-2

PMT-015-6



1 In cost and benefit, it's a superior scheme.

2 The DEIS makes trivial false statements.

3 For example, on page nine -- page 369, the DEIS states  
4 that the calendar year 2003 Bureau of Labor Statistics  
5 average incidence rate of nonfatal occupational industries  
6 -- injuries and illnesses are not currently published. In  
7 fact, they were published in December, 19 -- 2004, and  
8 reissued in June, 2005. So, this statement is false.  
9 Clearly, there is -- clearly, this error arose because the  
10 US -- because USEC application texts were cut and pasted  
11 into DEIS.

12 The DEIS purports to assess unknowable  
13 risk. For example, a footnote on page 4-53 states that no  
14 2.5 ton cylinder is currently certified to ship uranium  
15 enrichment to higher than 5 weight percent of uranium-235.  
16 Yes, the DEIS goes on to assess the risks associated with  
17 the transport of 10 percent enriched uranium in a cylinder  
18 that doesn't exist.

19 Incidentally, the USEC has yet to explain  
20 why it requires the license of 10 percent enrichment.  
21 It's competitor in New Mexico has only asked for a five  
22 percent license and the power industry doesn't require  
23 fuel enriched above five percent.

24 FACILITATOR CAMERON: Oops, thank you,  
25 Kathy. And, Nancy Walker?

PMT-016-1

1 MS. WALKER: To continue from the PRESS,  
2 the Piketon/Portsmouth Residents for Environmental Safety  
3 and Security statement, the DEIS has incompetent data  
4 entry with another point that was raised. For example,  
5 table 4-15, estimated latent cancer fatalities from the  
6 transportation of radioactive materials for one year of  
7 operation is seriously messed up. None of the totals is  
8 the sum of it's column or row. Moreover, by comparison to  
9 table D-12 we can see that the risk to the public, whether  
10 following a cylinder on the road, living by a road where  
11 cylinders are transported, or pulling into a rest stop  
12 where a cylinder truck is, the risks have obviously been  
13 grossly understated by a factor of 10,000.

14 The DEIS shows incompetent modeling. For  
15 example, in tables D-12 and D-14, the trip from Piketon to  
16 Clive, Utah, indicates that the trip includes rest stops  
17 and inspection stops. The modeling is based on the  
18 WebTRAGIS system, but the WebTRAGIS manual only mentions  
19 rest stops and inspection stops in association with road  
20 transport, not the rail transport, as indicated. So, the  
21 Piketon-Clive trip is clearly modeled for road transport,  
22 yet on page D-5, it is clearly stated that this is a trip  
23 -- is a rail trip.

24 Furthermore, we tried to register with the  
25 ORNL WebTRAGIS system on September 23, but we have

1 received no reply. We suppose that the system admits only  
2 classified access and that the system is, in any case, not  
3 available for public scrutiny. The risk analysis is  
4 therefore unfavor -- unverifiable by the public.

5 The DEIS overlooks obvious problems. For  
6 examples, on page 4-76, the DEIS informs us that the DOE  
7 conversion utility is designated to operate until 2024 and  
8 to handle a capacity of 243,000 metric tons of depleted  
9 uranium hexafluoride, but that the ACP is designed to  
10 operate until 2040 and to generate 571,000 metric tons,  
11 thus the DOE conversion facility is designed to be  
12 decommissioned 16 years too early and to have a capacity  
13 that is less than 1/3 of the ACP waste.

14 The DEIS overlooks a possibility that the  
15 USC may -- that USEC may have misled the State of Ohio in  
16 order to win various incentives. For example, on page 7-1  
17 of USEC's ACP Environmental Report, we find that on August  
18 15, quote, 203, USEC issued requests for proposals to the  
19 Commonwealth of Kentucky and State of Ohio to cite the ACP  
20 at the respective gaseous diffusion plant. Both States  
21 were offered an opportunity to provide financial or other  
22 incentives to reduce the cost of the ACP. By all  
23 accounts, the cost of the ACP as understood by the State  
24 of Ohio was 1.5 billion; however, page 7-2 of the DEIS  
25 gives the cost of building the ACP and manufacturing

PMT-016-2

PMT-016-3

1 centrifuges at 2.872 billion.

2 The DEIS doesn't consider that the cost of  
3 the ACP is unlikely to be met by private investors. For  
4 example, in addition to the costs mentioned above, this  
5 position would cost 2.758 billion based on 571,000 metric  
6 tons of tails, 7 MSW plant, and -- at \$4.83 per kilogram  
7 disposition cost, this compares with a license  
8 application's estimate of \$0.72 billion for tails  
9 disposition, license application, page 10-16.

10 Further, decommissioning would cost \$0.435  
11 billion, according to DEIS page 7-2. Know also that USEC  
12 has estimated the decommissioning and decontamination at  
13 \$0.130 billion, license application 10-14.

