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NUREG-1945, Vol. 2

Environmental Impact Statement for the Proposed Eagle Rock Enrichment Facility in Bonneville County, Idaho

Final Report

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Manuscript Completed: February 2011
Date Published: February 2011

Office of Federal and State Materials and
Environmental Management Programs

ABSTRACT

On December 30, 2008, AREVA Enrichment Services LLC (AES) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a license to construct, operate, and decommission the proposed Eagle Rock Enrichment Facility (EREF). The proposed EREF would be located in Bonneville County, Idaho, approximately 32 kilometers (20 miles) west of Idaho Falls. Revisions to the license application were submitted by AES on April 23, 2009, and April 30, 2010. If licensed, the proposed facility would enrich uranium for use in commercial nuclear fuel for power reactors. AES would employ a gas centrifuge enrichment process to enrich uranium to up to five percent uranium-235 by weight, with a planned maximum target production of 6.6 million separative work units (SWUs) per year. AES initiated preconstruction activities (e.g., site preparation) in late 2010 under an exemption approved by the NRC to conduct such activities prior to licensing. If its license application is approved, AES expects to begin facility construction in 2011and commence initial production in 2014, reaching peak production in 2022. AES's license would be for a term of 30 years. Prior to license expiration in 2041, AES would seek to renew its license to continue operating the proposed facility or plan for the decontamination and decommissioning of the proposed facility per the applicable licensing conditions and NRC regulations. The proposed EREF 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 AES to possess and use special nuclear material, source material, and byproduct material at the proposed EREF site.

This Environmental Impact Statement (NUREG-1945) (EIS) was prepared in compliance with the *National Environmental Policy Act of 1969*, as amended (NEPA), and the NRC regulations for implementing NEPA (10 CFR Part 51). This EIS evaluates the potential environmental impacts of preconstruction activities and of the proposed action, which is to construct, operate, and decommission the proposed EREF near Idaho Falls in Bonneville County, Idaho. Also, this EIS describes the environment potentially affected by AES's proposal, evaluates reasonable alternatives to the proposed action, describes AES's environmental monitoring program and mitigation measures, and evaluates the costs and benefits of the proposed action.

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EXECUTIVE SUMMARY

BACKGROUND

Under the provisions of the *Atomic Energy Act* and pursuant to Title 10 of the U.S. *Code of Federal Regulations* (10 CFR) Parts 30, 40, and 70, the U.S. Nuclear Regulatory Commission (NRC) is considering whether to issue a license that would allow AREVA Enrichment Services, LLC (AES) to possess and use byproduct material, source material, and special nuclear material at a proposed gas centrifuge uranium enrichment facility near Idaho Falls in Bonneville County, Idaho, for a period of 30 years. The scope of activities to be conducted under the license would include the construction, operation, and decommissioning of the proposed Eagle Rock Enrichment Facility (EREF). The application for the license was filed with the NRC by AES by letter dated December 30, 2008. Revisions to the license application were submitted by AES on April 23, 2009 (Revision 1) and April 30, 2010 (Revision 2). To support its licensing decision on AES's proposed EREF, the NRC determined that the NRC's implementing regulations in 10 CFR Part 51 for the *National Environmental Policy Act* (NEPA) require the preparation of an Environmental Impact Statement (EIS). The development of this EIS is based on the NRC staff's review of information provided by AES, independent analyses, and consultations with the U.S. Fish and Wildlife Service and other Federal agencies, Native American tribes, the Idaho State Historic Preservation Office (SHPO) and other State agencies, and local government agencies.

The enriched uranium produced at the proposed EREF would be used to manufacture nuclear fuel for commercial nuclear power reactors. Enrichment is the process of increasing the concentration of the naturally occurring and fissionable uranium-235 isotope. Uranium ore usually contains approximately 0.72 weight percent uranium-235. To be useful in light-water nuclear power plants as fuel for electricity generation, the uranium must be enriched up to 5 weight percent uranium-235.

THE PROPOSED ACTION

The proposed action considered in this EIS is for AES to construct, operate, and decommission a uranium enrichment facility, the proposed EREF, at a site near Idaho Falls in Bonneville County, Idaho. To allow the proposed action to take place, the NRC would issue a license to AES as discussed above. The proposed EREF would be located on a 186-hectare (460-acre) section of a 1700-hectare (4200-acre) parcel of land that it intends to purchase from a single private landowner. Current land uses of the proposed EREF property include native rangeland, nonirrigated seeded pasture, and irrigated cropland. The proposed EREF, if approved, would be situated on the north side of US 20, about 113 kilometers (70 miles) west of the Idaho/Wyoming State line and approximately 32 kilometers (20 miles) west of Idaho Falls. The eastern boundary of the U.S. Department of Energy's (DOE) Idaho National Laboratory (INL) is 1.6 kilometers (1 mile) west of the proposed property. The lands north, east, and south of the proposed property are a mixture of private-, Federal-, and State-owned parcels, with the Federal lands managed by the Bureau of Land Management (BLM).

Using a gas centrifuge process, the proposed EREF would produce uranium enriched up to 5 percent by weight in the isotope uranium-235, with a planned maximum target production of 6.6 million separative work units (SWUs) per year. An SWU is a unit of measurement used in the nuclear industry, pertaining to the process of enriching uranium for use as fuel for nuclear

power plants. If the license is approved, facility construction would begin in 2011 with heavy construction (construction of all major buildings and structures) continuing for 7 years into 2018. The proposed EREF would begin initial production in 2014 and reach peak production in 2022. Operations would continue at peak production until approximately 9 years before the license expires. Decommissioning activities would then begin and be completed by 2041. Decommissioning would involve the sequential shutdown of the 4 Separation Building Modules (SBMs) resulting in a gradual decrease in production. Each SBM would take approximately 4.5 years to decommission.

Supplemental information on a proposed 161-kilovolt (kV) electrical transmission line required to power the proposed EREF was submitted by AES on February 18, 2010. The NRC has no jurisdiction over transmission lines; therefore, the transmission line for the proposed EREF is not considered part of the proposed action. However, construction and operation of this transmission line are considered in this EIS under cumulative impacts.

NRC EXEMPTION FOR AES TO CONDUCT CERTAIN PRECONSTRUCTION ACTIVITIES

On June 17, 2009, AES submitted a request for an exemption from certain NRC regulations to allow commencement of certain preconstruction activities on the proposed EREF site prior to NRC's decision to issue a license for the construction, operation, and decommissioning of the proposed EREF. On March 17, 2010, the NRC granted an exemption authorizing AES to conduct the requested preconstruction activities. Under the exemption, these preconstruction activities are not considered by the NRC as part of the proposed action, although the environmental impacts of these activities are discussed in this EIS along with the impacts of facility construction.

Specifically, the exemption covers the following activities and facilities:

- clearing of approximately 240 hectares (592 acres) for the proposed EREF
- site grading and erosion control
- excavating the site including rock blasting and removal
- constructing a stormwater retention pond
- constructing main access and site roadways
- installing utilities
- erecting fences for investment protection
- constructing parking areas
- erecting construction buildings, offices (including construction trailers), warehouses, and guardhouses

This exemption authorizes AES to conduct the stated activities, provided that none of the facilities or activities subject to the exemption would be components of AES's Physical Security Plan or its Standard Practice Procedures Plan for the Protection of Classified Matter, or otherwise be subject to NRC review or approval. AES initiated preconstruction activities in late 2010.

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action would be to allow AES to construct, operate, and decommission a facility using gas centrifuge technology to enrich uranium up to 5 percent by weight of uranium-235, with a production capacity of 6.6 million SWU per year, at the proposed EREF near Idaho Falls in Bonneville County, Idaho. This facility would contribute to the attainment of national energy security policy objectives by providing an additional reliable and economical domestic source of low-enriched uranium to be used in commercial nuclear power plants.

Nuclear power currently supplies approximately 20 percent of the nation's electricity. The United States Enrichment Corporation Paducah Gaseous Diffusion Plant, Paducah, Kentucky, is currently the primary U.S. supplier of low-enriched uranium for nuclear fuel in the United States. However, the URENCO USA facility (formerly known as the National Enrichment Facility) in Lea County, New Mexico, which began initial operations in June 2010, may provide additional enrichment services in the future as construction continues on its remaining cascade halls. The American Centrifuge Plant (ACP) in Piketon, Ohio, which is currently under construction, and the proposed Global Laser Enrichment (GLE) Facility in Wilmington, North Carolina, for which the NRC is currently reviewing its license application, may also provide additional domestic enrichment services in the future. The existing operating Paducah, Kentucky, enrichment plant supplies approximately 15 percent of the current U.S. demand for low-enriched uranium. The United States Enrichment Corporation also imports downblended (diluted) weapons-grade uranium from Russia through the Megatons to Megawatts Program to supply an additional 38 percent of the U.S. demand. The remaining 47 percent of low-enriched uranium is imported from foreign suppliers. The current primary dependence on a single U.S. supplier and foreign sources for low-enriched uranium imposes reliability risks for the nuclear fuel supply to U.S. nuclear power plants. National energy policy emphasizes the importance of having a reliable domestic source of enriched uranium for national energy security. The production of enriched uranium at the proposed EREF would be equivalent to about 40 percent of the current and projected demand (15 to16 million SWUs) for enrichment services within the United States.

ALTERNATIVES TO THE PROPOSED ACTION

In this EIS, the NRC staff considered a reasonable range of alternatives to the proposed action, including alternative sites for an AES enrichment facility, alternative sources of low-enriched uranium, alternative technologies for uranium enrichment, and the no-action alternative. Two of the alternatives, the proposed action and the no-action alternative, were analyzed in detail. The approved preconstruction activities discussed earlier are assumed to occur prior to NRC's decision to grant a license to AES and, therefore, are assumed to occur under both the proposed action and the no-action alternative.

Under the no-action alternative, the proposed EREF would not be constructed, operated, and decommissioned in Bonneville County, Idaho. Uranium enrichment services would continue to be performed by existing domestic and foreign uranium enrichment suppliers. However, URENCO USA would provide and the ACP and potentially the proposed GLE Facility may provide enrichment services in the future.

AES considered 44 alternative sites throughout the United States. AES evaluated these sites based on various technical, safety, economic, and environmental selection criteria, and concluded that the Eagle Rock site in Bonneville County, Idaho, met all of the criteria. The NRC staff reviewed AES's site-selection process and results to determine if any site considered by AES was obviously superior to the proposed Eagle Rock site. The NRC staff determined that the process used by AES was rational and objective, and that its results were reasonable. Based on its review, the NRC staff concluded that none of the candidate sites were obviously superior to the AES preferred site in Bonneville County, Idaho.

The NRC staff examined three alternatives to satisfy domestic enrichment needs: (1) reactivate the Portsmouth Gaseous Diffusion Plant near Piketon, Ohio; (2) downblend highly enriched uranium instead of constructing a domestic uranium enrichment facility; and (3) purchase low-enriched uranium from foreign sources. These alternatives were eliminated from further consideration based on concerns related to reliability, excessive energy consumption, and national energy security, and did not meet national energy policy objectives involving the need for a reliable, economical source of domestic uranium enrichment.

The NRC staff also evaluated alternative technologies to the gas centrifuge process: electromagnetic isotope separation, liquid thermal diffusion, gaseous diffusion, Atomic Vapor Laser Isotope Separation, Molecular Laser Isotope Separation, and separation of isotopes by laser excitation. These technologies were eliminated from further consideration based on factors such as the technology immaturity, economic impracticality, or exclusive licensing.

In addition, the NRC staff considered conversion and disposition methods for depleted uranium hexafluoride (UF_6): (1) beneficial use of depleted UF_6, and (2) conversion at facilities other than the new facilities that the U.S. Department of Energy (DOE) has built at Portsmouth and Paducah. For the purposes of this analysis, because the current available inventory of depleted uranium exceeds the current and projected future demand for the material, the depleted UF_6 generated by the proposed EREF was considered a waste product, and disposition alternatives involving its use as a resource were not further evaluated.

Existing fuel fabrication facilities have not expressed an interest in performing depleted UF_6 conversion services, and the cost for the services would be difficult to estimate; therefore, this alternative was eliminated from further consideration. However, International Isotopes, Inc. submitted a license application to the NRC on December 31, 2009, to construct and operate a depleted UF_6 conversion facility near Hobbs, New Mexico. On February 23, 2010, the NRC staff accepted the license application, and has initiated a formal safety and environmental review.

POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

This EIS evaluates the potential environmental impacts of the proposed action. A standard of significance has been established for assessing environmental impacts. Following the Council on Environmental Quality's regulations in 40 CFR 1508.27, the NRC staff has assigned each impact one of the following three significance levels:

- SMALL. The environmental effects are not detectable or are so minor that they would neither destabilize nor noticeably alter any important attribute of the resource.

- MODERATE. The environmental effects are sufficient to noticeably alter but not destabilize important attributes of the resource.

- LARGE. The environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

As described in Chapter 4, the environmental impacts of preconstruction and the proposed action would mostly be SMALL. Some potential impacts would be SMALL to MODERATE or MODERATE in a few cases; and there would be LARGE, though intermittent, short-term impacts in one resource area during preconstruction. Methods for mitigating the potential impacts are identified in Chapters 4 and 5. Environmental measurement and monitoring methods are described in Chapter 6.

Summarized below are the potential environmental impacts of the proposed action on each of the resource areas considered in this EIS. Each summary is preceded by the impact significance level for the respective resource areas.

Land Use

SMALL. The construction of a uranium enrichment facility would alter the current land use, which consists primarily of agriculture and undeveloped rangeland. The 240-hectare (592-acre) proposed EREF site under consideration would be located entirely on a 1700-hectare (4200-acre) private parcel of land. Bonneville County has zoned the location as G-1, Grazing, which allows for industrial development, and is intended to allow certain activities that should be removed from population centers in the county. The operation of a uranium enrichment facility is consistent with the county's zoning. It is not anticipated that construction and operation of the proposed EREF would have any effect on the current land uses found on the surrounding public lands managed by the BLM.

Restrictions to land use would begin with the purchase of the proposed property by AES. The alteration of land use would begin during preconstruction and continue during construction. Preconstruction activities would result in the alteration of the land as a result of activities such as land clearing and grading, restricted access to the proposed EREF property, and cessation of agricultural uses (grazing and crop production). The majority of impacts to land use would occur during preconstruction. However, since large land areas in the county will continue to be used for grazing and crop production, including the BLM-managed lands surrounding the proposed EREF property, land use impacts resulting from preconstruction and construction would be SMALL.

Operation of the proposed EREF would restrict land use on the proposed property to the production of enriched uranium. The operation of the proposed EREF is not expected to alter land use on adjacent properties. Impacts on land use due to operations would be SMALL.

At the end of decommissioning, the buildings and structures would be available for unrestricted use. As a result, impacts on land use due to decommissioning would be SMALL.

Historic and Cultural Resources

SMALL TO MODERATE. Impacts to historic and cultural resources would occur primarily during preconstruction. Construction would take place on ground previously disturbed by preconstruction activities. There are 13 cultural resource sites (3 prehistoric, 6 historic, and 4 multi-component) in the surveyed areas of the proposed EREF property. One of these sites, the John Leopard Homestead (MW004), is located within the footprint of the proposed EREF, and has been recommended as eligible for the *National Register of Historic Places*. Site MW004 would be destroyed by preconstruction activities. However, AES mitigated impacts to site MW004 prior to land disturbance through professional excavation and data recovery, and other similar homestead site types exist in the region. Therefore, the impact to site MW004 would be limited to a MODERATE level.

Construction and operation of the proposed EREF would be unlikely to result in visual or noise impacts on the Wasden Complex, an important group of archaeological sites, because it is located approximately 1.6 kilometers (1.0 mile) from the proposed EREF site and sits behind a ridge that partially blocks the view. Other impacts during operations would be SMALL because no intact historic or cultural resources would remain.

Decommissioning would not likely affect historic and cultural resources because any areas disturbed during decommissioning would have been previously disturbed during preconstruction and construction. Therefore, impacts would be SMALL.

Visual and Scenic Resources

SMALL TO MODERATE. Impacts to visual and scenic resources result when contrasts are introduced into a visual landscape. The proposed project site and surrounding areas consist primarily of sagebrush semi-desert to the north, east, and west of the proposed site. The proposed facility would be located approximately 2.4 kilometers (1.5 miles) from areas of public view, including US 20 and the Hell's Half Acre Wilderness Study Area (WSA) to the south which contains the remains of a 4000-year-old lava flow. The BLM gave a Visual Resource Management (VRM) Class I designation to the WSA, which applies to areas of high scenic quality.

Visual impacts during preconstruction could result along US 20 from increased activity at the proposed site and fugitive dust, but these would be of a relatively short duration. The clearing of vegetation and installation of a perimeter fence would change the visual setting; however, they would not drastically alter the overall appearance of the area. Impacts on visual and scenic resources due to preconstruction would be SMALL.

Construction of the proposed EREF would introduce visual intrusions that are out of character with the surrounding area. While initial construction activities would commence on a cleared area, such a view is not very intrusive on the visual landscape. Similarly, fugitive dust generated during the construction period would be of a temporary nature and cause minimal disturbance to the viewshed. However, because of the extent of the proposed EREF project, the type and size of equipment involved in construction, and the industrial character of buildings to be built, construction of the proposed EREF would create significant contrast with the surrounding visual environment, which is predominantly rangeland and cropland. Thus, visual impact levels associated with construction would range from SMALL to MODERATE.

Construction and operation of the proposed EREF would be unlikely to result in visual impacts on the Wasden Complex due to its distance from the proposed EREF site and location behind a ridgeline that obscures views of the lower portions of the proposed facility. However, operations would have an impact on the surrounding visual landscape. The proposed facility is visually inconsistent with the current setting, and its operation is expected to alter the visual rating on surround public lands, which would be a MODERATE visual impact. Also, plant lighting at night could be perceivable at the trailhead of the Hell's Half Acre WSA, although probably not from the Craters of the Moon National Park located 72 kilometers (45 miles) to the west of the proposed EREF site.

At the end of decommissioning, the buildings and structures would be available for unrestricted use. As a result, impacts on visual and scenic resources would remain MODERATE.

Air Quality

SMALL to LARGE. Air emissions during preconstruction and construction would include fugitive dust from heavy equipment working on the proposed site, engine emissions from construction equipment onsite and vehicles transporting workers and materials to the proposed site, and emissions from diesel-fueled generators. The generators, although not intended to provide power for construction activities, would be operated weekly for preventative maintenance. During preconstruction, fugitive dust from land clearing and grading operations would result in large releases of particulate matter. Such impacts would be MODERATE to LARGE during certain preconstruction periods and activities that would be temporary and brief in duration. Otherwise, impacts on ambient air quality from preconstruction would be SMALL for all hazardous air pollutants (HAPs) and all criteria pollutants except particulates. Air quality impacts during construction would be SMALL for all HAPs and all criteria pollutants.