14 So, USEC appears to have uniformly  
15 underestimated costs by a factor of between three and  
16 four, so the total cost, without the withheld information  
17 about running cost, is about \$6.65 billion. By  
18 comparison, when USEC went public, it raised just \$1.5  
19 billion in it's initial public offering. This was \$1.0  
20 billion short of the \$2.5 billion required for it's AVLIS  
21 program. The AVLIS program was cancelled.

22 FACILITATOR CAMERON: Are we ready for  
23 Vina? All right, thank you very much, Nancy. This is  
24 Vina Colley.

25 MS. COLLEY: Hi, I'm Vina Colley. I'm

1 President of PRESS, Portsmouth/Piketon Residents for  
2 Environmental Safety and Security. I am co-chair of the  
3 National Nuclear Workers for Justice.

PMT-003-3

4 In the DEIS, presents little evidence that  
5 it contains the results of an independent investigation.  
6 For example, PRESS has released the results of analysis of  
7 radioactivity in Big Run Creek, which casts significant  
8 doubt that DOE, USEC, and other EPA data from offsite  
9 sample locations, may be flawed.

10 The DEIS used data from these sources, a  
11 comprehensive independent survey is warranted. PRESS has  
12 had two different independent experts who came in here.  
13 The first expert that came in, he read DOE documents. He  
14 didn't have to do any testing, he didn't have to do  
15 anything, he just read DOE documents which proved that  
16 there is offsite contamination in the creeks going to  
17 Little Beaver, Big Run, Big Beaver, into the Scioto river,  
18 into the Ohio river.

19 We want an independent investigation. We  
20 don't want to believe the word of USEC, DOE, or -- who was  
21 the other one, I can't -- I forgot my glasses, guys -- the  
22 USEC and the contractors of this facility, the NRC needs  
23 to do an independent investigation and I'm still not sure  
24 who is over the special nuclear material at this site.  
25 I'm still not sure who's really regulating the

PMT-003-4

1 trans-uranics that's going into the creeks. I don't  
2 remember seeing it in your book who's going to regulate  
3 it.

PMT-003-5

4 The DEIS was overlooked some obvious  
5 problems and it overlooks the possibility that USEC maybe  
6 misled the State about -- I'm sorry, everyone, I forgot my  
7 glasses and I can't hardly see this paper -- about the  
8 cost of the ACP or that the ACP may be expensive for  
9 investors to back it. Further, the DEIS contains little  
10 in the way of independent investigation and it does little  
11 to open the details of the project to the public scrutiny  
12 from under two layers of secrecy, classified information,  
13 and prosperity information.

PMT-003-6

14 The difficulty seems to result mainly from  
15 the NRC following the assertion and the analysis of the  
16 USEC ACP application to closely and uncritically -- I  
17 heard a few statements here tonight and I'm -- as a former  
18 worker, a whistleblower who's been blacklisted, who's lost  
19 all her benefits and everything from this facility, I sit  
20 here and I listen to you tell these people that this is a  
21 safe plant and it is going to continue to be safe. The  
22 whole time I worked here, there was 570-some violations  
23 year after year after year that never was taken care of.  
24 The centrifuge plant, when it started in '85, I remember  
25 that there was alpha daughters in the lunchroom where the

1 workers were at and to this day, I bet none of these  
2 workers have ever been told.

PMT-003-7

3 This facility produced highly enriched  
4 uranium for weapons-grade material from 1954 to 1992,  
5 which you thought was '64.

PMT-003-8

6 I'm still wanting to know who's going to  
7 take the liability for all these sick and dying workers  
8 that aren't being taken care of now, and now, you want to  
9 add additional stress to the community and to the workers?  
10 We are becoming a national nuclear sacrifice zone. We are  
11 going to be taking everyone's nuclear waste if you guys  
12 let this happen. If you start this it means that they'll  
13 never know what, exactly, is going on here, in Piketon,  
14 and I'm really concerned about the radium-226 that's  
15 offsite. Not only did my experts back it up but your  
16 experts that you're listening to right now, backed it up  
17 with a letter to me. So, someone's conning us in all of  
18 the analysis that they're taking at this plant.

19 FACILITATOR CAMERON: Okay, thank you,  
20 Vina, and thank all the participants for -- from PRESS,  
21 and if you do have a statement that we can attach to the  
22 record, we'll do that, and just one clarification is that  
23 the Draft Environmental Impact Statement is a draft, not  
24 final yet, including the conclusion, until we evaluate  
25 comments, and then there is the other part, the safety

1 review, in which there's been no finding yet. So, it's  
2 still in -- is a work in progress, here.