During operations, the proposed EREF would not be a major source of air emissions, although there is a potential for small gaseous releases associated with operation of the process that could contain UF_6, hydrogen fluoride (HF), and uranyl fluoride (UO_2F_2). Also, small amounts of nonradioactive air emissions consisting of carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM), volatile organic compounds (VOCs), and sulfur dioxide (SO_2) would be released:

- from the auxiliary diesel electric generators to supply electrical power when power from the utility grid is not available

- during building and equipment maintenance activities

- from trucks, automobiles, and other vehicles in use onsite

Air emissions are not expected to impact regional visibility. Ambient air modeling predicts that impacts on ambient air quality from the routine operation of the proposed EREF would be SMALL with respect to all criteria pollutants and all HAPs.

During decommissioning, impacts would result from emissions including fugitive dust (mitigated by dust suppression work practices) and CO, NO_x, PM, VOCs, and SO_2 from transportation equipment and would be SMALL.

Geology and Soils

SMALL. Impacts on about 240 hectares (592 acres) of land would occur primarily during preconstruction, as a result of soil-disturbing activities (blasting, excavating, grading, and other activities) that loosen soil and increase the potential for erosion. Because these impacts are short-term and can be mitigated, impacts on geology and soils would be SMALL. Construction activities could cause short-term impacts such as an increase in soil erosion at the proposed site. Soil erosion could result from wind action and rain, although rainfall in the vicinity of the proposed site is low. Compaction of soils due to heavy vehicle traffic would increase the potential for soil erosion via runoff. Impacts would be SMALL.

Impacts on soils during operations at the proposed facility would also be SMALL because activities would not increase the potential for soil erosion beyond that for the surrounding area. The impacts to soil quality from atmospheric deposition of pollutants during operations would be SMALL.

Land disturbance associated with decommissioning could temporarily increase the potential for soil erosion at the proposed EREF site, resulting in impacts similar to (but less than) those during the preconstruction/construction phase. As a result, impacts to soils due to decontamination and decommissioning activities would be SMALL.

Water Resources

SMALL. During preconstruction and construction, stormwater runoff would be diverted to a stormwater detention basin, thus the potential for contaminated stormwater discharging to water bodies on adjacent properties is low. No surface water sources would be used. Natural surface water bodies are absent within and near the proposed EREF site, and groundwater occurs at depths of 202 meters (661 feet) to 220 meters (722 feet). Annual maximum groundwater usage rates from the Eastern Snake River Plain (ESRP) aquifer in Bonneville County during preconstruction and construction comprise about 16 percent of the annual water right appropriation that has been transferred to the proposed property for use as industrial water. Therefore, impacts on surface water quality, the regional water supply, and groundwater quality during preconstruction and construction would be SMALL.

Water usage rates during operations would remain well within the water right appropriation. Both average and peak annual water use requirements would be less than 1 percent of the total groundwater usage from the ESRP aquifer. No process effluents would discharge to the retention or detention basins or into surface water. Therefore, liquid effluents would have a

SMALL impact on water resources. Because all the water discharged to the Cylinder Storage Pads Stormwater Retention Basins would evaporate, the basins would have a SMALL impact on the quality of water resources. The site Stormwater Detention Basin seepage would also have a SMALL impact on water resources of the area because no wastewater would be discharged to the basin.

Since the usage and discharge impacts to water resources during the decommissioning phase would be similar to those during construction, the impacts to water resources would remain SMALL.

Ecological Resources

SMALL TO MODERATE. Preconstruction activities such as land clearing could result in direct impacts due to habitat loss and wildlife mortality as well as indirect impacts to ecological resources in surrounding areas, primarily from fugitive dust and wildlife disturbance. Approximately 75 hectares (185 acres) of sagebrush steppe habitat and 55 hectares (136 acres) of nonirrigated pasture would be eliminated. Impacts on plant communities and wildlife from preconstruction would be MODERATE. Construction activities that could impact ecological resources include constructing the proposed UF_6 storage pads and EREF buildings. However, most construction activities would occur in areas that would have already been disturbed by preconstruction activities. Impacts on vegetation would occur primarily from any additional vegetation clearing. Impacts would include the generation of fugitive dust, spread of invasive species, changes in drainage patterns, soil compaction, erosion of disturbed areas, potential sedimentation of downgradient habitats, and accidental releases of hazardous or toxic materials (e.g., fuel spills). These activities could also result in some wildlife mortality and would cause other wildlife to relocate as a result of noise, lighting, traffic, and human presence. Collisions with construction equipment and other vehicles may cause some wildlife mortality. No rare or unique plant communities, or threatened or endangered species, have been found or are known to occur on the proposed site, although habitat on the proposed property is known to be used by greater sage-grouse (a Federal candidate species). Construction (and preconstruction) activities are not expected to result in population-level impacts on any Federally listed or State-listed species, which the U.S. Fish and Wildlife Service has stated are not present on the proposed EREF property. Impacts of construction of the proposed facility would be SMALL.

Operation of the proposed EREF could result in impacts on wildlife and plant communities as a result of noise, lighting, traffic, human presence, air emissions, and retention/detention ponds. However, these impacts would be SMALL.

Vegetation and wildlife that became established near the proposed facility could be affected by decommissioning activities. Impacts during decommissioning would be similar to those during construction and would be SMALL.

Noise

SMALL. Most of the major noise-producing activities (site clearing and grading, excavations [including the use of explosives], utility burials, construction of onsite roads [including the US 20 interchanges], and construction of the ancillary buildings and structures) would occur during

preconstruction. Noise impacts from initial preconstruction activities may exceed established standards at some locations along the proposed EREF property boundary for relatively short periods of time. However, because of the distances involved, expected levels of attenuation, application of mitigation measures, and the expected limited presence of human receptors at these locations, the impacts of noise during preconstruction would be SMALL for human receptors. The nearest resident is located approximately 7.7 kilometers (4.8 miles) east of the proposed site. No residence is expected to experience unacceptable noise levels during construction. Noise impacts from construction may exceed established standards at some offsite locations for relatively short periods of time. However, because of the distances involved, expected levels of attenuation, and AES's commitment to appropriate mitigations, the impacts would be SMALL for human receptors. During the overlap period when partial operations begin while building construction continues, noise impacts from construction and operation are expected to be additive, but still substantially reduced from noise levels during initial construction.

Major noise sources associated with facility operation include the six diesel-fueled emergency generators, commuter traffic, the movement of delivery vehicles, and operation of various pumps, compressors, and cooling fans. Operational noise estimates at the proposed property boundary satisfy all relevant or potentially relevant U.S. noise standards and guidance. Residents in the vicinity of US 20, who would otherwise be unaffected by noise from the proposed EREF industrial footprint, would be impacted by slightly increased traffic noise. Noise impacts from proposed EREF operation would be SMALL.

Noise sources and levels during decommissioning would be similar to those during construction, and peaking noise levels would be expected to occur for short durations. As a result, noise impacts from decommissioning would be SMALL.

Transportation

SMALL TO MODERATE. Preconstruction activities for the proposed EREF would cause an impact on the local transportation network due to the construction of highway entrances, the daily commute of workers, daily construction deliveries, and waste shipments. Traffic slowdowns or delays would only be expected to occur at the entrance to the proposed EREF during access road construction and shift changes; the impacts on overall traffic patterns and volumes would be MODERATE on US 20 and SMALL on Interstate 15 (I-15). The primary impact would be increased traffic on nearby roads. Impacts during construction would occur from transportation of personnel, construction materials, and nonradiological waste. All traffic to and from the proposed EREF during preconstruction and construction would use US 20. Construction activities at the proposed EREF site could result in a 55 percent increase in traffic volume on US 20 (including the period when construction and operations overlap). Because traffic volume is expected to remain below the design capacity of I-15 and traffic slowdowns or delays would only be expected to occur at the entrance to the proposed EREF during shift changes, the impacts on overall traffic patterns and volumes during construction would be SMALL to MODERATE on US 20 and SMALL on I-15. For the most part, the impacts from the truck traffic to and from the proposed site during construction would be SMALL.

Operations impacts would occur from the transport of personnel, nonradiological materials, and radioactive material to and from the proposed EREF, especially during the period when

construction and operation overlap. Increased traffic during facility operation would have a SMALL to MODERATE impact on the current traffic on US 20 (SMALL for any off-peak shift change). The impacts of truck traffic to and from the proposed site during operation would be SMALL. Annual transportation routine impacts and accident risks (radiological and chemical) would be SMALL.

Traffic during the initial portion of the decommissioning would be approximately the same as for the period when construction and operations overlap. Traffic after the cessation of operations would be less than during either construction or operation. Impacts on local traffic on US 20 would be SMALL to MODERATE.

Public and Occupational Health

SMALL. During preconstruction, impacts on occupational safety resulting from injuries, illnesses, and exposures to fugitive dust, pollutants, and vapors would be SMALL, based on estimates of the number of incidents. During construction, nonradiological impacts could include injuries and illnesses incurred by workers and impacts due to exposure to chemicals or other nonradiological substances. All such potential impacts would be SMALL because all activities would take place under typical construction workplace safety regulations. No radiological impacts are expected during facility construction.

Nonradiological impacts during facility operation include worker illnesses and injuries and impacts from worker or public exposure to hazardous chemicals used or present during operations, mainly uranium and HF. Due to low estimated concentrations of uranium and HF at public (proposed property boundary) and workplace receptor locations, nonradiological impacts due to exposures to hazardous chemicals (including uranium and HF) during operations would be SMALL.

Assessment of potential radiological impacts from facility operations considers both public and occupational exposures to radiation, and includes exposures to workers completing the facility construction during initial phases of operation. Exposure pathways include inhalation of airborne contaminants, ingestion of contaminated food crops, direct exposure from material deposited on the ground, and external exposure associated with the stored UF_6 cylinders. Impacts from exposure of members of the public would be SMALL. Worker exposures would vary by job type, but would be carefully monitored and maintained as low as reasonably achievable (ALARA) and impacts would be SMALL.

For a hypothetical individual member of the public at the proposed EREF property boundary and the nearest resident, the maximum annual total effective dose equivalents would be 0.014 millisievert per year (1.4 millirem per year) and 2.1×10^{-6} millisievert per year (2.1×10^{-4} millirem per year), respectively. Dose equivalents attributable to operation of the proposed EREF would be small compared to the normal background radiation range of 2.0 to 3.0 millisieverts (200 to 300 millirem) dose equivalent. This equates to radiological impacts during proposed EREF operation that would be SMALL.

The nature of decommissioning activities would be similar to that during construction and operation. Impacts from occupational injuries and illnesses and chemical exposures would be SMALL. Occupational radiological exposures would be bounded by the potential exposures

during operation, because the quantities of uranium material handled would be less than or equal to that during operations. An active environmental monitoring and dosimetry (external and internal) program would be conducted to maintain ALARA doses to workers and to individual members of the public. Therefore, the impacts of decommissioning on public and occupational health would be SMALL.

Waste Management

SMALL. Solid nonhazardous wastes generated during preconstruction would be transported offsite to an approved local landfill. Hazardous wastes (e.g., waste oil, greases, excess paints, and other chemicals) generated during preconstruction would be packaged and shipped offsite to a licensed treatment, storage, and disposal facility (TSDF). Impacts from nonhazardous solid waste and hazardous waste generation during preconstruction would be SMALL due to the available current or future capacity at local and regional disposal facilities. Construction would generate about 6116 cubic meters (8000 cubic yards) of nonhazardous solid waste per year, not including recyclable materials such as scrap structural steel, sheet metal, and piping. About 23,000 liters (6200 gallons) and 1000 kilograms (2200 pounds) of hazardous waste would be generated annually. The impacts of nonhazardous and hazardous waste generation during construction would be SMALL due to the available current or future capacity at local and regional disposal facilities.

During operation, approximately 70,307 kilograms (154,675 pounds) of industrial, nonhazardous, nonradioactive solid waste and approximately 146,400 kilograms (322,080 pounds) of low-level radioactive waste (not including depleted UF_6) are expected to be generated annually. The proposed facility would also generate approximately 5062 kilograms (11,136 pounds) of hazardous wastes and 100 kilograms (220 pounds) of mixed waste annually. All wastes would be transferred to offsite licensed waste disposal facilities with suitable disposal capacity. The impacts of this waste generation would be SMALL.

During peak operation, the proposed EREF is expected to generate 1222 cylinders of depleted UF_6 annually, which would be temporarily stored on an outdoor cylinder storage pad in approved Type 48Y containers before being transported to a DOE-owned or private conversion facility. Storage of uranium byproduct cylinders at the proposed EREF would occur for the duration of, but not beyond, the proposed facility's 30-year operating lifetime. The impacts from temporary storage of depleted UF_6, from the conversion of depleted UF_6 to U_3O_8 at an offsite location, and from the transportation of the U_3O_8 conversion product to a potential disposal site would be SMALL.

During decommissioning, radioactive material from decontamination of contaminated equipment would be packaged and shipped offsite for disposal. Wastes to be disposed would include 7700 cubic meters (10,070 cubic yards) of low-level radioactive waste. Due to the availability of adequate disposal capacity, waste management impacts would be SMALL.

Socioeconomics

SMALL. Employment and income impacts were evaluated using an 11-county ROI in Idaho – including Bannock, Bingham, Blaine, Bonneville, Butte, Caribou, Clark, Fremont, Jefferson, Madison, and Power Counties. Wage and salary spending and expenditures associated with

materials, equipment, and supplies would produce income and employment and local and State tax revenue, resulting in a beneficial impact. Preconstruction would create 308 jobs and $11.9 million in the first year, and 1687 jobs would be created during the peak year of construction with $65.0 million of income. Operations would produce 3289 jobs and $92.4 million in income in the first year of full operations. The jobs created include jobs at the proposed EREF and those indirectly created elsewhere in the 11-county ROI due to preconstruction, construction, and operation of the proposed EREF. Because preconstruction and construction activities would constitute less than 1 percent of total 11-county ROI employment, the economic impact of constructing the proposed EREF would, therefore, be SMALL.

As it is anticipated that a number of workers will move into the area during each phase of the proposed project, with the majority of the demographic and social impacts associated with population in-migration likely to occur in Bingham and Bonneville Counties, the impacts of the proposed EREF on population, housing, and community services are assessed for a two-county ROI, consisting of Bingham and Bonneville Counties. The migration of workers and their families into surrounding communities would affect housing availability, area community services such as healthcare, schools, and law enforcement, and the availability and cost of public utilities such as electricity, water, sanitary services, and roads resulting in an adverse impact. Because of the small number of in-migrating workers expected during preconstruction, construction, and operations, the impact on housing and community and educational services employment would be SMALL.

Decommissioning would provide continuing employment opportunities for some of the existing workforce and for other residents of the 11-county ROI. Additional, specialized decommissioning workers would also be required from outside the 11-county ROI. Expenditures on salaries and materials would contribute to the area economy, although less than during operations, and the State would continue to collect sales tax and income tax revenues. The socioeconomic impact of decommissioning activities would be SMALL.

Environmental Justice

SMALL. The potential impacts of the proposed EREF would mostly be SMALL for the resource areas evaluated. For these resources areas, the impacts on all human populations would be SMALL. Potential impacts would be SMALL to MODERATE or MODERATE in a few cases, which could potentially affect environmental justice populations; and there would be LARGE, though intermittent, short-term impacts from fugitive dist during preconstruction. However, as there are no low-income or minority populations within the 4-mile area around the proposed facility, these impacts would not be disproportionately high and adverse for these population groups.

Impacts of decommissioning would be SMALL. Because impacts on the general population would generally be SMALL to MODERATE in other resource areas, and because there are no low-income or minority populations defined according to Council on Environmental Quality (CEQ) guidelines within the 4-mile area around the proposed facility, decommissioning would not be expected to result in disproportionately high or adverse impacts on minority or low-income populations.

Accidents

SMALL TO MODERATE. Six accident scenarios were evaluated in this EIS as a representative selection of the types of accidents that are possible at the proposed EREF. The representative accident scenarios selected vary in severity from high- to intermediate-consequence events and include accidents initiated by natural phenomena (earthquake), operator error, and equipment failure. The consequence of a criticality accident would be high (fatality) for a worker in close proximity. Worker health consequences are low to high from the other five accidents that involve the release of UF_6. Radiological consequences to a maximally exposed individual (MEI) at the Controlled Area Boundary (proposed EREF property boundary) are low for all six accidents including the criticality accident. Uranium chemical exposure to the MEI is high for one accident and low for the remainder. For HF exposure to an MEI at the proposed property boundary, the consequence of three accidents is intermediate, with a low consequence estimated for the remainder. All accident scenarios predict consequences to the collective offsite public of less than one lifetime cancer fatality. Impacts from accidents would be SMALL to MODERATE. Plant design, passive and active engineered and administrative controls, and management of these controls would reduce the likelihood of accidents.

POTENTIAL ENVIRONMENTAL IMPACTS OF THE NO-ACTION ALTERNATIVE

This EIS also considers the potential environmental impacts of the no-action alternative, which are summarized below. It is assumed that preconstruction activities have taken place under the no-action alternative. The impact conclusions presented in this EIS for the no-action alternative address the impacts of denying the license, but do not include the impacts of the NRC-approved preconstruction activities. This is because a decision by the NRC not to issue the license does not cause the impacts of preconstruction under the no-action alternative. As described in Chapter 4, the anticipated environmental impacts from the no-action alternative would range from SMALL to MODERATE.

Should the nation's need for enriched uranium continue to increase and necessitate the construction and operation of another domestic enrichment facility at an alternate location, impacts could occur for each resource area and could range from SMALL to LARGE. The nature and scale of these impacts could be similar to those of the proposed action, but would depend on several facility- and site-specific factors.

Land Use

SMALL. Under the no-action alternative, AES would purchase the proposed property and restrictions on grazing and agriculture would occur. The zoning designation for the property would remain G-1 Grazing whether or not the proposed EREF is constructed. Current land uses of grazing and farming could potentially resume. Impacts to local land use would be SMALL.

Historic and Cultural Resources

SMALL TO MODERATE. Under the no-action alternative, the proposed EREF would not be constructed. Site MW004 would not be affected by NRC's licensing action, and Section 106 of the *National Historic Preservation Act* would not apply because no Federal action would be

involved. However, the removal of site MW004, which has already occurred, resulted in a LARGE impact because the site no longer exists; but because AES removed this site through professional excavation and data recovery and there are other homestead sites of this type found in the region, the impact has been mitigated to a MODERATE level. No visual or noise effects would occur to the viewshed for the Wasden Complex.