3 We're going to go to Mr. Geoffrey Sea, and  
4 then we're going to go to Dr. David Manuta. Geoffrey?

PMT-010-2

5 MR. SEA: My name is Geoffrey Sea. I'm  
6 the owner of the Barnes home, which is one of the three  
7 historic properties that the DEIS mentions but doesn't  
8 really say much about, and I'll start by saying that it's  
9 a little irritating, the way they describe the Barnes home  
10 as qualifying under criteria A and C. They don't say what  
11 -- where those criteria came from, or they don't say what  
12 they are. I find that to be a rather inscrutable and  
13 mystifying way to describe a historic property and get  
14 into a discussion of the impacts on it. So, let me tell  
15 you a little bit about the Barnes home.

16 Barnes home was originally built in 1804.  
17 It is generally considered to be the finest home of the  
18 19th century in Pike County. The Barnes family was  
19 extremely influential over four generations in the  
20 politics -- political developments and general history of  
21 the county. I won't go into that, a lot of that will be  
22 made available in my written comments.

PMT-010-3

23 The house is on the border of the ACP site  
24 in the direction of the maximal windborne contamination  
25 from the site, which has a one-mile fence line with the



1 site. The DEIS could -- just dismisses and concludes,  
2 offhandedly, without any analysis, that there are not  
3 aesthetic or visual impacts on my property in particular.  
4 I can't -- I know you can't all see this, this is a  
5 picture of the ACP buildings from my fence line, okay?  
6 You're all welcome to come up and take a look at this  
7 photo afterwards. It will be made available and attached  
8 at the website at which these comments are available, so  
9 you'll all be able to see it there.

10 Now, no one from NRC came to my property  
11 and looked at what the view of ACP is from my property,  
12 yet they conclude that there's no visual or aesthetic  
13 impact, or that it's minimal. The new buildings that NRC  
14 wants to approve -- the staff wants to approve as being  
15 built will be between these existing buildings and this  
16 fence line here, okay?

17 Now, what are criteria A and C? Criteria  
18 A is architectural significance, and we've had  
19 architectural historians come and analyze my house and  
20 conclude that architecturally, it's one of the finest  
21 examples of architecture from that period in the country.  
22 Those statements will be made available to NRC. They  
23 would have been made available already, but I was not made  
24 a consulting party to the review of cultural resources,  
25 even though I, starting in December, 2004, told NRC

PMT-010-4

1 directly about my interests and was, in fact, admitted as  
2 an intervener -- as having standing to intervene in the  
3 issuing of a license, but they still didn't consult me as  
4 a consulting party in the historical review. That has now  
5 been corrected to very loud complaints from yours truly.  
6 But, because of that, they were -- did not have access.  
7 They didn't -- never asked to come to my property. I'd be  
8 happy to give them a tour any time they'd like. I'd like  
9 to give them a lot of information, but that has all been  
10 held up. That all needs to be corrected.

11 Now, there were only three properties  
12 listed as having -- as being historic properties in the  
13 DEIS. That's rather strange and mysterious. The -- I  
14 have, in documents that I've submitted, legally, to the  
15 Atomic Safety and Licensing Board that's hearing this  
16 matter, have provided NRC with detailed information about  
17 all the historic properties in the affected area, and  
18 there is no mention of many of them, and let me mention  
19 four others that receive no mention in the DEIS:

20 One is the Sargent home, which is just up  
21 the road from the Barnes home, and is at the main plant  
22 gate. I'm not sure -- I know the owners of that home were  
23 here earlier. I'm not sure if they're still here, but  
24 anyway, the Sargent family was the family that gave rise  
25 to the name of the town of Sargents, which is where the

1 plant is located. They were very closely related to the  
2 Barnes family. They intermarried. Three of the Barnes  
3 boys married three of the Sargent girls, so they  
4 effectively became one big family and the Barnes and  
5 Sargent estates, which included some 4,500 acres,  
6 originally, provided, essentially, all the land, or 90  
7 percent of the land on which the atomic reservation is  
8 located, the AEC came and took a few thousand acres from  
9 the Sargent estate and very close to that from the Barnes  
10 estate. The actual place where the ACP buildings, where  
11 the main process buildings will be located, is on the  
12 border between the Barnes -- old Barnes and old Sargent  
13 estates.

14 The third -- second house is -- third  
15 house is the Rittenour home, which is down by the Scioto  
16 river, and the Rittenour family was also related to the  
17 Sargent and Barnes families, was one of the founding  
18 families of the town of Sargents.

19 The important thing about -- one important  
20 thing about the Rittenour home is that it -- on the  
21 Rittenour estate were numerous Indian earthworks that were  
22 written about in 1820 by a guy named Caleb Atwater. Some  
23 of the earthworks that made the Ohio earthworks famous  
24 were on that property. Now, one of those earthworks is a  
25 long, linear earthwork that was, in fact, seized by DOE in

1 1983 by eminent domain and is one of the places where DOE  
2 and then USEC has placed their water field from which they  
3 will draw the water to supply ACP.

4 And that is, in fact, the reason why NRC  
5 went into these detailed analysis and explanation of ACP's  
6 use of water resources, but they didn't tell you the  
7 reason. The reason is that there are earthworks that have  
8 now been located on the water field site, called the GSEP  
9 water field down along the Scioto river. Why is that  
10 missing from your DEIS? You had detailed information  
11 about it. On August 5, we -- I brought three cultural  
12 resource experts, one archeologist, one expert in ancient  
13 architecture, and one expert in Hopewell culture on to  
14 that site after a lot of argument and a lot of fighting,  
15 finally got access due to the good graces of the ASLB,  
16 which intervened to basically compel USEC to allow us to  
17 go on to the site, and we now have an expert statement  
18 from those three experts certifying that there is an  
19 earthwork there, right underneath the wells from which  
20 they will draw water.

21 And, the problem with the analysis you  
22 heard earlier is that NRC, so far, follows only the USEC  
23 model of talking only about the overall water usage of the  
24 plant in an attempt to minimize it, saying that, "well, it  
25 will only be a 10 percent increase in the water usage of

1 the site," but that's irrelevant. What we want to know is  
2 not what is the overall water usage, because there are  
3 many well fields and the plant draws water from many  
4 locations. What we want to know is what's the impact of  
5 water usage at the earthworks site where the earthworks  
6 are located, because that's the impact, and that's on DOE  
7 land, on Federal land, which is supposed to be protected,  
8 and the national historic preservation act mandates that  
9 studies be done when such a cultural resource is found on  
10 Federal land.

11 So, part of the 106 review that the DEIS  
12 completely neglects and overlooks is that you are required  
13 to mandate studies be done of what the hydrological  
14 impacts are on those cultural resources that have been  
15 identified on that federal land that, again, was seized  
16 from the Rittenour estate.

17 Now, the owner of the Rittenour home  
18 supplied me a letter, which I provided to NRC, which was  
19 actually addressed to NRC. There's no mention of that  
20 letter in the DEIS, in which he complains about the whole  
21 process by which DOE seized his -- the land for this water  
22 field in 1983, complains that DOE never complied with the  
23 National Historic Preservation Act when they seized the  
24 land, never made him a consulting party, and he asked to  
25 be made a consulting party now for the licensing process

PMT-010-5

1 of ACP. As far as I know, there's been no reply to him.  
2 There's no mention of him or his letter in the DEIS.

3 You sent out all these consulting letters,  
4 supposedly, to fulfill your requirements under section 106  
5 of the act, but you never consulted the people who asked  
6 to be consulted, which included me and Charles Beagle, the  
7 owner of the Rittenour home. It's rather unbelievable.

8 Now, your interpretation of section 106 is  
9 rather incredible. It's basically that you consult with  
10 the State Historic Preservation office to ask them who you  
11 should consult. That's not the law, I'm sorry. The law  
12 is, and this comes from my direct discussions with the  
13 State office, is that the agency is responsible for  
14 identifying the consulting parties, meaning that if a  
15 consulting party comes to you and says, "We have  
16 concerns," you must evaluate those concerns directly  
17 because we don't always go first to the State Historic  
18 Preservation office. They don't -- that's not their role.  
19 They rely on the agency to provide them information about  
20 the project, and they know almost nothing about this  
21 project, because they've been told nothing about this  
22 project.

23 And, that applies, as well, to the Native  
24 American groups that you mentioned, and you'll be hearing  
25 more from them in my written comments. There will be a

1 lot, and you'll be getting direct comments from Native  
2 American groups as well. Don't have time to go into that  
3 tonight.

4 FACILITATOR CAMERON: And, Geoffrey, could  
5 you wrap up? And, I know you have some schematics of  
6 things that you want us to attach, but if you could just  
7 --

8 MR. SEA: Yeah, and let me just explain  
9 those, and you're all welcome to --

10 FACILITATOR CAMERON: Okay, thank you.

11 MR. SEA: -- look at them after. There is  
12 a map, which I've submitted to NRC. I'd like to see it  
13 included in the final environmental impact study. It's a  
14 map that I've created that shows all of the historic sites  
15 in relation to the ACP, to give you an idea, because you  
16 really do need a map to see what the impacts are, and what  
17 really has to be in the final impact study, there's a  
18 reference to it, but unless you see it visually, you don't  
19 really get a sense.

20 This is what's called the Barnes Works on  
21 the former Barnes estate. It is a major Hopewell site,  
22 one of the largest Hopewell earthwork complexes in the  
23 State of Ohio, or in existence, period. This is the  
24 drawing from Squier and Davis' 1848 Monuments of the  
25 Ancient -- Ancient Monuments of the Mississippi Valley.