Visual and Scenic Resources

SMALL. Under the no-action alternative, since the proposed EREF would not be constructed, no visual intrusions to the existing landscape would occur. The current land cover would be altered, but no large industrial structures would be constructed. The existing natural character of the area would largely remain intact. The lack of development would be consistent with BLM's VRM Class I designation for the Hell's Half Acre WSA, and no intrusions to the Wasden Complex viewshed would occur.

Air Quality

SMALL. Under the no-action alternative, the air quality impacts associated with construction and operation of the proposed EREF would not occur. The proposed site could revert to agricultural activities, which would impact ambient air quality through the release of criteria pollutants from the operation of agricultural vehicles and equipment and the release of fugitive dusts from the tilling of soils. Local air impacts associated with the no-action alternative would be SMALL.

Geology and Soils

SMALL. Under the no-action alternative, no additional land disturbance from construction would occur, and the proposed site could revert to crop production and grazing activities. Wind and water erosion would continue to be the most significant natural processes affecting the geology and soils at the proposed site. Impacts would be SMALL.

Water Resources

SMALL. Under the no-action alternative, additional water use may or may not occur, depending on future plans for the proposed property. Water resources would be unchanged. Water usage could continue at the current rate should agricultural activities resume at the proposed site. No changes to surface water quality would be expected, and the natural (intermittent) surface flow of stormwater on the proposed site would continue. No additional groundwater use or adverse changes to groundwater quality would be expected. Impacts would be SMALL.

Ecological Resources

SMALL. Most impacts on ecological resources would occur during preconstruction. The potential impacts associated with the construction, operation, and decommissioning of the proposed EREF would not occur. Revegetation of the proposed site could occur with renewal of some wildlife habitat. The land could revert to crop production and grazing activities. Impacts would be SMALL.

Noise

SMALL. Under the no-action alternative, none of the noise impacts associated with proposed EREF construction, operation, or decommissioning would occur. Land uses on the proposed EREF site could revert to previous applications, livestock grazing and/or crop production, with concomitant noise levels and SMALL impacts.

Transportation

SMALL. Under the no-action alternative, traffic volumes and patterns would remain unchanged from existing conditions. The current volume of radioactive material and chemical shipments from other sources in the area would not increase. Impacts would be SMALL.

Public and Occupational Health

SMALL. Under the no-action alternative, health impacts from construction, operation, and decommissioning would not occur. Worker and public impacts from chemical and radioactive hazards would also not occur. Should the land be returned to grazing and agriculture, current use impacts would be expected and would be SMALL.

Waste Management

SMALL. Under the no-action alternative, no proposed EREF construction, operational, or decommissioning wastes (including sanitary, hazardous, low-level radioactive wastes, or mixed wastes) would be generated or require disposition. Impacts from waste management would be SMALL.

Socioeconomics

SMALL. Under the no-action alternative, any beneficial or adverse consequences of the proposed action would not occur. All socioeconomic conditions in the 11-county ROI would remain unchanged. Impacts would be SMALL.

Population in the area surrounding the proposed EREF, in Bonneville and Bingham Counties, is expected to grow in accordance with current projections, with the total population in the region projected to be approximately 156,491 in 2013 and 168,331 in 2017. In association with population growth, the social characteristics of the region, including housing availability, school enrollment, and availability of law enforcement and firefighting resources, are expected to change over time. However, future changes in these characteristics are difficult to quantify, and no projections of their future growth are available.

Environmental Justice

SMALL. The no-action alternative would not be expected to cause any high and adverse impacts. It would not raise any environmental justice issues.

Accidents

SMALL. Under the no-action alternative, potential accidents and accident consequences from operation of the proposed EREF would not occur. Impacts would be SMALL.

COSTS AND BENEFITS OF THE PROPOSED ACTION

While there are national energy security and fiscal benefits associated with the proposed action, and local socioeconomic benefits in the 11-county ROI in which the proposed EREF would be located, there are also direct costs associated with the preconstruction, construction, and operation phases of the proposed project, as well as impacts on various environmental resources. These impacts would mostly be SMALL, and in a few cases SMALL to MODERATE, or MODERATE in magnitude and small in comparison to the local and national benefits of the proposed action. In addition, most of the impacts to environmental resources associated with the proposed action would result from preconstruction activities at the proposed site, and would also occur under the no-action alternative. The principal socioeconomic impact or benefit of the proposed EREF project would be an increase in employment and income in the 11-county ROI. Although the majority of the costs, and most of the socioeconomic impacts, of the various phases of proposed EREF development would occur in the 11-county ROI, there would be economic, fiscal and, in particular, energy security benefits, which would occur at the local, State, and national levels.

Average employment created in the 11-county ROI during the year of peak construction is estimated at 1687 full-time jobs, with $0.7 million in State income tax revenues and $5.1 million in State sales taxes. During the proposed EREF full operations phase beginning in 2022, 3289 annual jobs would be created. During this period, the State of Idaho would benefit from $1.3 million annually in income taxes, while Bonneville County would collect $3.5 million annually in property tax receipts. Although it can be assumed that some portion of paid State sales and income taxes would be returned to the 11-county ROI under revenue-sharing arrangements between each county and the State government, the exact amount that would be received by each county cannot be determined. Although there are economic and fiscal benefits associated with the proposed action in the 11-county ROI, these impacts would be SMALL.

The direct costs associated with the proposed action may be categorized by the following life-cycle stages: facility construction, operation, depleted uranium disposition, and decommissioning. In addition, costs would be incurred for preconstruction activities under both the proposed action and the no-action alternative. In addition to monetary costs, the proposed action would result in impacts on various resource areas, which are considered “costs” for the purpose of this analysis. The resource areas and corresponding impacts are described in detail in Chapter 4 of this EIS. As discussed earlier, the impacts of preconstruction and the proposed action would mostly be SMALL, and in a few cases SMALL to MODERATE, or MODERATE, for all resource areas.

The proposed action could result in the maximum annual production of 6.6 million SWUs of enriched uranium in peak years, which would represent an augmentation of the domestic supply of enriched uranium and, along with other planned new enrichment facilities, would meet the need for increased domestic supplies of enriched uranium for national energy security. Thus,

the proposed action would generate national and regional benefits and costs. The national benefit would be an increase in domestic supplies of enriched uranium that would assist the national energy security need. The regional benefits would be increased employment, economic activity, and tax revenues in the 11-county ROI. Costs associated with the proposed project are, for the most part, limited to the resource areas in the 11-county ROI.

COMPARISON OF THE PROPOSED ACTION AND NO-ACTION ALTERNATIVE

The impacts of the proposed action and the no-action alternative are briefly summarized and compared below. A more detailed summary and comparison is provided in Chapter 2, Table 2-6. As discussed earlier, it is assumed that the previously discussed preconstruction activities take place under both alternatives and, therefore, the impacts associated with preconstruction activities take place regardless of which alternative is selected. As a result, the comparison of alternatives presented below and in Chapter 2 is intended to highlight the differences between the two alternatives after preconstruction activities have occurred.

Under the no-action alternative, the proposed EREF would not be constructed, operated, and decommissioned in Bonneville County, Idaho. The Paducah Gaseous Diffusion Plant in Paducah, Kentucky, the URENCO USA facility in Lea County, New Mexico, and the downblending of highly enriched uranium under the Megatons to Megawatts Program would remain the sole sources of domestically generated low-enriched uranium for U.S. commercial nuclear power plants. The URENCO USA facility is still under construction and with the ACP, which is currently under construction, may provide additional enrichment services in the future. The license application for an additional enrichment facility, the proposed GLE Facility, is currently under review by the NRC. Foreign enrichment sources would be expected to continue to supply approximately 85 percent of U.S. nuclear power plants' demand until new domestic enrichment facilities are constructed and operated.

The no-action alternative would have SMALL impacts on land use, visual and scenic resources, air quality, geology and soils, water resources, ecological resources, noise, transportation, public and occupational health, waste management, socioeconomics, environmental justice, and facility accidents, and SMALL to MODERATE impacts on historic and cultural resources. The costs and benefits of constructing, operating, and decommissioning the proposed EREF would not occur. Additional domestic enrichment facilities could be constructed in the future with impacts expected to be SMALL to LARGE, depending on facility- and site-specific conditions.

In comparison to the no-action alternative, the proposed action would also have SMALL impacts on land use, air quality, geology and soils, water resources, ecological resources, noise, public and occupational health, waste management, socioeconomics, and environmental justice, but would have SMALL to MODERATE impacts on historic and cultural resources, visual and scenic resources, transportation, and facility accidents. The proposed action would have positive impacts in the region on employment and income, and on State and Federal tax revenues.

CUMULATIVE IMPACTS

This EIS also considers cumulative impacts that could result from the proposed action when added to other past, present, and reasonably foreseeable future actions (Federal, non-Federal, or private). No ongoing or planned developments were identified within 16 kilometers (10 miles)

of the proposed project location, which includes the ROI for all affected resource areas except socioeconomics, which extends to an 80.5-kilometer (50-mile) radius. Proposed developments within 80.5 kilometers (50 miles) that could contribute to a regional socioeconomic impact in combination with the proposed project include the proposed Mountain States Transmission Intertie, a proposed 500-kV electrical transmission line running between western Montana and southeastern Idaho. The preferred route lies approximately 40 kilometers (25 miles) to the west of the proposed EREF site, running north-south. Two other alternate routes lie closer, the nearest running adjacent to the western boundary of the proposed EREF property just outside of INL property, and the other route crossing US 20 about 10 miles east of the proposed EREF site. In addition, impacts from the construction of a proposed new 161-kV transmission line, a substation, and substation upgrades for the proposed EREF are addressed as cumulative impacts in this EIS, as this action is not under the NRC's jurisdiction and, therefore, not considered by the NRC to be part of the proposed action. In general, the anticipated cumulative impacts from the proposed action would be SMALL. Cumulative impacts associated with the no-action alternative would be generally less than those for the proposed action, except in terms of local job creation.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Preconstruction activities and the proposed action would result in unavoidable adverse impacts on the environment. These impacts would mostly be SMALL and SMALL to MODERATE or MODERATE in a few cases, with the potential for temporary and brief LARGE impacts on air quality from fugitive dust, and would, in most cases, be mitigated. The area needed for construction and operation of the proposed EREF would be cleared of vegetation, which would lead to the displacement of some local wildlife populations. There would be temporary impacts from preconstruction and the construction of new facilities, including increased fugitive dust, increased potential for soil erosion and stormwater pollution, and increased vehicle traffic and emissions. Water consumption from onsite wells would be relatively small, and the risk for significant adverse impacts on neighboring residential wells or public supply wells would be SMALL. During operations, workers and members of the public could be exposed to radiation and chemicals, although the impacts of these exposures would be SMALL.

Preconstruction and the proposed action would necessitate short-term commitments of resources and would permanently commit certain other resources (such as energy and water). This EIS defines short-term uses as generally affecting the present quality of life for the public (i.e., the 30-year license period for the proposed EREF) and long-term productivity as affecting the quality of life for future generations on the basis of environmental sustainability. The short-term use of resources would result in potential long-term socioeconomic benefits to the local area and the region.

Workers, the public, and the environment would be exposed to increased amounts of hazardous and radioactive materials over the short term from operations of the proposed EREF. Construction and operation would require a long-term commitment of terrestrial resources, such as land, water, and energy. Short-term impacts would be minimized by the application of appropriate mitigation measures. Upon the closure of the proposed EREF, AES would decontaminate and decommission the buildings and equipment and restore them for unrestricted use. Continued employment, expenditures, and tax revenues generated during the proposed action would directly benefit the local, regional, and State economies.

Irreversible commitment of resources refers to resources that are destroyed and cannot be restored, whereas an irretrievable commitment of resources refers to material resources that once used cannot be recycled or restored for other uses by practical means. The proposed action would include the commitment of land, water, energy, raw materials, and other natural and human-generated resources. Following decommissioning, the land occupied by the proposed facility would likely remain industrial beyond license termination. Water required during preconstruction and the proposed action would be obtained from new and existing wells at the proposed EREF property and would be replenished through natural mechanisms. Wastewaters would be treated to meet applicable standards and would evaporate. Energy used in the form of electricity and diesel fuel would be supplied through new infrastructure connecting to existing systems in the Idaho Falls area. The specific types of construction materials and the quantities of energy and materials used cannot be determined until final facility design is completed, but it is not expected that these quantities would strain the availability of these resources.

During operation of the proposed EREF, natural UF_6 would be used as feed material, requiring the mining of uranium (not licensed by the NRC) and other front end operational steps in the uranium fuel cycle (licensed by the NRC). This use of uranium would be an irretrievable resource commitment.

Even though the land used to construct the proposed EREF would be returned to other productive uses after the proposed facility is decommissioned, there would be some irreversible commitment of land at other offsite locations used to dispose of solid wastes generated by the proposed facility. In addition, wastes generated during the conversion of depleted UF_6 produced by the proposed facility and the depleted uranium oxide conversion product from the conversion of depleted UF_6 would be disposed at a licensed offsite LLRW disposal facility. Land used for disposal of these materials would represent an irreversible commitment of land. No solid wastes or depleted uranium oxide conversion product originating from the proposed EREF would be disposed of on the proposed EREF property. When the proposed facility is decommissioned, some building materials would be recycled and reused. Other materials would be disposed of in a licensed and approved offsite location, and the amount of land used to dispose of these materials would be an irretrievable land resource.

ACRONYMS AND ABBREVIATIONS

^{234}U	uranium-234 (U-234)
^{235}U	uranium-235 (U-235)
$^{235}UF_6$	uranium-235 hexafluoride
^{238}U	uranium-238 (U-238)
$^{238}UF_6$	uranium-238 hexafluoride
AAC	acceptable ambient concentration
AASHTO	American Association of State Highway and Transportation Officials
ACHP	Advisory Council on Historic Preservation
ACP	American Centrifuge Plant
ADAMS	Agencywide Documents Access and Management System
AERMOD	AMS/EPA Regulatory Model
AES	AREVA Enrichment Services, LLC
ALARA	as low as reasonably achievable
ANSI	American National Standards Institute
APE	Area of Potential Effect
Argonne	Argonne National Laboratory
ASTM	American Society of Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
AVLIS	Atomic Vapor Laser Isotope Separation
BEA	U.S. Bureau for Economic Analysis
BLM	U.S. Bureau of Land Management
BLS	U.S. Bureau of Labor Statistics
BMP	best management practice
BSPB	Blending, Sampling, and Preparation Building
CAA	*Clean Air Act*
CAB	Centrifuge Assembly Building or Controlled Area Boundary
CaF_2	calcium fluoride
Cal/EPA	California Office of Environmental Health Hazard Assessment
CCS	Center for Climate Studies
CDC	Centers for Disease Control and Prevention
CEDE	committed effective dose equivalent
CEQ	Council on Environmental Quality
CFR	U.S. *Code of Federal Regulations*
CH_4	methane
CTF	Centrifuge Test Facility
CO	carbon monoxide
CO_2	carbon dioxide
CREP	Conservation Reserve Enhancement Program
CWA	*Clean Water Act*
CY	calendar year
D&D	decontamination and decommissioning
DDT	dichlorodiphenyltrichloroethane

DEM	Digital Elevation Model
DNFSB	Defense Nuclear Facilities Safety Board
DNL	day/night average noise level
DOC	U.S. Department of Commerce
DOE	U.S. Department of Energy
DOEQAP	DOE Quality Assurance Program
DOL	U.S. Department of Labor, U.S. Bureau of Labor Statistics
DOT	U.S. Department of Transportation
EA	Environmental Assessment
EDE	effective dose equivalent
EIA	Energy Information Administration
EIS	Environmental Impact Statement
EMP	Effluent Monitoring Program
EPA	U.S. Environmental Protection Agency
ER	Environmental Report
ERDA	Energy Research and Development Administration
EREF	Eagle Rock Enrichment Facility
ESA	*Endangered Species Act*
ESRP	Eastern Snake River Plain
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
FGR	Federal Guidance Report
FR	*Federal Register*
FTE	full-time equivalent
FWCA	*Fish and Wildlife Coordination Act*
FWS	U.S. Fish and Wildlife Service
GAO	U.S. General Accounting Office
GCRP	U.S. Global Climate Change Research Program
GDP	Gaseous Diffusion Plant
GE	General Electric
GEVS	Gaseous Effluent Ventilation System
GHG	greenhouse gas
GLE	Global Laser Enrichment
GWP	Global Warming Potential
HAP	hazardous air pollutant
HEPA	high-efficiency particulate air
HEU	high-enriched uranium
HF	hydrogen fluoride or hydrofluoric acid
HFC	hydrofluorocarbon
HPS	Health Physics Society
HRCQ	Highway Route Controlled Quantity
HVAC	heating, ventilating, and air conditioning
HUD	U.S. Department of Housing and Urban Development

I	Interstate
IAC	*Idaho Administrative Code*
ICRP	International Commission on Radiological Protection
IDAPA	*Idaho Administrative Procedures Act*
IDC	Idaho Department of Commerce
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDWR	Idaho Department of Water Resources
IGS	Idaho Geological Survey
INL	Idaho National Laboratory
IPCC	Intergovernmental Panel on Climate Change
IPCS	International Programme on Chemical Safety
IROFS	Items Relied on for Safety
IS	*Idaho Statutes*
ISA	Integrated Safety Analysis
ISAC	Idaho Sage-grouse Advisory Committee
ISACTAT	Idaho Sage-grouse Advisory Committee Technical Assistance Team
ISCORS	Interagency Steering Committee on Radiation Standards
ISTC	Idaho State Tax Commission
ITD	Idaho Transportation Department
IWRB	Idaho Water Resource Board
LCF	latent cancer fatality
L_{dn}	day/night maximum average sound level
L_{eq}	equivalent sound level
LES	Louisiana Energy Services
LEU	low-enriched uranium
LLRW	low-level radioactive waste
LOS	level of service
LTTS	Low Temperature Take-off Stations
LWR	light water reactor
MAPEP	Mixed Analyte Performance Evaluation Program
MCL	maximum contaminant level
MCNP	Monte Carlo N-Particle
MDC	minimum detectable concentration
MDEQ	Montana Department of Environmental Quality
MEI	maximally exposed individual
MFC	Materials and Fuels Complex
MLIS	molecular laser isotope separation
MOA	Memorandum of Agreement
MRI	Midwest Research Institute
MSL	mean sea level
MW(e)	Megawatt electric
NAAQS	National Ambient Air Quality Standards
NCDC	National Climatic Data Center
NCES	National Center for Education Statistics