PMT-010-7

1 It's a very impressive drawing and gives you some idea of  
2 just what we're talking about, not just mentioning that  
3 there's something called the Barnes Works or the Scioto  
4 Township Works, which these are also called.

5 And, I just want to mention one other  
6 thing really quickly, and that is that this community has  
7 been deceived on one particular issue, and that is the  
8 issue of the deconversion plant on site. NRC and it's  
9 DEIS has in fact gone way beyond being a regulatory body  
10 and has actually solved USEC's waste problem for it. That  
11 is, USEC didn't really say in their environmental report  
12 what they intended to do with their depleted uranium  
13 waste, and I'm sure that that prevent -- presented a real  
14 dilemma for NRC because USEC didn't solve this major  
15 problem, and so NRC stepped in, basically, and in their  
16 DEIS, says that the waste will be treated, or will  
17 probably be treated, or can be treated at the deconversion  
18 facility that's now being built on site by DOE.

19 Now, this is hugely problematic, because  
20 DOE, in their reports to this community at their  
21 semiannual environmental assessment meetings has said  
22 repeatedly that that plant can not be used to treat a USEC  
23 waste, there is, in fact, a legal -- both legally and  
24 technically -- legally, to use that facility would  
25 completely violate the letter and spirit of the USEC

PMT-010-6



1 Privatization Act. The purpose of the Privatization Act  
2 was to separate private facilities from legacy government  
3 facilities. That facility was built to treat the legacy  
4 waste that is of public responsibility and at public  
5 expense, and is not available, legally, to treat USEC's  
6 private waste. Without a new act of congress, and if you  
7 want to call for an act of congress to change that  
8 requirement of the law, you should be direct about it, but  
9 this community was deceived, and technically, that  
10 facility was -- is not capable and was not designed to  
11 treat all of the USEC waste.

12 FACILITATOR CAMERON: Okay, thank you --

13 MR. SEA: Thank you.

14 FACILITATOR CAMERON: -- Geoffrey, very  
15 much, and if you have those -- you don't have to give them  
16 to me now, but we'll make sure we get them on the  
17 transcript, those schematics, okay?

18 MR. SEA: Okay, give me a chance to show  
19 people --

20 FACILITATOR CAMERON: Okay, yeah. Sort it  
21 out. Dr. Manuta? Why don't you start and we'll see if we  
22 can get that --

23 DR. MANUTA: Hi everyone, can you hear me?  
24 I was pleasantly surprised, earlier this month, to get a  
25 surprise UPS delivery containing the EIS, and anyway, in

1 my background as a professional consulting chemist and  
2 engineer, I came across two technical errors that do need  
3 to be marked off in the EIS itself.

4 Okay, the first one is page 6-3. And  
5 again, I guess, this is the reason why you have your draft  
6 is to make sure that things like this don't go out into  
7 the final edition. On page 6-3, beginning, it's -- 6.1.1  
8 Air Emissions Monitoring, in the second paragraph that  
9 begins on line 14, Airborne release. In line 18, you then  
10 have a shopping list of the chemicals. The chemical  
11 formula for uranyl fluoride is not right. Okay, it's  
12 listed as UF2 in the document. It should be UO2F2, okay?  
13 That needs to be taken care of because that's an error  
14 that ought to be corrected.

15 And then, see, on page -- on Appendix B on  
16 page 1, is there anybody here from the Chillicothe paper  
17 because this is something that I tease them about all the  
18 time. We've got a spelling mistake in the letter to Mr.  
19 Epstein. Uranium Hexafluoride, of course the U goes  
20 before the O, not the other way around, okay, and that's  
21 why I constantly catch them on that.

22 So, now, with the editorial stuff out of  
23 the way, I wanted to make a couple of quick hitters here  
24 so we can go home. Thank you. Because, on the nuclear  
25 fuel cycle, the only thing that this hearing really should

PMT-007-3

PMT-007-4

1 be about is step four, because we're, again, working with  
2 USEC's information submitted to NRC to develop an  
3 environmental impact for the gaseous centrifuge enrichment  
4 plant. Now, the NRC has regulatory authority in many of  
5 these other areas, but our concern is on number four, and  
6 I think that's important up front, now, because the way  
7 the enrichment process works, as you've heard bits and  
8 pieces, the natural feed is at a level of about .72  
9 percent uranium-235 with the balance being 99.3, or  
10 thereabouts, percent uranium-238. So, the UF6 is really a  
11 blend of two similar compounds, and what the enrichment  
12 process is designed to do is to enrich in a cascade-type  
13 process, in other words, one machine after the next, to  
14 enrich the uranium-235 F6 to a level that the public  
15 utility can use, okay? Bottom line, that's what this is  
16 all about.

PMT-007-5

17 Okay, now when we make the comparison, the  
18 depleted uranium that we talk about is primarily not only  
19 the U-238 F6, it's now at a level -- not at 99.3 percent,  
20 but probably around 99.6 or 99.7 percent. In other words,  
21 a significant amount of the usable uranium for electricity  
22 generation has already been removed and so now, just to  
23 make the linkage to the conversion process, because the  
24 UF6 is not a stable compound with regard to it's  
25 chemistry. I've dealt with dropped cylinders at the plant

1 of UF6 where the chemical does come out. It can react  
2 with the cylinders, it can react with the moisture in the  
3 air, and so on. The important thing is, in general, when  
4 a UF6 cylinder is -- may be dropped, or where there's a  
5 crack in the cylinder, many of the compounds that are  
6 formed, with the exception of HF, are not volatile. In  
7 other words, they stay right there. So, the issue of  
8 drifting off of the reservation some distance away, HF is  
9 the only one that you have to be concerned about. The  
10 uranyl fluoride is a nonvolatile solid. It's going to  
11 drop out wherever it's formed. Notice, that's why you get  
12 a mist. And then, at some point, that does come out,  
13 literally, like snow. Okay, so we need to be clear about  
14 what the science is.

15 And, so, as far as I'm concerned, with the  
16 two minor issues I brought up, this is a superb document  
17 for meeting the objectives of number four, and that's  
18 really what I think we're here for tonight, because the  
19 tails, or the U238 F6, is not reactive waste. That's not  
20 the stuff that's going out, in some point in the future,  
21 to Yucca Mountain. We're talking about converting that  
22 uranium fluoride compound to a uranium oxide compound,  
23 whether it be UO2, UO3, U3O8, fundamentally, what we want  
24 to do is put it back in the ground, because that's,  
25 ultimately, where it came from. There can't be any more

1 environmentally responsible way of handling it than that.  
2 We talk about cradle-to-grave, make the full circle?  
3 Yucca Mountain's not part of this discussion, and we need  
4 to be very, very clear about that.

5 Also, a couple of quick hitters before we  
6 go, next year, in the -- when they do the census, we will  
7 hit 300 million people as a nation, so we will have added  
8 in, since 2000, probably around 18 million people, okay?  
9 The reason -- I do a lot of driving, and people talk about  
10 the price of gas. Well, the fact is, what we're dealing  
11 with tonight doesn't approach that. We're really more  
12 concerned, not with the transportation issues tonight, but  
13 with the power generation issues, because there's a  
14 difficulty associated, whether you deal with hurricanes,  
15 natural gas, whatever, I like when I come into the office  
16 in the morning and I hit the light switch, and the lights  
17 come on. And, wouldn't it be nice, based on some of the  
18 environmental issues you read all about, that when uranium  
19 is used, and again, downstream, again, in the power  
20 generation part, that you don't have any of the greenhouse  
21 issues, and by, perhaps, ramping up the amount of uranium  
22 we use for power generation, we can free up some of the  
23 carbon-bearing chemicals, the petroleum and such, for  
24 transportation, keep those costs down, and I think that's  
25 pretty important to understand.

PMT-007-6

1                   And, I think that's probably a good point  
2                   to leave it, just to kind-of fill in what I consider some  
3                   of the pieces, here, about why we're here and about why  
4                   it's important. So, thanks for listening.

5                   FACILITATOR CAMERON: Okay, thank you, Dr.  
6                   Manuta. Thank you. Next, we have two more speakers,  
7                   Professor Andrew Feight. Professor Feight, do you want to  
8                   talk to us?

9                   DR. FEIGHT: My name is Dr. Andrew Feight,  
10                  and, let's see. I moved here, to Portsmouth, back in  
11                  2001. I took a job as an Assistant Professor of History,  
12                  teaching American History, at Shawnee State University,  
13                  and about the time that I arrived here, I read the news  
14                  that the enrichment plant was shutting down, and for many  
15                  people in the community, that was bad news, the loss of  
16                  jobs. But, for me, I look to the future and I was quite  
17                  relieved and happy about that because I was looking  
18                  forward to a nuclear-free future for southern Ohio, for  
19                  Scioto County, Pike County, for where I have chosen to  
20                  live and where I have chosen to put my roots down and  
21                  raise a family. So, I was looking forward to a  
22                  nuclear-free future for myself, for my family, and my  
23                  children.

24                  PMT-017-1

25                  And, I'm a little disturbed by this  
                  environmental impact study, and I'm going to approach it,

1 really, from the perspective of a historian. I've read  
2 the parts dealing with historic and cultural resource  
3 impacts, and what I see missing here is really a  
4 consideration of an alternative future, alternative uses  
5 for the site, a vision of a nuclear-free, cleaned up,  
6 decommissioned nuclear site that really dates from the  
7 cold war, that is in our past.