NCRP	National Council on Radiation Protection and Measurements
NEF	National Enrichment Facility
NELAC	National Environmental Laboratory Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NEPA	*National Environmental Policy Act of 1966*
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	*National Historic Preservation Act of 1966*
NIOSH	National Institute of Occupational Safety and Health
NIST	National Institute of Standards and Technology
NLCD 1992	National Land Cover Data 1992
NMFS	National Marine Fisheries Service
NMVOC	nonmethane volatile organic compound
NNL	National Natural Landmark
N_2O	nitrous oxide
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO_x	nitrogen oxides
NPCR	National Program of Cancer Registries
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRC	U.S. Nuclear Regulatory Commission
NRCP	National Council on Radiation Protection
NRCS	U.S. Natural Resources Conservation Service
NRHP	*National Register of Historic Places*
NWS	National Weather Service
O_3	ozone
OECD	Organisation for Economic Co-operation and Development
OEL	occupational exposure levels
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbon
Pb	lead
PCB	polychlorinated biphenyl
PFC	perfluorocarbon
PGA	peak ground acceleration
PM	particulate matter
$PM_{2.5}$	particulate matter equal to or smaller than 2.5 micrometers in diameter
PM_{10}	particulate matter equal to or smaller than 10 micrometers in diameter
PNNL	Pacific Northwest National Laboratory
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
PWR	pressurized water reactor
RAB	Restricted Area Boundary
RAI	Request for Additional Information
RCRA	*Resource Conservation and Recovery Act*

REMP	Radiological Environmental Monitoring Program
RMP	Rocky Mountain Power or range management plan
ROI	region of influence
ROW	right-of-way
SAAQS	State Ambient Air Quality Standards
SARA	*Superfund Amendments and Reauthorization Act*
SBM	Separations Building Module
SDWA	*Safe Drinking Water Act*
SER	Safety Evaluation Report
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Office(r)
SILEX	separation of isotopes by laser excitation
SMCL	secondary maximum contaminant level
SO_2	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasures
SPL	sound pressure level
SUNSI	Sensitive Unclassified Non-Safeguards Information
SVOC	semivolatile organic compound
SWPPP	Stormwater Pollution Prevention Plan
SWU	separative work unit
TEDE	Total Effective Dose Equivalent
TI	transportation index
TLD	thermoluminescent dosimeter
TRAGIS	Transportation Routing Analysis Geographic Information System
TSB	Technical Support Building
TSDF	treatment, storage, and disposal facility
U_3O_8	triuranium octaoxide
UO_2F_2	uranyl fluoride
UBC	uranium byproduct cylinder
UF_4	uranium tetrafluoride
UF_6	uranium hexafluoride
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
URENCO	URENCO Group
USACE	U.S. Army Corps of Engineers
U.S.C.	*United States Code*
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USEC	U.S. Enrichment Corporation
USGS	U.S. Geological Survey
USSLWG	Upper Snake Sage-grouse Local Working Group
VOC	volatile organic compound
VRI	visual resource inventory

VRM	visual resource management
VTM	vehicle miles traveled
WSA	Wilderness Study Area

APPENDIX A
ENVIRONMENTAL SCOPING SUMMARY REPORT

ENVIRONMENTAL IMPACT STATEMENT SCOPING PROCESS

SCOPING SUMMARY REPORT

Proposed AREVA Enrichment Services, LLC
Eagle Rock Enrichment Facility
Bonneville County, Idaho

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1. INTRODUCTION

On December 30, 2008, AREVA Enrichment Services LLC (AES) submitted its original application to the U.S. Nuclear Regulatory Commission (NRC) for a license to construct, operate, and decommission a gas centrifuge uranium enrichment facility to be located near Idaho Falls, Idaho. An Environmental Report was also submitted by AES at that time. On April 24, 2009, AES resubmitted its application to request an increase in enrichment capacity.

If licensed, the facility would enrich uranium for use in manufacturing commercial nuclear fuel for use in power reactors. Feed material would be natural (not enriched) uranium in the form of uranium hexafluoride (UF_6), which contains the uranium-235 isotope. AES proposes to use centrifuge technology to enrich this isotope in the UF_6 to up to 5 percent by weight. The centrifuge would operate at below atmospheric pressure and would have a capacity up to 6.6 million separative work units (SWU). The enriched UF_6 would be transported to a fuel fabrication facility, while the depleted UF_6 would be stored onsite until it is sold, disposed of commercially, or taken by the U.S. Department of Energy.

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) on the proposed facility as part of its decision making process. The EIS will examine the potential environmental impacts associated with the proposed AES facility in parallel with the review of the license application. In addition to the EIS, the NRC staff will prepare a Safety Evaluation Report (SER) on health and safety issues raised by the proposed action. The SER will document the NRC staff evaluation of the safety of the activities proposed by AES in its license application and the compliance with applicable NRC regulations.

On May 4, 2009, NRC published a Notice of Intent in the *Federal Register* (74 *Federal Register* 20508-20509) to prepare an EIS and to conduct the public scoping process, in accordance with the NEPA process. The scoping process is designed to help determine the range of actions, alternatives, and potential impacts to be considered in the EIS, and to 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 June 4, 2009, the NRC staff held a public scoping meeting in Idaho Falls, Idaho, to receive both oral and written comments from interested parties. The meeting began with the staff providing a description of the NRC's role, responsibilities, and mission. This was followed by an overview of the licensing process, including information on the safety review and environmental review processes. Also, NRC staff provided Information on the means for the public's participation. Most of the meeting time was spent taking comments from attendees regarding the scope of the environmental review.

After publishing the draft EIS, NRC will invite the public to comment on that document. NRC will announce the availability of the draft EIS, the dates of the public comment period, and information about the public meeting in the *Federal Register*, on NRC's AREVA Enrichment Services Gas Centrifuge Facility Web site (http://www.nrc.gov/materials/fuel-cycle-fac/arevanc.html), and in the local news media. 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 enrichment facility.

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This report summarizes the determinations and conclusions reached in the scoping process. It 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, organizations, and the public. Section 3 identifies the issues that the draft EIS will address, and Section 4 identifies issues that are not within the scope of the draft EIS. Where appropriate, Section 4 also identifies other occasions 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

The public scoping process is an important component in determining the major issues that the NRC should address in the draft EIS. The comments provided by the public addressed several subject areas related to the proposed AES facility and the development of the draft EIS.

Members of the public were able to submit comments on the scope of the AES enrichment facility EIS by e-mail, postal mail, and by speaking and/or submitting written comments at the public scoping meeting held in Idaho Falls, Idaho, on June 4, 2009. The scoping period began on May 4, 2009 and ended June 19, 2009.

Comments were received from 131 individuals or organizations. Approximately 120 individuals not affiliated with the NRC attended the June 4, 2009, public scoping meeting.

Most of the scoping comments (89) were received by e-mail; 37 people provided oral comments at the scoping meeting (two of these had also sent e-mail comments); and 7 people sent their comments by postal mail. Some people used more than one submittal method; they were not counted twice. The scoping meeting transcript (ML 091980464) and the written comments are available on NRC's Electronic Reading Room Web site at http://www.nrc.gov/reading-rm.html.

In addition to private citizens, commenters included:

- Shoshone-Bannock Tribes
- A representative of the Governor of Idaho
- Representatives for Idaho's U.S. Senators
- A representative for the U.S. Congressman, 2nd District of Idaho
- Three members of the Idaho State House of Representatives
- A member of the Idaho State Senate
- The mayor of Idaho Falls
- U.S. Environmental Protection Agency, Region 10
- Greater Idaho Falls Chamber of Commerce
- Bonneville County Commissioners
- Representatives of other organizations and businesses, including:
  - A Partnership for Science and Technology
  - Auto Building Trade and Construction Council

– Carpenter and Millwright Local Union, No. 808
– Cooper, Roberts, Simonsen Associates
– Diversified Metal Products
– Eastern Idaho Regional Medical Center
– Forde Johnson Oil Company
– Friends of the Earth
– Grow Idaho Falls
– Healthy Environmental Alliance of Utah (HEAL Utah)
– Idaho Conservation League
– Idaho Falls Regional Development Alliance
– Idaho Families for the Safest Energy
– Idaho State University
– International Brotherhood of Electrical Workers, Local 449
– Mayor's Youth Advisory Council (Idaho Falls)
– Snake River Alliance
– Tri-Valley Cares

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

- NEPA and public participation
- Need for the proposed facility
- Alternatives
- Ecology
- Air quality and climate
- Geology and seismicity
- Water
- Land use and visual resources
- Human health
- Nuclear waste and hazardous materials
- Socioeconomics and cost
- Cultural resources and environmental justice
- Transportation
- Accidents
- Nonproliferation and security issues
- Cumulative impacts, and
- Miscellaneous topics

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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 AES or issues that are more appropriately considered in the SER. Comments of this type are taken into consideration by the NRC staff, but they do not point to significant 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 involving the proposed action. For instance, general statements of support for or opposition to the proposed project fall into this category. Again, comments of this type have been noted but are not used in defining the scope and content of the 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

General comments supporting the facility: Nearly 50 percent of commenters expressed general support for the project. Many commenters provided specific reasons for their support, including: (1) the need for a domestic supply of enriched uranium to power the Nation's current and future nuclear reactors; (2) the need to produce more nuclear energy, which would reduce greenhouse gases and reduce the country's dependence on foreign oil; (3) the region's qualified workforce and long history in nuclear-related research and development; (4) the safety and efficiency of centrifuge technology; (5) the benefits to employment and other economic factors; and (6) AREVA's track record regarding safe operations, environmental stewardship, and community relations.

General comments opposing the facility: Approximately 30 percent of commenters stated their opposition to the project; in general, they stated that the increased risks to people and the environment outweighed the economic benefits. Many commenters mentioned that they thought AREVA had a poor track record in France, specifically they claimed that there had been routine dumping of radioactive liquids into the English Channel and a series of recent (2008) radioactive leaks and spills that were not reported to the public in a timely manner. Some commenters claimed that AREVA's mining activities in Niger over the past 40 years had depleted the local drinking water and radioactively contaminated the ground in the nearby town.

General concerns: Several commenters who were supportive of the proposed action noted that there were legitimate questions about potential environmental impacts that must be addressed in the draft EIS. Many commenters identified specific resource areas for which impacts should be addressed in the draft EIS. These included socioeconomic issues, water and air quality, waste management, noise, land use, geology and soils, cultural and environmental justice, ecology, public and occupational health, transportation, and security infrastructure impacts. More details on these issues can be found in the following sections of this scoping summary report.

The NRC staff will consider the comments provided during development of the EIS for the facility.

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2.2.1 NEPA and Public Participation

Several commenters requested that public meetings be held in additional locations across the State to provide people throughout Idaho with the opportunity to comment on the proposal. Boise was mentioned most often, with commenters stating that it was the State capital and main population center. Other Idaho locations mentioned included Twin Falls, Coeur d'Alene, and the Wood River Valley. One commenter requested that meetings also be held in the Greater Yellowstone ecosystem area (specifically Wyoming), since that region's tourist industry could be adversely affected by having a nuclear facility in the vicinity.

Commenters pointed out that the impacts of the enrichment facility would not be limited to the Idaho Falls region. Most frequently mentioned were the tax incentives for the AREVA project that some thought were passed by the Idaho State Legislature and would affect Idahoans statewide. Other reasons given were that regions outside of Idaho Falls could be affected by accidents at the facility and by radioactive waste disposal.

Commenters mentioned the need to provide a forum in which the public could discuss and be informed about the radioactive wastes that the facility would generate, how the wastes would be handled, and the differences between the enriched uranium used to power reactors and the enriched uranium used for bombs.

2.2.2 Need for the Proposed Facility

Several made the general comment that uranium enrichment was needed for clean energy (nuclear power). On the other hand, a number of commenters wanted the EIS to include an in-depth analysis of the actual need for the proposed enrichment facility. They stated that the analysis should consider current and projected worldwide uranium enrichment capacity, the continuing downblending of surplus highly enriched uranium (HEU) in Russia and U.S. weapons stockpiles, and the current and projected number of nuclear power plants. In addition, mixed oxide fuel should be analyzed as another fuel supply. One commenter asked if plutonium, thorium, or other nuclear fuels could displace existing or potential demand for enriched uranium - will there be enough fuel capacity to serve the needs of future nuclear power plants without constructing the proposed facility.

Several commenters questioned the need for the proposed enrichment facility, given that there are renewable energy sources (solar, wind, biomass, geothermal, and hydropower) that are more environmentally friendly than nuclear power. One commenter stated that energy-need projections should take energy conservation and increased energy efficiencies into account.

2.2.3 Alternatives

One commenter stated that all reasonable alternatives should be evaluated, including ones that are outside the legal jurisdiction of the NRC, and that the EIS should discuss the reasons for eliminating alternatives that are not evaluated in detail. Reasonable alternatives should include, but are not limited to, alternative sites and different enrichment techniques. The commenter asked that the environmental impacts of the proposed action and no-action alternative be presented in comparative form and that the impacts of each alternative action be listed with corresponding mitigation measures.

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Another commenter wanted the increased downblending of U.S and Russian HEU, as well as plutonium- and thorium-based fuels, to be analyzed as alternatives to the Eagle Rock Enrichment Facility (EREF). The analysis should include costs and environmental impacts.

2.2.4 Ecology

A few commenters raised concerns about endangered and sensitive species in the vicinity of the proposed facility. They stated that the NRC should try to site facilities and infrastructure to avoid areas of critical habitat for species of concern and that a mitigation plan should be prepared for impacts that could not be avoided.

Commenters were particularly concerned about increased habitat fragmentation, since the project area contains habitat that is crucial to sagebrush obligate species. One commenter noted that the sagebrush steppe habitat is considered by Federal agencies as "imperiled" and an area of primary concern. One commenter specifically mentioned sage grouse, pygmy rabbits, sage thrasher, sage sparrow, and birds of prey and recommended avoiding construction in any designated areas or lands for special management for these species. This commenter also suggested that the project minimize impacts to big game winter habitat. There were also concerns about impacts to nesting habitat for migratory birds.

One commenter wanted further analysis of the impacts associated with the construction of two access roads from U.S. Highway 20 to the project site, specifically the additional risk associated with fire and the spread of invasive weeds.

2.2.5 Air Quality and Climate

Air quality: A few commenters were concerned about the potential release of radioactive, hazardous, and toxic materials into the air. Commenters asked that the EIS include the following: (1) detailed information about ambient air conditions, (2) data on emissions of criteria pollutants, (3) information about mitigation measures, (4) an equipment emissions mitigation plan to reduce particulates and emissions associated with construction activities, (5) an evaluation of radioactive and nonradioactive emissions, (6) details on the use and disposal of filters, and (7) information on air impacts associated with accidents. One commenter requested that the applicant include air monitoring and reporting plans, including guidance for public alerts and containment.

Climate change: One commenter stated that the EIS should discuss how climate change could potentially influence the proposed project area resources and vice versa, especially within sensitive areas. He mentioned, as examples, changes in hydrology, sea leave, weather patterns, precipitation rates, and chemical reaction rates.

2.2.6 Geology and Seismicity

Geology and soil: One commenter noted that construction of facilities and access roads may also inadvertently compact the soil or disturb it, thus compromising the ability of a site to handle the normal flow of organisms, nutrients, and toxic wastes. The commenter stated that the EIS analysis should include a detailed discussion of the "cumulative effects from this and other

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projects on the hydrologic conditions of the project area." Another commenter suggested establishing citing criteria to minimize soil disturbances and erosion on steep slopes.

Seismicity: A commenter recommended that the EIS discuss the potential for seismic risk associated with uranium enrichment activities and how this risk would be evaluated, monitored, and managed. They suggested that a seismic map be referenced or included in the EIS. The commenter stated that uranium enrichment activities could cause increased earthquake activity in tectonically active zone. Another commenter noted that eastern Idaho sits on a geologically unstable fault zone extending across southern Idaho to Yellowstone.

2.2.7 Water

Several commenters expressed concerns about adverse impacts the proposed facility would have on both surface water and groundwater. Of particular concern was the Snake River aquifer, which is located below the proposed site. The fear was that nuclear waste stored at the facility would seep into the aquifer and contaminate the groundwater.

Some commenters were concerned that water used by the facility would deplete the groundwater supply. In addition to depleting the supply, a commenter noted that the pumping action could increase existing groundwater contamination caused by seepage of toxic and radioactive contaminants into the groundwater. On the other hand, a few commenters stated that the facility would use less water than current agricultural activities.

A commenter recommended that the potential impacts to groundwater and other drinking water sources be fully analyzed and that mitigation measures be identified for significant impacts. They also stated that the EIS should document the project's "consistency with applicable stormwater permitting requirements" and include a discussion of specific mitigation measures that may be needed to reduce "adverse impacts to water quality and aquatic resources."

2.2.8 Land Use and Visual Resources

One commenter noted that the proposed AREVA facility would be located within an area of ranching and farming. There were local concerns about trespass, dust, impacts on livestock, impacts to local wells and groundwater, and traffic. Another commenter mentioned using visual resource management guidelines as an example of ways to minimize negative impacts.

2.2.9 Human Health

There were some comments related to the human health risks associated with long-term exposure to small amounts of uranium; increased risk for childhood leukemia and general concerns about cancer rates were mentioned.

One commenter questioned whether the NRC and AREVA could "scientifically demonstrate the legal requirement that this plant will not expose any member of the public to more than 10 mrem in any given year." Exposure from waste disposal was specifically mentioned. This commenter wanted the EIS to include the following: (1) an explanation as to why uranium exposure has greater health effects than are presently calculated by NRC safety standards; (2) how the alpha recoil problem is addressed by the NRC, since "alpha emitters can leak through four HEPA filters in a

row, in excess of the 99.97 percent filtering rate used presently"; and (3) a response to the complaints in the report from Centers' for Disease Control and Prevention (CDC's) SENES group on the understatement of fluoride toxicity at Oak Ridge.

Another commenter wanted the EIS to describe the measures that would be taken to ensure that workers involved in the transport of radioactive materials would be protected, including those loading and unloading shipments.

2.2.10 Nuclear Waste and Hazardous Materials

Radioactive waste: Nearly 40 percent of the commenters mentioned the need to address the impacts (environmental and economic) associated with long-term storage of the nuclear waste that would be produced by the enrichment process. There were concerns that the proposed facility would be adding to the nuclear waste that is already being stored at Idaho National Laboratory, particularly since no permanent nuclear waste depository has been designated. Many commenters noted that depleted uranium is hard to store safely and becomes "more radioactive over time." Another commenter pointed out that, although the depleted uranium becomes more radioactive over time due to radioactive ingrowth, the level of radioactivity never exceeds that found in natural uranium ore deposits.

Commenters noted that the NRC is still in the process of preparing specific rules for the depleted uranium waste stream. One commenter stated that the draft EIS should include a discussion of the rulemaking process and how (or whether) the rulemaking and current licensing processes can proceed simultaneously.

Commenters wanted the draft EIS to consider the environmental impacts of a full range of disposition pathways for the depleted uranium tails, including currently available disposal sites and those that are proposed. The analyses should include indefinite storage of uranium hexafluoride, indefinite storage of some other conversion product, disposal at new-surface nuclear waste disposal sites, and disposal at deep geologic sites. Commenters wanted NRC to assess the costs of each alternative.

Some commenters asked that the draft EIS discuss the environmental impacts associated with recycle/reuse disposition pathways or deconversion of the waste to a safer form (to an oxide). They noted that the United States lacks an operational deconversion facility and that the two deconverson plants currently under construction may not be able to handle the added inventory from the Louisiana Energy Services plant in New Mexico and the proposed Eagle Rock facility.

One commenter stated that the draft EIS must provide a description of the financial assurance for the indefinite storage of the depleted uranium at the AREVA site.

Hazardous materials: A few commenters were concerned that hazardous materials from the facility would contaminate the air and water. One commenter stated that hazardous materials in retention basins have the potential to settle in sediments and be released into the air.

Commenters wanted the draft EIS to discuss the potential direct, indirect, and cumulative impacts of hazardous waste from construction and operation of the project, including waste types and volumes and transport, storage, disposal, and mitigation measures. There were also concerns about pollutants that could be associated with the ventilation system. One commenter

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asked that subsequent environmental documentation include a management plan for toxic and hazardous materials.

2.2.11 Socioeconomics and Costs

Several commenters mentioned positive socioeconomic impacts that the facility would bring to the community, particularly jobs. One commenter stated that he had looked into the increased housing, schooling, and transportation needs that would be expected during construction and operations phases and determined that the region would be able to accommodate them.

Many people commented on the costs of building and operating the facility, which would be partly covered by tax subsidies and increased electricity rates; cost overruns and delays in France, Poland, and Finland were cited as examples.

One commenter wanted the draft EIS to provide an analysis of the global market for uranium, including a scenario in which nuclear plants do not expand beyond current numbers or even decline. Another commenter noted that the economies of the Teton Valley, Jackson, WY, and West Yellowstone into Cody, WY, are fairly dependent on tourism. He asked that the EIS look at how many new jobs and how much new money would be brought into the region if the same amount of money were used to create and support small businesses.

Other commenters asked about the ramifications of foreign ownership (see Section 2.2.17, miscellaneous topics).

2.2.12 Cultural Resource and Environmental Justice

Cultural resources: One commenter stated that the EIS should describe the process and outcome of government-to-government consultation between the NRC and each of the Tribal governments in the vicinity of the project, any issues raised, and how those issues were addressed.

Another commenter noted that the proposed facility would be in close proximity to the Fort Hall Indian Reservation and within the aboriginal territories of the Shoshone-Bannock Tribes. This commenter stated that they would like the Heritage Tribal Office (HeTO) to be part of the cultural surveys of the proposed site and to be notified of any inadvertent cultural or archaeological discoveries.

A third commenter pointed out that the proposed site is in an area of rich and relatively well-preserved prehistoric and historic resources, noting the Wasden site, which is within one mile of the project area, and the relatively undisturbed and abundant archaeological sites within Idaho National Laboratory and on public and private lands in the vicinity.

Commenters pointed out that mitigation for all culturally sensitive items needed to be done and asked that contractors and permanent employees be informed about cultural regulations and Federal laws concerning artifacts and retrieving and removing historic items.

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One commenter wanted to know if AREVA will share information about transportation routes, hazards associated with shipment, and the number of shipments. He also wanted to know if AREVA would provide training to the Tribes Emergency Management and Response staff on identifying and responding to a transportation accident on the reservation.

Another commenter questioned the transportation route of product to and from the EREF and whether AREVA will share information regarding the number of shipments and hazards of the shipments, and whether the facility will provide training to the Tribes Emergency Management and Response staff to identify and respond to a transportation accident on the reservation.

Environmental justice: One commenter stated that the EIS should include an evaluation of environmental justice populations within the project area and should address the potential for disproportionate adverse impacts to minority and low-income populations. The commenter stated that the EIS should include: information describing the process used to inform communities about the project and the potential impacts on the communities; input received from the communities; and a description on how that input was used in project-related decisions. Another commenter stated that sensitive population exposure scenarios needed to be developed from the standpoint of both workers and members of the public.

2.2.13 Transportation

Some commenters asked that the EIS include an assessment of the impacts of the transportation of the facility's feedstock, product, and waste, and of transportation-related accidents, including transportation-related emissions and possible exposures. The EIS should also describe measures that will be taken to decrease the chances of a transportation accident involving radioactive material and to ensure that workers involved in the transport of radioactive materials will be protected, including those loading and unloading shipments. One commenter want the draft EIS to include information about what form the uranium will be in when it is transported to Idaho—yellowcake, gaseous uranium tetrafluoride, or uranium hexafluoride. Alternative transportation routes and modes should be analyzed; routes and modes that present a significant risk to the public and natural resources should be avoided.

One commenter stated that the EIS should provide information about the transportation of hazardous and toxic materials to and from the project site, including amounts, methods of transport, and the types of containment vessels.

Some commenters were concerned about traffic safety on portions of U.S. Highway 20 running from Idaho Falls to the proposed EREF. They pointed out that the highway already has safety issues, since it is used by large, slow-moving agricultural machinery with many access roads on both sides. The addition of construction workers and construction traffic would add to the already congested conditions and create an increased safety risk. Commenters asked that the EIS describe local transportation safety issues and suggest solutions. One commenter wanted further analysis of the impacts associated with the construction of two access roads from U.S. Highway 20 to the project site.

One commenter noted that AREVA workers would find themselves in competition for seating on airline flights that are already filled to capacity and suggested that the region pursue a carrier to establish a new service to Las Vegas.

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2.2.14 Accidents

There were a few comments concerning accidents. One commenter wanted to know how AREVA would respond to accident scenarios on the proposed site and how the public would be informed. Another was concerned about transportation accidents resulting in the release of radioactive materials to the environment and asked that the EIS describe measures that will be taken to minimize the chances of this type of accident. A third commenter stated that the draft EIS must analyze the air impacts of all potential accidents. Note: Section 2.2.13 of this summary also discusses accidents.

2.2.15 Nonproliferation and Security Issues

Nonproliferation: Several commenters were concerned that uranium enrichment could lead to the production of nuclear bombs and wondered if the use of enrichment technology could undermine U.S. efforts involving international nonproliferation.

One commenter stated that since there is a potential connection between a facility's ability to enrich uranium to fuel grade and the ability to continue enrichment to weapons grade, a proliferation analysis must be included in the draft EIS. Another commenter asked for a nonproliferation impact assessment.

A commenter stated that the analysis must include "both a technical discussion and a discussion by the U.S. Departments of State and Energy and the White House of their efforts to curtail uranium enrichment elsewhere and whether or not those efforts are affected by commercial enrichment in this country." Another commenter wanted the EIS to explain why the International Atomic Energy Agency had not been involved in the project.

Security issues: Some commenters raised concerns about fissile material (which has the potential for nuclear bomb-making) getting into the hands of terrorists and hostile countries like Iran and North Korea. They pointed out that the AREVA facility as well as the nuclear materials shipments going to and from the facility were subject to attack. One commenter asked for a detailed accounting of AREVA's plans to secure its nuclear materials at the facility and during transport. Another commenter wanted an account of the environmental impact of sabotage to the fluoride gas supply. One commenter wanted AREVA to commit to donating money to increase the local police and fire departments.

2.2.16 Cumulative Impacts

One commenter stated that the draft EIS should include a detailed discussion of the cumulative effects from this and other projects on the hydrologic conditions of the project area. On a more general level, commenters wanted the EIS to identify the current condition, describe the trend in the condition, and predict the future condition for each resource that is at risk and/or significantly impacted by the proposed project before mitigation. The EIS should identify the resources that could experience cumulative impacts, the time period over which impacts could occur, and the geographic area impacted. Parties that would be responsible for avoiding, minimizing, and mitigating adverse impacts should be identified. Another commenter wanted the draft EIS to discuss the potential direct, indirect, and cumulative impacts of hazardous waste.

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2.2.17 Miscellaneous Topics

Other potential facility operations: One commenter was concerned that AREVA would become involved in the re-enrichment of reprocessed uranium. The commenter wanted a clear statement in the draft EIS by AREVA that it would not engage in re-enrichment. If this statement could not be made, the commenter wanted the draft EIS to discuss the capacity of the plant to process contaminated reprocessed uranium, the measures to protect workers from additional radiation exposures, an analysis of unique waste streams, and the transportation risks associated with shipping the reprocessed uranium by land and sea.

Another commenter wanted the draft EIS to assess the use of the plant to separate other isotopes of uranium, such as U-233, or to purify uranium-contaminated materials.

Mining and milling operations: A few commenters wanted the EIS to fully analyze the "front end" impacts associated with the operation of the proposed enrichment facility. They wanted the draft EIS to look at the environmental and human health impacts in the communities where uranium mining and milling activities were occurring. It was noted that these activities would not likely be occurring in the United States.

Foreign ownership: A few commenters raised issues about the foreign ownership of AREVA. One commenter wondered who would pay in the event of an accident and if the United States Government would argue with France over damages. Another commenter wondered what would happen if AREVA went out of business and stated that AREVA could only survive financially if it was supported by the French government. The commenter stated that U.S. taxpayers would ultimately have to cover any damages resulting from accidents, nuclear waste, and other issues associated the facility. Another commenter was concerned that profits would go to France and not to the United States.

Facility design: One commenter advocated integrating International Atomic Energy Agency safeguards for the proposed facility at the design phase. Another commenter asked if the facility design had been approved by the NRC for use in the United States.

Comments on the Environmental Report and Safety Analysis Report: One commenter stated that AREVA had adequately addressed the safety and environmental issues in the Environmental Report submitted with the NRC application. Other commenters had areas of concern including: (1) the ability of the Idaho Falls fire department to provide timely support, given its distance from the proposed facility; (2) the adequacy of the emergency backup systems; (3) the transportation analysis; and (4) the impact analysis of ecological resources, particularly the pending Endangered Species Act listings of sage grouse and the pygmy rabbit. There was also a concern that the Environmental Report was not detailed enough to ensure the reduction of impacts or appropriate mitigation plans. Commenters asked that subsequent documents provide a more detailed analysis, particularly in the areas involving water, air, and public health.

One commenter stated that AREVA was pushing the NRC to exempt it from the requirement to provide decommissioning funding assurance for the licensed operating period of the facility. The commenter noted that the EREF Safety Analysis Report (SAR) excluded "escalation, contingency, interest, tails disposition, decommissioning, and any replacement equipment" in its cost estimates. The commenter wanted the draft EIS to discuss in detail the exemptions that were being considered, particularly those listed in the SAR.

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Power usage: One commenter wanted the draft EIS to analyze an additional load that the AREVA facility would add to the power grid. Another commenter wanted a commitment to use renewable energy sources (including nuclear power) to run the facility.

Out of scope issues: A few commenters specifically asked that issues raised that were not directly related to the assessment of potential impacts of the project, or the decision making process, be dismissed from the draft EIS and discussed elsewhere.

3. SUMMARY AND CONCLUSIONS

3.1 SCOPE OF THE EIS AND SUMMARY OF ISSUES TO BE ADDRESSED

NEPA (Public Law 91-90, 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 the NRC staff, provide useful guidance. The NRC staff has also prepared environmental review guidance to its staff for meeting NEPA requirements associated with licensing actions ("Environmental Review Guidance for Licensing Actions Associated with Office of Nuclear Material Safety and Safeguards (NMSS) Programs", NUREG -1748).

Pursuant to 10 CFR 51.71(a), in addition to public comments received during the scoping process, the contents of the draft EIS will depend in part on the 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 which 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 consideration of the economic, technical, and other benefits and costs of the proposed action and alternatives to the proposed action. 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 non-radiological effects of the proposed action and alternatives.

Pursuant to 10 CFR 51.71(e), the draft EIS will normally include a preliminary recommendation by the NRC staff with respect to the proposed action. Any such recommendation would be

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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. 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.

The goal in writing the EIS is to present the impact analyses in a manner that makes it easy for the public to understand. This 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 EIS, and explanations will be provided for determining the level of detail for different impacts. This should allow readers of the EIS to focus on issues that were determined to be important in reaching the conclusions supported by the EIS. The following topical areas and issues will be analyzed in the EIS.

- *Public and worker safety and 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 construction and operation. Impacts associated with the implementation of the proposed action will be assessed under normal operation and credible accident scenarios.

- *Alternatives.* The draft EIS will describe and assess the no-action alternative and other reasonable alternatives to the proposed action. Other reasonable alternatives to the proposed action will be considered such as alternative sites, enrichment sources, or technological alternatives to the proposed centrifuge technology.

- *Waste management.* The draft EIS will discuss the management of wastes, including byproduct materials, generated from the construction and operation of the EREF to assess the impacts of generation, storage, and disposition. Onsite storage of wastes will also be included in this assessment.

- *Depleted uranium disposition.* The draft EIS will address concerns about the depleted uranium hexafluoride material, or tails, resulting 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 this material from Idaho, and potential conversion of UF6 to U3O8 and ultimate disposition.

- *Water resources.* The draft EIS will assess the potential impacts on groundwater quality and water use due to the implementation of the proposed action.

- *Geology and seismicity.* The draft EIS will describe the geologic and seismic characteristics of the proposed EREF site. Evaluation of the potential for earthquakes, ground motion, soil stability concerns, surface rupturing, and any other major geologic or seismic considerations that would affect the suitability of the proposed site will be addressed in the SER rather than in the draft EIS.

- *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 EREF. These would include air, water, and solid waste regulations and disposal permits.

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- *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 EREF's construction and operation on the local air quality.

- *Transportation.* The draft EIS will discuss impacts associated with the transportation of construction material, centrifuges, and feed and tails during both normal transportation and transportation under credible accident scenarios. The impacts on local transportation routes due to workers, large vehicles delivering needed equipment and materials, and vehicles removing waste from the proposed facility will be evaluated in the draft EIS.

- *Accidents.* The draft EIS will analyze the potential environmental impacts resulting from credible accidents at the EREF. The SER will assess the impacts associated with credible accidents at the proposed EREF, both from natural events and human activities. Based on the analyses, the EIS will summarize the potential environmental impacts resulting from credible bounding accidents at the proposed facility.

- *Land use.* The draft EIS will discuss the potential impacts associated with the changes in land use from predominately rangeland to industrial.

- *Socioeconomic impacts.* The draft EIS will address the demography, the economic base, labor pool, housing, utilities, public services, education, recreation, and cultural resources as impacted by EREF. The hiring of new workers from outside the area could lead to impacts on 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 in the draft EIS.

- *Cost/benefits.* The draft EIS will address the potential cost/benefits of constructing and operating the EREF, and will discuss the cost/benefits of tails disposition options.

- *Cultural resources.* The draft EIS will assess the potential impacts of the proposed EREF on the historic and archaeological resources of the area and on the cultural traditions and lifestyle of Indian tribes.

- *Resource commitments.* The draft EIS will address the unavoidable adverse impacts, irreversible and irretrievable commitments of resources, and the relationship between local, short-term uses of the environment and the maintenance and enhancement of long-term productivity. In addition, associated mitigative measures and environmental monitoring will be presented.

- *Ecological resources.* The draft EIS will assess the potential environmental impacts of the proposed EREF on ecological resources including plant and animal species and threatened or endangered species or critical habitat that may occur in the area. As appropriate, the assessment will include an analysis of mitigation measures to address adverse impacts.

- *Need for the facility.* The draft EIS will provide a discussion of the need for the proposed EREF and the expected benefits.

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- *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.

4. ISSUES CONSIDERED OUTSIDE THE SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT

The purpose of an EIS is to assess the potential environmental impacts of a proposed action as part of the decision-making process of an agency-in this case, a licensing decision. As noted in Section 2.2, some issues and concerns raised during the scoping process are not relevant to the 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 EIS, however, does not mean that an issue or concern lacks value. Issues beyond the scope of the EIS either may not yet be ripe for resolution or are more appropriately discussed and decided in other venues.

Some of these issues raised during the public scoping will not be addressed in the EIS. Major categories of these issues not analyzed in detail in the EIS include nonproliferation concerns, security and safety issues, and credibility.

Some of these 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.

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APPENDIX B
CONSULTATION CORRESPONDENCE

APPENDIX B
CONSULTATION CORRESPONDENCE

B.1 Threatened and Endangered Species Consultation

June 17, 2009

Mr. Damien Miller
U.S. Fish and Wildlife Service
Eastern Idaho Field Office
4425 Burley Dr., Suite A
Chubbuck, ID 83202

Dear Mr. Miller:

SUBJECT: REQUEST FOR INFORMATION REGARDING ENDANGERED SPECIES AND CRITICAL HABITATS FOR THE PROPOSED AREVA EAGLE ROCK ENRICHMENT FACILITY LOCATED IN BONNEVILLE COUNTY, IDAHO

Dear Mr. Miller:

On December 30, 2008, AREVA Enrichment Services (AES) submitted an environmental report (ER) to the U.S. Nuclear Regulatory Commission (NRC). The ER is one part of an application for a license to authorize construction, operation, and decommissioning of a proposed uranium enrichment facility. The NRC staff is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located near Idaho Falls, Idaho in Bonneville County. The facility, if licensed, would use a gas centrifuge based technology to enrich the isotope uranium-235 in uranium hexafluoride up to 5 percent by weight. The EIS will document the impacts associated with the construction, operation, and decommissioning of the proposed facility.

NRC requests a list of threatened or endangered species or critical habitats within the action area for the proposed facility. The proposed AES parcel is approximately 1,700 hectares (4,200 acres). AES states that the facility footprint encompasses 381 hectares (941 acres) of the site for which construction, operation, and decommissioning activities will occur. The proposed site is situated within Bonneville County, Idaho, on the north side of U.S. Highway 20, about 113 km (70 miles) west of the Idaho/Wyoming State line. The coordinates for the center of the action area are 43 degrees, 35 minutes, 7.37 seconds North and longitude 112 degrees, 25 minutes, 28.71 seconds West.

We have enclosed additional background information relating to ecological resources on the site, including a map showing the action area, as it appears in the AES ER.

We intend to use the EIS process to comply with Section 7 of the Endangered Species Act of 1973, as amended. After assessing information you provide, we will determine what additional actions are necessary to comply with the Section 7 consultation process. If you have any questions or comments, or need any additional information, please contact Gloria Kulesa of my staff at 301-415-5308.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

Enclosures: .1. Ecology Field Study Report Proposed Site for the Eagle Rock Enrichment Facility
2. Ecology Field Study Report Proposed Site for the Eagle Rock Enrichment Facility – Fall 2008 Survey
3. Sage Grouse Survey Report Proposed for the Eagle Rock Enrichment Facility

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Eastern Idaho Field Office
4425 Burley Dr., Suite A
Chubbuck, Idaho 83202
Telephone (208) 237-6975
http://IdahoES.fws.gov

JUL 15 2009

USNRC
Attn: Gloria Kulesa
MS T8 F5
11545 Rockville Pike
Rockville, MD 20854

Subject: Proposed Areva Eagle Rock Enrichment Facility in Bonneville County, Idaho. SL #09-0471

Dear Ms. Kulesa:

The U.S. Fish and Wildlife Service (Service) is writing in response to your request for information about the potential impacts to endangered, threatened, proposed, and/or candidate species from the proposed Areva Eagle Rock Enrichment Facility in Bonneville County, Idaho. The Service has not identified any issues that indicate that consultation under section 7 of the Endangered Species Act of 1973, as amended, is needed for this project. This finding is based on our understanding of the nature of the project, local conditions, and/or current information indicating that no listed species are present. If you determine otherwise or require further assistance, please contact Sandi Arena of this office at (208)237-6975 ext 102.