8 And, the more I studied local history and  
9 the more I learned about the place, I've come to  
10 understand that the site of the gaseous diffusion plant,  
11 the atomic reservation, truly is a national, and even  
12 international, historic site.

13 Geoffrey Sea spoke of the Indian mounds  
14 located on the property, but there's also a story that Mr.  
15 Sea is pursuing that is only now being told, although I'm  
16 sure people in the community have known this for a long  
17 time, and that is that the last passenger pigeon known to  
18 exist in nature was shot and killed on this site.

19 The extinction of the passenger pigeon is  
20 an incredible historical tale and right here, in Pike  
21 County, at the site of the Barnes house, and on that  
22 property, is where that last bird was shot, and that makes  
23 this location quite important in the history of the  
24 environment of the United States, the history of Pike  
25 County, the history of southern Ohio, the history of Ohio,

PMT-017-2

1 the history, really, of our nation. A very important  
2 event did happen there.

3 And so, a vision of a future without a  
4 centrifuge enrichment plant would entail appreciating this  
5 site and developing this site as a historical -- a very  
6 important historical site, one where the history of the  
7 cold war, the history of the environment and the  
8 extinction of species could be meditated upon and studied.  
9 So, not only do you have Native American sites there, you  
10 have the history of the Barnes home, you have the history  
11 of the last passenger pigeon, and the backdrop and the  
12 background, which you can see from the property, the A  
13 plant, which, if it was cleaned up and decommissioned and  
14 new industries, non-nuclear industries brought in, would  
15 be a much better future for my children, for our  
16 grandchildren --

17 The Draft Environmental Impact Statement  
18 says -- study says that there are no large impacts, and  
19 there's certainly -- according to this report, is that  
20 there are no large impacts on historic and cultural  
21 resources. That is not true. This is a large impact,  
22 people just don't appreciate the history. People don't  
23 know the history, they don't know about this, and so they  
24 don't see it for what it is, which is a huge, large  
25 impact. It will continue to desecrate Native American

PMT-017-1

PMT-017-2



1 sacred spaces. It will thwart the development of the site  
2 as a historic site for appreciation of the story and the  
3 history of the passenger pigeon, and of the environment in  
4 general, and the problem of species extinction. And, it  
5 will continue the environmental degradation of the area,  
6 and all of this runs up against this vision that I had  
7 when I first came here in 2001 of a nuclear-free future,  
8 of a southern Ohio that is cleaned up, where we put the  
9 cold war behind us, and this site can be a cold war  
10 historic site, but it cannot be that if we continue to  
11 operate and enrich uranium there, and there are sites  
12 around the United States that are becoming historic sites  
13 from the cold war, and this would be an excellent cold war  
14 site.

15 Two more points. One, about the  
16 centrifuge technology. This technology is the very same  
17 technology is very concerned about Iran possessing. In  
18 fact, there is very high tension between the U.S.  
19 government and Iran right now because the U.S. government  
20 is concerned that they are building a centrifuge  
21 enrichment plant. The Iranian government says they are  
22 doing this just for domestic purposes, and that may be,  
23 but there is concern, and our government has right concern  
24 for this, is that that technology can be used to make  
25 bomb-grade material, and that is why they're concerned,

PMT-017-3

1 yet, should not we be concerned about this, that while the  
2 license is not for the enrichment of bomb-grade material,  
3 but the technology that they're putting in can be used for  
4 such purposes, and I don't want such a possible future for  
5 southern Ohio. I don't want something to change down the  
6 road and they change the facility to start making  
7 bomb-grade materials, because then, the environmental  
8 impact would be extremely different, and that is a  
9 possibility. It would change the whole impact of the  
10 plant if they did, ultimately, start enriching it for  
11 bomb-grade material.

PMT-017-4

12 So, let me just close and say, let's make  
13 sure that the nuclear industry is in our past, because I  
14 really hope for a nuclear-free future for myself and for  
15 my children. I heard that this plant could close down in  
16 2040. In 2040, I will be 70 years, and my son will be 35,  
17 my age right now. That's a long time, that's a very long  
18 time, and I would rather us not go down that path, and I  
19 will borrow something you said, which was, let's  
20 containerize it and ship it offsite. Let's containerize  
21 this whole thing and ship it offsite so that we can get on  
22 with a nuclear-free, clean south Ohio. Thank you.

23 FACILITATOR CAMERON: Thank you, Dr.  
24 Feight. And next, we have Alan Weiner. Alan?

25 MR. WEINER: Thank you, everyone, for

PMT-005-3

1 coming and thank you, for taking our comments, but I saw  
2 one -- what I think looks like a typo, where it mentions  
3 in the -- I'm not sure where, it's near the beginning, but  
4 I'll research and write it, too, that it seems that the  
5 number of cancer deaths will probably be, according to the  
6 document, higher for routine non-accident issues, like  
7 .013 deaths per year, than accidental release, which they  
8 don't say the amount, but that seems to be .008, or half  
9 of the number of cancer deaths.