Thank you for your interest in endangered species conservation.

Sincerely,

for Damien Miller
Supervisor, Eastern Idaho Field Office

February 18, 2010

Damien Miller
U.S. Fish and Wildlife Service
Eastern Idaho Field Office
4425 Burley Dr., Suite A
Chubbuck, Idaho 83202

SUBJECT: REQUEST FOR INFORMATION REGARDING THREATENED OR ENDANGERED SPECIES AND CRITICAL HABITATS FOR PROPOSED TRANSMISSION LINE LOCATED IN BONNEVILLE COUNTY, IDAHO, TO POWER THE PROPOSED AREVA EAGLE ROCK ENRICHMENT FACILITY

Dear Mr. Miller:

As discussed in our earlier letter to you dated June 17, 2008, AREVA Enrichment Services LLC (AES) has submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a license to construct, operate, and decommission a gas centrifuge uranium enrichment facility; and NRC is preparing an Environmental Impact Statement (EIS) in support of our licensing action for this facility. The proposed facility, the Eagle Rock Enrichment Facility (EREF), would be located in Bonneville County, Idaho, near Idaho Falls. Thank you for your July 15, 2009, response to our letter. The purpose of the present letter is to report an addition to the scope of the EREF project, a 161-kilovolt (KV) transmission line to power the facility, and request additional information for the vicinity of the proposed transmission line project.

On January 29, 2010, AES submitted supplemental information to NRC for the construction and operation of a proposed transmission line, an electrical substation, and substation upgrades. The locations of the transmission line and substations are shown in the January 29, 2010 submittal, a copy of which is enclosed. NRC's EIS for the proposed EREF will include a discussion of the impacts associated with the construction and operation of the transmission line project. NRC requests a list of threatened or endangered species and critical habitats within the action area for the proposed transmission lines and associated facilities. The action area is described below and in greater detail in the enclosure.

The new transmission line and associated structures would be located entirely on private land within Bonneville County. Rocky Mountain Power (RMP), a division of PacifiCorp, will be the builder, owner, and operator. The transmission line would originate from the existing RMP Bonneville Substation and extend in a general westward direction to the new point of service, the Twin Buttes Substation on the proposed EREF site. Beginning at the Bonneville Substation, the proposed transmission line route is west along the county road (West 65 North Street) to the existing RMP Kettle Substation, a distance of approximately 14.5 kilometers (9 miles), continuing west to the eastern portion of the EREF site, a distance of approximately 1.2 kilometer (0.75 mile), then north within the EREF site to its northern end, then west and south to the new RMP Twin Buttes Substation, for a distance of approximately 6.4 kilometers (4 miles). The area being affected by the transmission line is approximately 84 hectares (208 acres).

NRC intends to use the EIS process to comply with Section 7 of the Endangered Species Act of 1973, as amended. After assessing the information you provide, we will determine what additional actions are necessary to comply with the Section 7 consultation process.

If you have any questions regarding this request, or need additional information, please contact Stephen Lemont of my staff at 301-415-5163 or Stephen.Lemont@nrc.gov.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Enclosure:
January 29, 2010 Ltr.

Docket No: 70-7015

United States Department of the Interior
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MAR 0 9 2010

Andrea Kock
US Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Proposed Areva Eagle Rock Transmission Line Project Species List Request, Bonneville County, Idaho
SL # 10-0242

Dear Ms. Kock:

The Fish and Wildlife Service (Service) is providing you with a list of endangered, threatened, proposed, and/or candidate species, and designated critical habitat which may occur in the area of the proposed Areva Eagle Rock transmission line project located in Bonneville, County. You requested this list by letter on February 18, 2010. This list fulfills the requirements for a species list under section 7(c) of the Endangered Species Act of 1973 (Act), as amended. If the project decision has not been made within 180 days of this letter, regulations require that you request an updated list. Please refer to the species list (SL) number shown above in all correspondence and reports.

Section 7 of the Act requires Federal agencies to assure that their actions are not likely to jeopardize the continued existence of endangered or threatened species. Federal funding, permitting, or land use management decisions are considered to be Federal actions subject to section 7. If the proposed action may affect a listed species, consultation with the Service is required. Formal consultation must be initiated for any project that is likely to adversely affect a threatened or endangered species. If a project involves a major construction activity and may affect listed species, Federal agencies are required to prepare a Biological Assessment. If a proposed species is likely to be jeopardized or if proposed critical habitat will be adversely modified by a Federal action, regulations require a conference between the Federal agency and the Service. A Federal agency may designate, in writing, you or another non-Federal entity to represent them in an informal consultation.

In a decision published in the July 9, 2007 Federal Register, the Service concluded that protections for the bald eagle (*Haliaeetus leucocephalus*) under the Act were no longer warranted. Effective August 8, 2007, the bald eagle is no longer included on the list of threatened and endangered species in the lower 48 states pursuant to the Act, and has been removed from all Idaho species lists. However, the protections provided to the bald eagle under the Bald and Golden Eagle Protection Act (BGEPA, 16 U.S.C. 668) and the Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703) will remain in place. To assist with the delisting transition, the Service has developed National Bald Eagle Management Guidelines to advise land managers

and project proponents when, and under what circumstances, the protective provisions of the BGEPA and MBTA may apply to their activities. These guidelines, as well as additional information on the protection of bald eagles, are available on the Service's web site at: http://www.fws.gov/migratorybirds/baldeagle.htm. The Service also is available to provide technical assistance regarding bald eagle conservation.

In addition to listed species, transmission lines have the potential to affect migratory birds, which are afforded protection under the MBTA (40 Stat. 755; 16 U.S.C. 703-7 12). In addition to considering the potential impacts of the proposed project to listed species we recommend that you identify and implement measures to assure the project complies with the MBTA. The Service suggests your Agency review the Avian Power Line Interaction Committee's "Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006" for more information on migratory birds and transmission lines (www.aplic.org). Additionally, more information on impacts to migratory birds and/or the Service's recommendations can be found on the web at http://www.fws.gov/migratorybirds.

If you have any questions about your responsibilities under section 7 of the Act, or require further information, please contact Ty Matthews of our Eastern Idaho Field Office at (208)237-6975 extension 115. Thank you for your interest in endangered species conservation.

Sincerely,

Acting Supervisor
Eastern Idaho Field Office

Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington D.C. and Sacramento, California.

BONNEVILLE COUNTY, IDAHO

LISTED SPECIES	COMMENTS
Canada lynx *(Lynx canadensis)*	LT
Ute ladies'-tresses *(Spiranthes diluvialis)*	LT
Utah valvata snail *(Valvata utahensis)*	LE
Grizzly bear *(Ursus arctos)*	LT

PROPOSED SPECIES

None

CANDIDATE SPECIES[1]

Yellow-billed cuckoo *(Coccyzus americanus)*	C
Greater Sage-Grouse (*Centrocercus urophasianus*)	C

LE - Listed Endangered
LT - Listed Threatened
XN - Experimental/Non-essential population
PT - Proposed Threatened
C - Candidate

[1]Candidate species have no protection under the Act, but are included for your early planning consideration. Candidate species could be proposed or listed during the project planning period, and would then be covered under Section 7 of the Act. The Service advises an evaluation of potential effects on candidate species that may occur in the project area.

July 14, 2010

Mr. Ty Matthews
U.S. Fish and Wildlife Service
Eastern Idaho Field Office
4425 Burley Dr., Suite A
Chubbuck, ID 83202

SUBJECT: NOTIFICATION OF THE ISSUANCE OF AND REQUEST FOR COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED AREVA ENRICHMENT SERVICES LLC EAGLE ROCK ENRICHMENT FACILITY IN BONNEVILLE COUNTY, IDAHO

Dear Mr. Matthews:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by AREVA Enrichment Services LLC (AES) for a license to construct, operate, and decommission a uranium enrichment facility near Idaho Falls in Bonneville County, Idaho. The proposed Eagle Rock Enrichment Facility (EREF), if licensed, would use a gas centrifuge process to enrich uranium-235 isotope found in natural uranium to concentrations up to 5 percent by weight. The enriched uranium would be used to manufacture nuclear fuel for commercial nuclear power reactors.

As part of the review of the application, the NRC has prepared a Draft Environmental Impact Statement (EIS) (NUREG-1945). The Draft EIS includes an analysis of relevant environmental issues, including potential impacts on ecological resources, and documents the NRC staff's preliminary determination regarding the environmental impacts from the preconstruction (e.g., site preparation), construction, operation, and decommissioning of the proposed uranium enrichment facility. Many of the activities required to build a uranium enrichment facility do not fall within NRC's regulatory authority and, therefore, are not "construction" as defined by the NRC. Such activities are referred to as "preconstruction" activities in Title 10 of the *U.S. Code of Federal Regulations* (10CFR) 51.45(c). The proposed 161-kilovolt (kV) electrical transmission line required to provide power to the proposed EREF also falls under this category.

By letters dated June 17, 2009, and February 18, 2010, the NRC requested information from the U.S. Fish and Wildlife Service (USFWS) on Federally listed threatened or endangered species or critical habitat that may be at or in the vicinity of the proposed EREF site and proposed transmission line project, respectively. In those letters, the NRC indicated that it intends to use the EIS process to comply with Section 7 of the Endangered Species Act of 1973, as amended (ESA); and that after assessing the information provided by the USFWS, the NRC will determine what additional actions are necessary to comply with the Section 7 consultation process. The USFWS responded to these letters as follows:

- In a letter dated July 15, 2009, the USFWS stated that no listed species are present [at the EREF site], and that no issues were identified that indicate that consultation under Section 7 of the ESA is needed for this project; and

- In a letter dated March 9, 2010, the USFWS provided a list of endangered, threatened, proposed, and candidate species that may potentially occur in the area of the proposed transmission line project. That list identified the following four Federally listed species: Canada lynx (*Lynx canadensis*), Ute ladies'-tresses (*Spiranthes diluvialis*), Utah valvate snail (*Valvata utahensis*), and Grizzly bear (*Ursus arctos*). The letter also identified the Yellow-billed cuckoo (*Coccyzus americanus*) and the Greater Sage-Grouse (*Centrocercus urophasianus*) as candidate species for listing, provided information on the status of the bald eagle (*Haliaeetus leucocephalus*), and indicated the potential of the transmission lines to affect migratory birds. However, in a subsequent telephone conversation between the NRC and you on April 15, 2010, you indicated that the list of endangered, threatened, proposed, and candidate species provided by the USFWS was for Bonneville County in general; you did not believe that these species are in the vicinity of, or potentially impacted by, the transmission line project; and consultation under Section 7 of the ESA would not be needed for these species for the project.

The Draft EIS describes the NRC staff's evaluation of the potential impact of the proposed EREF project on ecological resources. Based on this evaluation, which included consideration of the information provided by the USFWS, the NRC staff's preliminary conclusion is that the preconstruction, construction, operation, and decommissioning of the proposed project would not adversely affect any of the four Federally listed species. In the context of the National Environmental Policy Act of 1969, as amended (NEPA), under which the Draft EIS was prepared, the NRC staff's preliminary determination is that the impact on ecological resources from the preconstruction, construction, operation, and decommissioning of the proposed project would be small to moderate.

In accordance with our June 17, 2009, and February 18, 2010, letters, the NRC staff is forwarding the Draft EIS to you for your review and comment. We are requesting your comments on the Draft EIS and on our preliminary conclusions regarding listed species under USFWS purview and will address your comments in the Final EIS. Please provide any information or comments on the enclosed Draft EIS that you consider appropriate under the provisions of the NEPA, ESA, and Fish and Wildlife Coordination Act of 1934, as amended, during the comment period, which ends on Monday, September 13, 2010. Comments should be submitted either by mail to the Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, Mailstop TWB-05-B01M, Washington, DC 20555-0001, or by e-mail to EagleRock.EIS@nrc.gov.

The NRC staff plans to hold a public meeting to discuss the contents of the Draft EIS on Thursday, August 12, 2010, at the Red Lion Hotel on the Falls Convention Center, 475 River Parkway, Idaho Falls, Idaho 83402. The meeting will convene at 7:30 p.m. and will continue until 10:00 p.m. The meeting will be transcribed and will include the following agenda items: (1) a brief presentation of NRC's roles and responsibilities and the licensing process, (2) a presentation summarizing the contents of the Draft EIS, and (3) an opportunity for interested government agencies, tribal governments, organizations, and individuals to provide comments on the Draft EIS. Additionally, the NRC staff will host informal discussions in an open house forum one hour before the start of the meeting, during which members of the public may meet and talk with NRC staff members. You and other USFWS staff are invited to attend.

If you have any questions or require additional information, please contact Mr. Stephen Lemont, Senior Project Manager, by phone at 301-415-5163, or by e-mail at Stephen.Lemont@nrc.gov.

Sincerely,

/RA/

Diana Diaz-Toro, Chief
Environmental Review Branch A
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

Enclosure:
Draft EIS

cc without enclosure: See next page

June 22, 2009

Mr. Cal Groen, Director
Idaho Fish and Game
600 South Walnut
Post Office Box 25
Boise, Idaho 83707

SUBJECT: REQUEST FOR INFORMATION REGARDING ENDANGERED SPECIES AND CRITICAL HABITATS FOR THE PROPOSED AREVA EAGLE ROCK ENRICHMENT FACILITY LOCATED IN BONNEVILLE COUNTY, IDAHO

Dear Mr. Groen:

On December 30, 2008, AREVA Enrichment Services (AES) submitted an environmental report (ER) to the U.S. Nuclear Regulatory Commission (NRC). The ER is one part of an application for a license to authorize construction, operation, and decommissioning of a proposed uranium enrichment facility. The NRC staff is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located near Idaho Falls, Idaho in Bonneville County. The facility, if licensed, would use a gas centrifuge based technology to enrich the isotope uranium-235 in uranium hexafluoride up to 5 percent by weight. The EIS will document the impacts associated with the construction, operation, and decommissioning of the proposed facility.

NRC requests information on the following items within the action area for the proposed facility, if available:

- Endangered or threatened species, or other species of concern to the state of Idaho, that are known to be or likely to be at the proposed AREVA site, and nearest known locations based on the element occurrence database. Attached is a preliminary list of species compiled from Idaho Fish and Game (IDFG) county lists (plants) and the IDFG Snake River Basalts Ecological Section list (animals). Habitat on the site consists of sagebrush steppe, non-native grassland (primarily crested wheatgrass and cheatgrass), and irrigated crops.

- Nearest known lek sites (based on the element occurrence database), nesting habitat, brood-rearing habitat, and winter habitat for greater sage grouse, migratory status of the local population, the number of leks nears the site, and trends.

- Information on Sagebrush Reserves (location, size, species, management) or other sensitive or rare habitats in the project vicinity.

- Information on mule deer, pronghorn, and elk herds, including seasonal habitat (such as crucial winter habitat areas), local migration routes, and concerns such as population trends.

- Important migration routes for migratory birds.

- Maps or GIS shapefiles regarding species or habitats.

- Concerns of IDFG regarding potential impacts of the proposed project.

The proposed AES parcel is approximately 1,700 hectares (4,200 acres). AES states that the facility footprint encompasses 381 hectares (941 acres) of the site for which construction, operation, and decommissioning activities will occur. The proposed site is situated within Bonneville County, Idaho, on the north side of U.S. Highway 20, about 113 km (70 miles) west of the Idaho/Wyoming State line. The coordinates for the center of the action area are 43 degrees, 35 minutes, 7.37 seconds North and longitude 112 degrees, 25 minutes, 28.71 seconds West.

We have enclosed additional background information relating to ecological resources on the site, including a map showing the action area, as it appears in the AES ER.

We intend to use the EIS process to comply with Section 7 of the Endangered Species Act of 1973, as amended. After assessing information you provide, we will determine what additional actions are necessary to comply with the Section 7 consultation process. If you have any questions or comments, or need any additional information, please contact Gloria Kulesa of my staff at 301-415-5308.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

Enclosures:
1. Special Status Plants and Species
2. Ecology Field Survey Report
3. Fall 2008 Survey
4. Sage Grouse Survey Report

cc: Paul Kjellander,
ID Office of Energy Resources

Idaho Special Status Plants and Species of Greatest Conservation Need

Earth lichen (*Catapyrenium congestum*)
Gray willow (*Salix glauca*)
Green spleenwort (*Asplenium trichomanes-ramosum*)
Iodine bush (*Allenrolfea occidentalis*)
Meadow milkvetch (*Astragalus diversifolius*)
Payson's bladderpod (*Lesquerella paysonii*)
Payson's milkvetch (*Astragalus paysonii*)
Red glasswort (*Salicornia rubra*)
Slickspot peppergrass (*Lepidium papilliferum*)
Ute ladies'-tresses (*Spiranthes diluvialis*)
Western Sedge (*Carex occidentalis*)

Utah valvata snail (*Valvata utahensis*)

Northern leopard frog (*Rana pipiens*)

Ring-necked snake (*Diadophis punctatus*)

Black-crowned night-heron (*Nycticorax nycticorax*)
Blue grosbeak (*Passerina caerulea*)
Burrowing owl (*Athene cunicularia*)
California gull (*Larus californicus*)
Ferruginous hawk (*Buteo regalis*)
Franklin's gull (*Larus pipixcan*)
Juniper titmouse (*Baeolophus ridgwayi*)
Lesser goldfinch (*Carduelis psaltria*)
Merlin (*Falco columbarius*)
Northern pintail (*Anas acuta*)
Peregrine falcon (*Falco peregrinus*)
Pinyon jay (*Gymnorhinus cyanocephalus*)
Sharp-tailed grouse (*Tympanuchus phasianellus*)
Swainson's hawk (*Buteo swainsoni*)
Virginia's warbler (*Vermivora virginiae*)
White-faced ibis (*Plegadis chihi*)
Yellow-billed cuckoo (*Coccyzus americanus*)

Canada lynx (*Lynx canadensis*)
Gray wolf (*Canis lupus*)
Great Basin ground squirrel (*Spermophilus mollis*)
Grizzly bear (*Ursus arctos*)
Idaho pocket gopher (*Thomomys idahoensis*)
Little pocket mouse (*Perognathus longimembris*)
Merriam's shrew (*Sorex merriami*)
Pygmy rabbit (*Brachylagus idahoensis*)
Spotted bat (*Euderma maculatum*)
Townsend's big-eared bat (*Corynorhinus/Plecotus townsendii*)
Townsend's pocket gopher (*Thomomys townsendii*)
Wyoming ground squirrel (*Spermophilus elegans*)

Enclosure 1

IDAHO DEPARTMENT OF FISH AND GAME
600 S. Walnut/P.O. Box 25
Boise, Idaho 83707

C.L. "Butch" Otter/Governor
Cal Groen/Director

August 4, 2009

Ms. Andrea Kock,
Chief, Environmental Review Branch
Nuclear Regulatory Commission
Washington, DC 20555-0001

RE: Request for information regarding endangered species and critical habitats for the proposed AREVA Eagle Rock Enrichment Facility located in Bonneville County, Idaho.

Dear Ms. Kock:

Idaho Department of Fish and Game (IDFG) has reviewed the above referenced request for information from the Nuclear Regulatory Commission (NRC) regarding the potential development of a uranium enrichment facility in Bonneville County, Idaho. Our interest in the project is in protecting fisheries, wildlife, plants and their habitats. To date, IDFG has been involved in this proposal as follows; (1) Our Regional Supervisor and environmental Staff Biologist from the Upper Snake Region were briefed on the potential for this project at our Idaho Falls Office in 2008 by AREVA staff while the project was still being considered, and (2) staff from the Idaho Falls office attended the Nuclear Regulatory Commission's public open house in Idaho Falls on 4 June 2009.

Resident species of fish and wildlife are the property of all citizens within the state and decisions affecting fish and wildlife therefore are the concern of all Idahoans. The Idaho Department of Fish and Game and the Idaho Fish and Game Commission, are charged with the statutory responsibility to preserve, protect, perpetuate, and manage all fish and wildlife in Idaho (Idaho Code § 36-103(a)).

Your letter contains seven information requests. We responded to those we were able to and we offer additional summary comments regarding the AREVA project.

We note that IDFG has no specific project proposal upon which to comment. The summary letter sent to us has no specifics beyond a "parcel" size, a "footprint" size, and the location of the center of the facility. This is not sufficient for us to evaluate the effects the project may have on fish, wildlife, and their habitat. You refer in your letter to an application for a license submitted to the NRC but you have not provided this application for our consideration. For IDFG to consider more general questions, such as the request for our concerns about potential impacts of the project, we will need a specific project description that depicts not only the size and location of the project but enough specifics for us to gauge potential wildlife disturbances and impacts. The proposal description should include, but not necessarily be limited to:

- Location including all boundaries, fences, developed structures, access ways such as roads and trials,
- Size of developments including buildings, parking lots, power lines, energy production facilities, etc,
- Anticipated and licensed/permitted levels of discharges from the permitted activity including light, sound, odor, and water discharges,

- Associated infrastructure such as trucking centers off-site, housing for workers (both permanent and temporary), power lines to be constructed, piping for materials, and any other construction associated with the project,
- Current land use patterns and conditions of all lands to be built upon or fenced from public and wildlife access,
- Public lands (state, federal, county, local, municipal) to be fenced or restricted in any way from public access or from fish/wildlife use. Included should be proposals to mitigate for these lands lost to the public or fish and wildlife, and
- Entire project life, license life, decommissioning and clean-up schedule and penalties for noncompliance.

We offer the following in response to your seven requests. The information provided in 1) and 2) was determined using the coordinates of the project center provided in your letter and a buffer with a radius of 8 km around that point intersected with data from the Idaho Fish and Wildlife Information System which includes data on sage-grouse, at-risk animals, and at-risk plants (Accessed July 28, 2009).

1) *Endangered or threatened species and species or other species of conern :*
The IDFG Conservation Data Center contains two individual observations of Ferruginous Hawks (*Buteo regalis*) and one nest observation for ferruginous hawks. Hibernacula for Townsend's big-eared bats (*Corynohinus townsendii*) also occur in the area. Immediately west of the west-edge of the 8 km buffer is a group of lava tube caves that are important bat roosts and hibernacula. There are no known occurrences of at-risk plant species in the immediate vicinity of the project site. The nearest known occurrences of at-risk plants is 40 km NW of the site.

2) *Nearest known sage-grouse(Centrocercus urophasianus) lek sites:*
One sage-grouse lek was identified within the 8 km buffer of the center of the project. Additional leks were identified near the site but outside the buffer area. Without knowing the extent of developments associated with this project it is not possible to gauge what sage grouse habitats the project may affect. However, both "Key Sage Grouse Habitats" and "Perennial Grasslands" habitats are found along Highway 20 and fairly near the project that might be affected by the project. These habitats are described and graphed (Fig. 4-11 page 4-49) in the Conservation Plan for the Greater Sage Grouse in Idaho which is available as follows:
http://fishandgame.idaho.gov/cms/hunt/grouse/conserve_plan/

3) *Sagebrush Reserves:*
The Idaho National Engineering and Environmental Laboratory Sagebrush Steppe Ecosystem Reserve was established by proclamation in 1999. The Proclamation was signed by Secretary of Energy Bill Richardson, (for) the Regional Director, Region 1 U.S. Fish and Wildlife Service by Richard Munoz, (for) the State Director of Idaho, Bureau of Land Management by Elena Daly, (for) the Interim Director, Idaho Fish and Game by Don Wright. The Reserve itself lies both north and south of Highway 33, but does not reach as far south as Highway 20. The management plan may be found online as follows:
http://ar.inel.gov/owa/getimage_2?F_PAGE=1&F_DOC=ID-074-02-067&F_REV=00

4. *Information on mule deer, pronghorn, and elk herds and habitats:*
   IDFG manages mule deer, pronghorn antelope, and elk by analysis units that are made up of Game Management Units (GMU). We do not have information on the property you are specifically developing, but your project would potentially be in GMU 63. We have summarized data regarding these three species in Appendix A. Aerial survey information on pronghorn in the area has been collected by consultants at Idaho National Laboratory. IDFG does not consider the location of this project to be winter range or critical range for mule deer or elk. Pronghorn do frequently use lands surrounding the proposed site throughout all seasons.

5. *Important migration routes for migratory birds:*
   IDFG is unaware of any known migratory flight corridors for birds that fall near the stated center of the project. However, upon disclosure of other project developments we may reconsider this question.

6. *Maps or GIS shapefiles regarding species or habitats:*
   IDFG has hundreds of GIS layers that we work with throughout each year. As stated, this request is too vague to respond adequately.

7. *Concerns of IDFG:*
   We appreciate being asked to comment regarding this question. However, without a complete project description as discussed above, we do not have enough information to answer this question. Upon receipt of a full disclosure of the proposal IDFG staff will begin to consider and assess impacts to fish wildlife and habitats of whatever is disclosed. This is the most important question you asked us; we hope to receive a full project description so we may fulfill this request.

We look forward to further information about this project to better accommodate your information request. If you have any questions about our technical information, please contact Gary Vecellio, Environmental Staff Biologist in our Upper Snake Regional Office, (208)525-7290.

Sincerely,

Sharon W. Kiefer

Sharon W. Kiefer
Assistant Director-Policy

SWK/kc

Enclosures

Cc: S. Schmidt, G. Vecellio, L. Hebdon, IDFG
P. Kjellander, Idaho Office of Energy Resources

Appendix A. Mule deer, pronghorn, and elk herd status.

IDFG does not conduct aerial surveys to estimate mule deer, elk or pronghorn herd sizes in Unit 63. Without aerial survey data herd sizes are tracked using harvest as an index of abundance. Hunting opportunities (season length and timing) for these species have remained stable over the last five years. For mule deer in unit 63 hunter numbers and harvest during the general any weapon season have remained fairly stable (Figure 1). There are no data to suggest that the mule deer population is declining. Elk hunter numbers and harvest in Unit 63 have increased slightly over the previous five years (Figure 2). There are no data to suggest the elk population is declining, and it may be slightly increasing. Hunter success (harvest per hunter) has increased in the Unit 63 controlled, any-weapon pronghorn hunts (Figure 3). Hunter numbers and harvest during the unit 63 general archery season pronghorn hunt have increased over time (Figure 4). There are no data to suggest that pronghorn populations are declining, and they may be increasing.

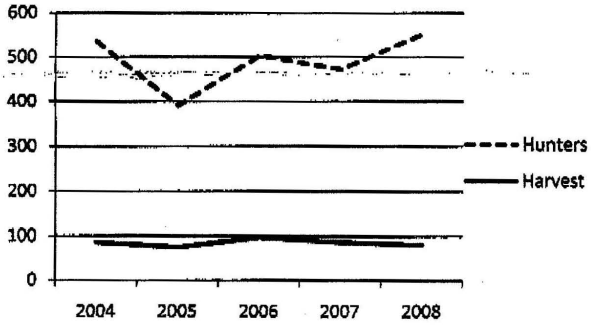


Figure 1. Unit 63 deer harvest and hunter trends from 2004 through 2008. Harvest includes whitetailed deer which averaged 31% of the harvest.

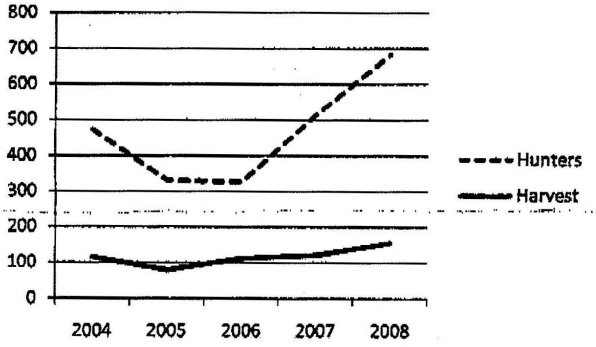


Figure 2. Unit 63 elk harvest and hunter numbers from 2004 through 2008.

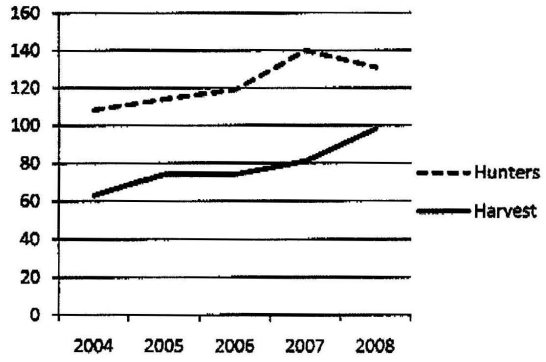


Figure 3. Unit 63 pronghorn harvest and hunter numbers for controlled hunts from 2004 through 2008.

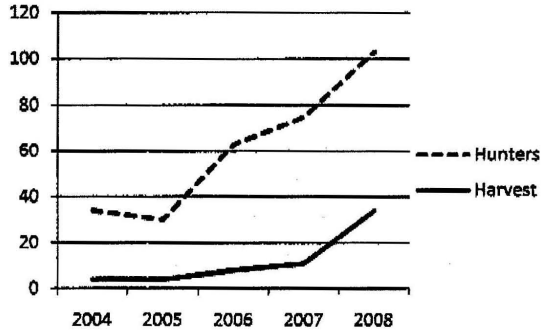
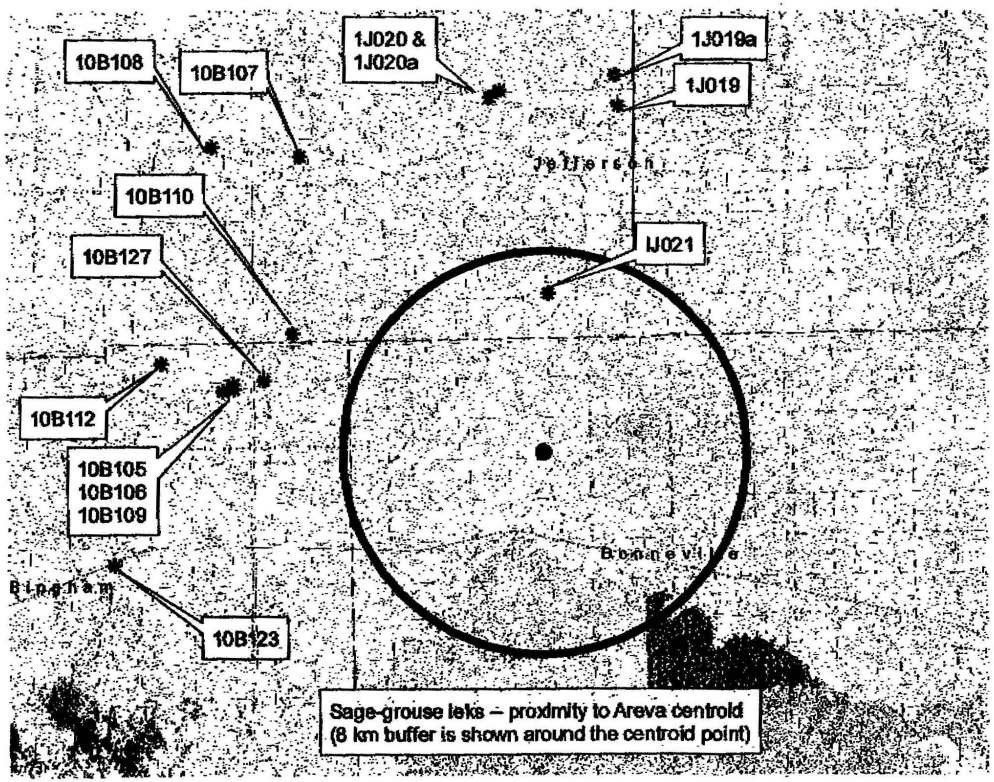


Figure 4. Unit 63 pronghorn harvest and hunter numbers for general season archery hunts from 2004 through 2008.



Location of known sage-grouse leks and 8km radius buffer associated with the center coordinates provided for the proposed Areva Uranium enrichment facility. Prepared for the Nuclear Regulatory Commission data request by Idaho Department of Fish and Game, 3 August 2009

Lemont, Stephen

From:	Lemont, Stephen
Sent:	Wednesday, February 10, 2010 8:56 AM
To:	'sharon.kiefer@idfg.idaho.gov'
Cc:	Biwer, Bruce; Van Lonkhuyzen, Robert A.
Subject:	Continuing NRC Coordination with IDFG Regarding Ecological Issues for AREVA Eagle Rock Enrichment Facility Environmental Impact Statement
Attachments:	ID_Fish_Game_response 080409.pdf; ID_Fish_Game_request 012209.pdf; AES-O-NRC-10-00263 EREF Supplemental Info Trans Line_with_figure.pdf

Sharon W. Kiefer
Assistant Director-Policy
Idaho Department of Fish and Game
600 South Walnut
P.O. Box 25
Boise, Idaho 83707

Dear Ms. Kiefer:

I am Steve Lemont, the U.S. Nuclear Regulatory Commission's (NRC's) new Project Manager for the Environmental Impact Statement (EIS) that NRC is preparing in support of its licensing action for the proposed AREVA Enrichment Services LLC (AREVA) Eagle Rock Enrichment Facility (EREF) located in Bonneville County, Idaho. Thank you for your August 4, 2009 letter in response to NRC's letter of June 22, 2009, in which the NRC requested information regarding threatened or endangered species and critical habitats at the proposed EREF project site. In your letter, you responded to the general questions we posed, but stated that the Idaho Fish and Game (IDFG) staff would need more specific project information in order to consider and assess impacts of the proposed facility to fish, wildlife, and habitats. Copies of the above referenced IDFG and NRC letters are attached for your reference.

We apologize for not getting back to you sooner regarding the request made in your letter, but there have been a number of changes here and also on the EREF project as discussed below. The purposes of this email are to follow up with IDFG regarding the proposed EREF project, to: (1) provide you with the information you requested in your August 4, 2009 letter; (2) inform you of a change to the EREF project scope involving the addition of an electrical transmission line to power the facility; and (3) request additional information from IDFG for the EREF project site, as well as information for the transmission line route, similar to that requested previously for the EREF site.

NRC requests that you provide IDFG's response to NRC's information request below within 30 days of this email if possible.

Information Requested in August 4, 2009 Letter from IDFG
In response to your August 4, 2009 letter, the information you requested can be found in the NRC website for the EREF project, at http://www.nrc.gov/materials/fuel-cycle-fac/arevanc.html. Specifically, the Environmental Report (ER) that AREVA submitted to NRC for the EREF project (Environmental Report, Rev. 1, April 2009) contains information on the entire uranium enrichment facility project (see at http://www.nrc.gov/materials/fuel-cycle-fac/eagle-rock.html), with the information you requested contained in the following sections of the ER:

- Section 2.1.2 provides the location and a detailed description of the proposed site and facility.
- Section 3.1 describes the land use of the site.
- Section 3.5 describes the ecological resources of the site.
- Section 4.4 contains a description of the retention and detention basins.
- Section 4.5 describes the potential impacts to ecological resources.
- Sage Grouse Survey Report (Environmental Report, Field Study, Sage Grouse Survey Report).

If you have any problems accessing the above information or need additional information or clarifications, please let me know.

Electrical Transmission Line to Power the EREF

Electrical service beyond that currently existing near the proposed EREF would be required to operate the EREF. AREVA submitted supplemental information to NRC dated January 29, 2010, which shows the location of the proposed 161-kilovolt transmission line and associated structures (e.g., substations and substation upgrades), and provides information regarding its construction and operation and environmental impacts (including ecological resources). That supplemental information is also attached to this email. The transmission line is part of the proposed EREF project, and the environmental impacts of the construction and operation of this line will be addressed in the EREF EIS.

The new transmission line and associated structures would be located entirely on private property within Bonneville County. Rocky Mountain Power (RMP), a division of PacifiCorp, will be the builder, owner, and operator. The line would originate from the existing RMP Bonneville Substation and extend in a general westward direction to the new point of service, the Twin Buttes Substation on the proposed EREF site. Beginning at the Bonneville Substation, the proposed transmission line route is west along the county road (West 65 North Street) to the existing RMP Kettle Substation, a distance of approximately 14.5 kilometers (9 miles), continuing west to the eastern portion of the EREF site, a distance of approximately 1.2 kilometer (0.75 mile), then north within the EREF site to its northern end, then west and south to the new RMP Twin Buttes Substation, for a distance of approximately 6.4 kilometers (4 miles). The area being affected by the transmission line is approximately 84 hectares (208 acres).

Request for Additional Information

In accordance with our letter dated June 22, 2009, NRC requests additional information from IDFG for the EREF site, on the items listed below, beyond that provided with your August 4, 2009 letter. In addition, NRC requests information on the items listed below within the action area of the proposed transmission line and associated structures as well.