PMT-005-4

10 I also am active in Cincinnati area with  
11 recreational trails and river resources. The Mill Creek  
12 is one of the greatest streams there, but we're working to  
13 make that a destination by cleaning it up and putting  
14 greenways along it, and I wonder, with this plant here,  
15 would there be very many recreational opportunities, both  
16 along the Ohio river, which, the Ohio river way is  
17 hopefully going to be a recreation destination.  
18 Hopefully, the Scioto river could be hooked up to that, so  
19 I think there's a lot of potential here, as well, all  
20 along the Ohio, and I'd hope that it could all be kept or  
21 made clean. Thanks.

22 FACILITATOR CAMERON: Thank you very much,  
23 Alan. I'm going ask Jim Clifford to -- we still -- we  
24 have some time for some informal discussion between NRC  
25 staff and our experts too, who are here helping us, and

1 all of you, I'm going to ask Jim Clifford to just close us  
2 out of the meeting.

3 I just would like to thank all of you for  
4 being here and for your comments, and it was obvious that  
5 a lot of people took the time to read the document, and we  
6 had a lot of relevant comments, and thank you for  
7 following the ground rules, too. And, Jim, would you like  
8 to do the honors?

9 MR. CLIFFORD: Thank you, Chip. Once  
10 again, I'd like to thank everyone for coming. Clearly,  
11 there were emotions that were high on both sides of the  
12 issue from what I observed here, tonight, and what I try  
13 to do is reflect on what I've seen and heard. There's  
14 been an awful lot of information provided, and we'll take  
15 a look at those comments, but as far as the atmosphere  
16 here, being as emotional as it is and can be, I greatly  
17 appreciate the amount of respect that everyone has shown  
18 to everyone who provided comments and everybody who had  
19 questions, you showed the ability to respect everyone as  
20 an individual and have their own views.

21 To me, I have been working for this  
22 country and defending this country for 35 years now. The  
23 beauty of this country is that we have the ability to have  
24 our own view and to express those.

25 The purpose of this meeting is to make

1       sure that everybody has the opportunity to express their  
2       views, and to me, that's the most important part of this  
3       meeting tonight, is that people felt free to express their  
4       views and we had some very strong views, and we do  
5       appreciate those. We'll take a look at every single one  
6       of those and we will be addressing those.

7                        So, again, thank you for coming, and you  
8       will see the final Environmental Impact Statement issued  
9       in April. Is that correct? Okay.

10                      And, we will be here for another 10 or 15  
11       minutes for anyone who wants to chat with us. Thank you.

12                      (Whereupon, at 9:36 p.m., the proceedings  
13       in the foregoing matter were adjourned.)

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CERTIFICATE

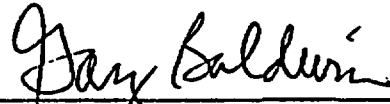
This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: American Centrifuge Plant  
Draft EIS Public Meeting

Docket Number: n/a

Location: Piketon, OH

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



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10. SUPPLEMENTARY NOTES

11. ABSTRACT (200 words or less)

USEC Inc. (USEC) has submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a license to construct, operate, and decommission the American Centrifuge Plant (ACP), a gas centrifuge uranium enrichment facility located on the U.S. Department of Energy (DOE) reservation in Piketon, Ohio. The American Centrifuge Plant, if licensed, would enrich uranium for use in commercial nuclear fuel for power reactors. Feed material would be comprised of non-enriched uranium hexafluoride (UF6). USEC proposes to enrich uranium up to 10 percent by weight of uranium-235. The initial license application is for a 3.5 million separative work unit (SWU) per year facility. Because USEC indicated the potential for future expansion to 7.0 million SWU per year, the environmental review looks at the impacts from a 7.0 million SWU per year facility. The proposed ACP would be licensed in accordance with the provisions of the Atomic Energy Act. Specifically, an NRC license under Title 10, "Energy," of the U.S. Code of Federal Regulations (10 CFR) Parts 30, 40, and 70 would be required to authorize USEC to possess and use special nuclear material, source material, and byproduct material at the proposed ACP site.

This Environmental Impact Statement (EIS) was prepared in compliance with the National Environmental Policy Act and the NRC regulations for implementing the Act. This EIS evaluates the potential environmental impacts of the proposed action and its reasonable alternatives. This EIS also describes the environment potentially affected by USEC's proposal, presents and compares the potential environmental impacts resulting from the proposed action and its alternatives, and describes USEC's environmental monitoring program and mitigation measures.

12. KEY WORDS/DESCRIPTORS (List words or phrases that will assist researchers in locating the report.)

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