- Endangered or threatened species, or other species of concern to the State of Idaho, that are known to be or likely to be present, and nearest known locations based on the element occurrence database. Habitat in these areas consists of sagebrush steppe, post-fire plantings (crested wheatgrass and other grasses), and irrigated crops.

- Nearest known lek sites (based on the element occurrence database), nesting habitat, brood-rearing habitat, and winter habitat for greater sage grouse, migratory status of the local population, the number of leks near the site, and trends.

- Information on sensitive or rare habitats in the project vicinity.

- Information on mule deer, pronghorn, and elk herds, including seasonal habitat (such as crucial winter habitat areas), and local migration routes.

- Important migration routes for birds.

- Maps or GIS shapefiles regarding species or habitats.

- Concerns of IDFG regarding potential impacts of the proposed project.

Please contact me if you have any questions or need additional information. My contact information is provided below. The NRC appreciates your assistance and cooperation in this matter.

Thank you.

Sincerely,
Steve Lemont

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

Lemont, Stephen

From: Hebdon,Lance [lance.hebdon@idfg.idaho.gov]
Sent: Wednesday, April 14, 2010 3:07 PM
To: Lemont, Stephen; Kiefer,Sharon
Cc: Vecellio,Gary; Kemner,Don; Biwer, Bruce
Subject: RE: Sage-grouse Work by Wildlife Conservation Society

Steve-
During the conference call reference was made to some sage-grouse work being conducted by the Wildlife Conservation Society (WCS) in the vicinity of the project. We made a commitment to follow-up with and determine if the information being collected would be useful for inclusion in our comments on the AREVA project. The information being collected by the WCS is still preliminary and did not add information that would change our comments. Therefore you will not see any reference to their data. If you have questions feel free to contact me.

Lance

Lance Hebdon
Inter-Governmental Policy Coordinator
Director's Office
Idaho Department of Fish and Game
208-287-2711
lance.hebdon@idfg.idaho.gov

From: Lemont, Stephen [mailto:Stephen.Lemont@nrc.gov]
Sent: Monday, March 15, 2010 2:41 PM
To: Kiefer,Sharon
Cc: Hebdon,Lance; Vecellio,Gary; Kemner,Don; Hemker,Tom; Biwer, Bruce
Subject: RE: Teleconference to Discuss Greater Sage-grouse Issues Related to the AREVA Eagle Rock Uranium Enrichment Facility Project, Bonneville County, Idaho

How about 9:00 am Mountain Time? I will provide the bridge line after you confirm. How many lines will you need?

From: Kiefer,Sharon [sharon.kiefer@idfg.idaho.gov]
Sent: Monday, March 15, 2010 11:42 AM
To: Lemont, Stephen
Cc: Hebdon,Lance; Vecellio,Gary; Kemner,Don; Hemker,Tom
Subject: RE: Teleconference to Discuss Greater Sage-grouse Issues Related to the AREVA Eagle Rock Uranium Enrichment Facility Project, Bonneville County, Idaho

Mr. Lamont – would Wednesday morning, (3/17) preferably before 10 am work? If you will provide me the bridge line, I will make sure that our headquarters and Upper Snake regional staff have the number to call in.

From: Lemont, Stephen [mailto:Stephen.Lemont@nrc.gov]
Sent: Friday, March 12, 2010 10:42 AM
To: Kiefer,Sharon
Cc: Hebdon,Lance; Biwer, Bruce M.; Van Lonkhuyzen, Robert A.
Subject: Teleconference to Discuss Greater Sage-grouse Issues Related to the AREVA Eagle Rock Uranium Enrichment Facility Project, Bonneville County, Idaho

Dear Ms. Kiefer:

The purpose of this email is to request a teleconference with your agency to discuss questions the U.S. Nuclear Regulatory Commission (NRC) and its contractor, Argonne National Laboratory (Argonne), have regarding the recent U.S. Fish and Wildlife Service Greater Sage-grouse decision as it relates to the proposed AREVA Eagle Rock uranium enrichment facility project and associated proposed electrical transmission line in Bonneville County. My last contact with you was in an email dated February 10, 2010, regarding NRC's continuing coordination with the Idaho Department of Fish and Game (IDFG) on ecological issues for the Environmental Impact Statement (EIS) that the NRC is preparing in support of its licensing action for the AREVA Eagle Rock project. We understand that Mr. Lance Hebdon of IDFG is working on responding to the information requests in that email, and we very much appreciate that effort. With regard to the sage grouse, this includes information such as the local population in the vicinity of the proposed AREVA facility and transmission line and what areas that population uses for seasonal habitat.

Regarding the teleconference, we would like to ask about IDFG's thoughts and concerns for Eastern Idaho regarding the recent sage grouse decision, and about any suggestions, requirements and/or management guidelines you may have regarding the impacts, if any, of the proposed AREVA Eagle Rock project and transmission line on the sage grouse.

Please let me know your availability (dates and times) for a conference call next week to discuss the above matters. I will provide a bridge line for the call. In addition to myself, call participants on my end will be Bruce Biwer, the Argonne Project Manager for the Eagle Rock EIS, and Bob Van Lonkhuyzen, Argonne's ecological lead.

I look forward to hearing back from you soon.

Thanks,
Steve Lemont

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

Lemont, Stephen

From: Kiefer,Sharon [sharon.kiefer@idfg.idaho.gov]
Sent: Wednesday, April 14, 2010 6:38 PM
To: Lemont, Stephen; bmbiwer@anl.gov
Cc: Hebdon,Lance; Vecellio,Gary
Subject: IDFG Response to NRC AREVA Supplemental Request
Attachments: E-mail from NRC to Sharon Kiefer regarding additional AREVA project information 2-10-2010.txt; Response to NRC AREVA transmission supplemental request Mar 2010.docx

Steve, I apologize for a bit of delay in our information response to your request. Please contact Gary, Lance or I if there are any questions or clarifications needed. We appreciated the telephone discussion regarding sage-grouse and other issues.

Sharon W. Kiefer
Idaho Department of Fish and Game
Assistant Director-Policy
sharon.kiefer@idfg.idaho.gov
please note new email address!!
208.334.3771
P.O. Box 25
Boise, ID 83707

The Idaho Department of Fish and Game (Department) is providing this information in response to a February 10, 2010 request by Stephen Lamont of the Nuclear Regulatory Commission (NRC) to Sharon Kiefer. These items are provided in supplement to the responses provided by the Department on August 4, 2009. This response incorporates potential issues related to a power line to service the infrastructure, which was not identified in 2009.

Sensitive and rare habitats or threatened species (power line only, site information previously provided)

Department staff considers the areas both north and south of your proposed power line to be important habitat for lek development, rearing, and migration of sage grouse. It is likely that a new above-ground transmission line will cause direct mortality of migrating sage grouse due to grouse striking the lines during flight. The locations of sensitive species from the Idaho Natural Heritage Database and occupied sage-grouse habitats in the vicinity of the proposed right-of-way for the power line are depicted in Figure 1. Department staff is unaware of any federally-listed species within the bounds of the project.

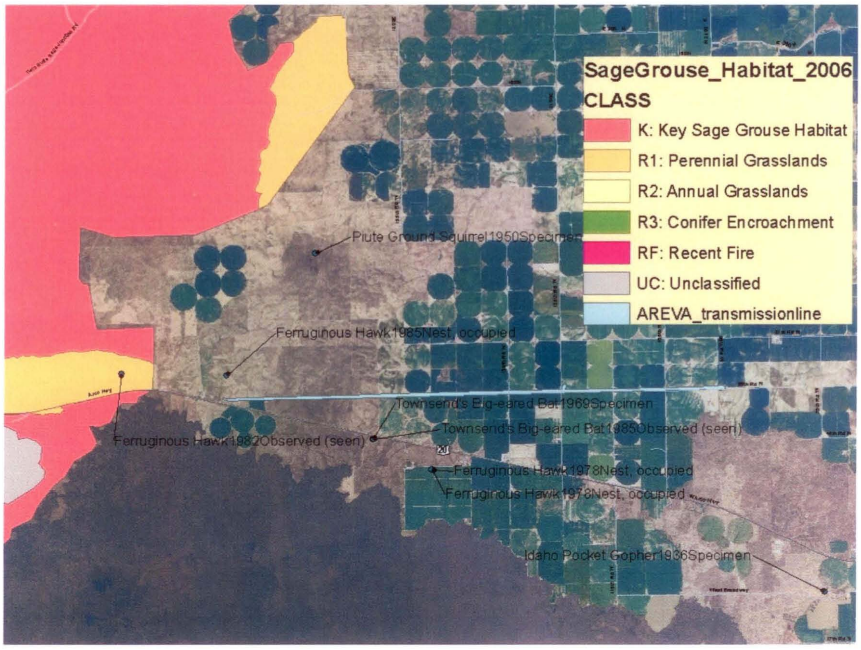


Figure 1. Location of sensitive species records from the IDFG Natural Heritage database and Sage-grouse habitat in proximity to the proposed AREVA transmission line.

Important migration routes for birds (power line only)

The addition of a power line, or an array of suspended lines will likely cause direct mortality of sage- and sharp-tailed grouse. As grouse fly across Highway 20 and over traffic during daily or seasonal migrations, we anticipate direct mortality of these birds due to collisions with newly-erected power lines. We request consideration of burying the new sections of line – this would be the most direct and effective way to avoid potential adverse effects to sage-grouse (and other flying and migrating wildlife). Power line burial has proven feasible to protect migrating sage grouse in Clark County near Small, Idaho as negotiated and constructed in 2007. This recommendation is consistent with the Idaho Sage-Grouse Conservation Plan which recommends avoiding construction of new power lines in grouse habitat or burying the line (Idaho Sage-Grouse Advisory Committee 2006) and is consistent with Department scoping comments for the Mountain States Transmission Intertie Project (available on request). If NRC and the applicant deem that it is not possible to bury the line, the Department requests that the licensee submit a proposal to the Department and USFWS describing:

1) How the line will be marked with high-visibility deflectors to reduce collisions by birds and bats,
2) How the licensee will survey the new line for the first 5 years to detect and record any sage- and sharp-tailed grouse mortality, and
3) How the licensee will mitigate for the direct loss of birds due to power line construction.

Concerns of the Department regarding potential wildlife effects of the proposed project

The Department has considered both the uranium enrichment plant and the (single) proposed power line identified in the latest version of the application. If constructed as proposed there will be various negative effects to wildlife and their habitats, as well as potential losses of public recreation benefits and use of some public lands. The Department offers the following as our assessment of likely impacts due to the project, and we request in order of preference that NRC require in the license that:

-The licensee to take measures to avoid and reduce wildlife and wildlife-related recreation impacts and subsequently,

-The licensee be required to fully mitigate for unavoidable wildlife, habitat, and wildlife-related recreational impacts due to project construction and operation.

We believe consultation with the Department and other natural resource managers would ensure implementation of effective measures to avoid, reduce, and mitigate adverse wildlife effects and ask the NRC to support such an approach.

Sage-grouse and sharp-tailed grouse

One of the documents provided was a sage-grouse survey report (MWH 2008). The stated goal of the effort was to "determine if greater sage grouse leks were in the vicinity of the site." The survey was conducted during the week of May 5. The timing of this survey is so late that it is unlikely to have detected any leks that may have been present on the property. Additionally no efforts were made to identify other potential seasonal use (nesting or brood rearing) of the property by sage-grouse. We recommend that the consultants confer with Department biologists and adopt our techniques for lek searches and monitoring. To be useful, their grouse surveys should be repeated using more effective methods.

It is likely that the proposed project will directly impact year-round sage-grouse use through fence collision mortality and habitat loss associated with power line infrastructure (previously noted) and a fenced perimeter. Additionally, it is also likely that the proposed project will indirectly affect the adjacent available sage grouse habitat due to increased road access and human use, and increased noise disturbance.

Sharp-tailed grouse are known to exist in the area; therefore, it is likely the proposed project will have impacts to sharp-tailed grouse and sharp-tailed grouse habitat similar to that of sage grouse.

The proposed power line to the Bonneville substation will likely negatively impact sage and sharp-tailed grouse populations in the area by providing additional raptor and corvid (e.g., crows and ravens) perch sites.

Big game

The Department manages the following species classified as big game species, which may be impacted negatively by the project: Mule Deer, Elk, Moose, and Pronghorn Antelope. All of these species will be affected by losses of open (mainly private) range upon which to live and forage and the forage gleaned by open range or agricultural products produced as a function of the property's original uses. Any high fence or security perimeter fence will presumably exclude these species from access to native ranges or previously accessible agricultural habitats. However, because the actual lay-out of any perimeter fence is withheld, we are uncertain of the extent of wildlife/public exclusion through fencing or actual development. Increased noise and human disturbance will cause these species to avoid the site of the enrichment plant to an unknown degree or distance. We cannot determine at this time whether loss of this area for use by big game will cause animals to just shift to new range or actually cause other change to the herd (such as productivity, etc.).

Public Lands

The Department remains very concerned about the loss of public lands to wildlife and to wildlife-related recreation access due to the project. The Bureau of Land Management (BLM) owns and manages a parcel of land entirely within the project boundary. We are unclear about the ability of wildlife or humans to access this public land during project operation. If public land resides within a fenced area or an area of 'high security' and is inaccessible to big game or humans we would urge NRC to consider this land as permanently removed from public/wildlife use. We request that the licensee negotiate with BLM to replace similar acreage to be managed by BLM for multiple uses including wildlife habitat and human recreation. We urge NRC to necessitate this using an iterative process described below.

Similarly, the Department has concerns that human access to other surrounding BLM property for recreational use will be curtailed due to high security needs at this facility. Perhaps large wildlife will also have less access, or will be less willing to use public lands adjacent to the project due to project security or human activity. If wildlife avoid public lands surrounding the project due to noise, lights, roads, or human presence due to the facility, we urge NRC to require that the licensee study and disclose these effects, and fully mitigate for lands lost to wildlife due to project effects using the iterative process described below.

Cumulative effects of the project.

The Department has concerns that activities and developments anticipated by AREVA for operations at this site have not yet been identified. Original plans for this project were given to the public, and public support sought, when the project was depicted at a smaller scale than is currently requested. At a meeting on 18 June 2008 at IDFG offices in Idaho Falls, Department staff were told by AREVA that (1) only 30 megawatts (MW) of power would be necessary to operate this plant and (2) the water use would be equal to operation of 1 center pivot during growing season. We now see that (1) 78MW of power are required as is (2) "a dual redundant electrical supply utilizing separate feeders *(not one but two lines)* is required" (Eagle Rock Enrichment Facility Appendix H Environmental Report, Paragraph 1). As such, we find that AREVA continues to modify the project and to add project components that will cause impacts to fish, wildlife, or habitats. We understand that currently, only one power line is requested for permitting and licensing (from the Bonneville Substation to the Enrichment Plant), even though the Environmental Report describes a need for two power lines for redundancy. The Department remains concerned that post-licensing, a future action of AREVA will be to request another power line. We remain concerned that the cumulative effects of all of these incremental actions will combine to further negatively affect wildlife, habitats, and recreational human use to a degree not evaluated by requests for individual actions alone in the pre-licensing phase. The second powerline, if coming from the west, might have much higher impact to sage-grouse than the line identified to date.

We advise NRC to require complete identification of all anticipated activities (all power lines, new water rights, increased roads and traffic, lighting of the plant and surrounding desert, etc) so that the Department may assess the cumulative impacts and so that NRC may necessitate adequate protections and mitigations. We also recommend NRC include future actions be covered in the "Mitigated Protections" and mitigations license language suggested below.

Negotiated protections and mitigations

We recommend and ask that NRC adopt an approach in crafting this license similar to the iterative approach of Federal Energy Regulatory Commission (FERC) when licensing new hydroelectric facilities to require the licensee to collaborate with natural resources agencies to reach agreements to minimize and mitigate adverse effects to public trust resources as a condition of the license.

To advance successful negotiations of a package of adequate natural resource protections and commensurate mitigations, we ask NRC to devise a collaborative team to work with the licensee to include the Department. We offer that the Idaho Office of Species Conservation, the USFWS, and BLM would also be appropriate agency participants.

Citation

Idaho Sage-grouse Advisory Committee. 2006. Conservation Plan for the Greater Sage-grouse in Idaho. http://fishandgame.idaho.gov/cms/hunt/grouse/conserve_plan/

Lemont, Stephen

From:	Lemont, Stephen
Sent:	Tuesday, June 08, 2010 2:57 PM
To:	'Kiefer,Sharon'
Cc:	lance.hebdon@idfg.idaho.gov; 'gary.vecellio@idfg.idaho.gov'; Kemner,Don; 'tom.hemker@idfg.idaho.gov'; KAY Jim (AREVA NP INC); Biwer, Bruce; 'Van Lonkhuyzen, Robert A.'
Subject:	Additional Sage Grouse Information for AREVA Eagle Rock Project 060810

Sharon,

After I shared the Idaho Department of Fish and Game's April 14, 2010, comments on the subject project with AREVA, AREVA commissioned North Wind, Inc. to conduct a supplementary sage grouse survey for the Eagle Rock site and transmission line right-of-way. You can access the report for that study, dated May 13, 2010, via the following download link: https://webapps.anl.gov/filetransfer/downloader/940198422265150/. (NOTE: This download link is good only for 30 days from yesterday.) Also included in the download link are the reports of four other ecological surveys that are referenced in the North Wind report, some of which you may not have seen previously.

Please contact me if you have any questions or need additional information.

Regards,
Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

From:	Lemont, Stephen
To:	Hebdon,Lance
Cc:	Kiefer,Sharon; Biwer, Bruce M.; Van Lonkhuyzen, Robert A.
Subject:	RE: Eagle Rock Enrichment Facility
Date:	Wednesday, September 08, 2010 10:04:31 AM
Attachments:	Additional Sage Grouse Information for AREVA Eagle Rock Project 060810.msg

Hi, Lance. Environmental Report (ER), Rev. 2 (AES, 2010) is a voluminous document that includes numerous appendices. In NRC's electronic document filing system, known as the Agencywide Documents Access and Management System (or ADAMS), this ER document is broken down into numerous parts. Publicly available portions of ER Rev. 2 are accessible electronically from NRC's public website for the AREVA Eagle Rock project, under License Application, at http://www.nrc.gov/materials/fuel-cycle-fac/eagle-rock.html. When you get to that web page, you will see a tabular listing of all the various parts of Rev. 2 of the license application, beginning with the parts of the Safety Analysis Report, Rev. 2. Scroll down to see the parts of Environmental Report, Rev.2; and web links to these are provided (i.e., click on the ADAMS Accession # (ML#) for each)..

I would like to point out that ER Rev. 2 is merely the original ER into which AREVA incorporated all the supplementary information it had provided to the NRC through approximately March/April 2010. I believe we already provided you with, or otherwise directed you to, all of the documentation relevant to ecology, but you are certainly free to look through what we have in the website. The supplementary sage grouse survey report that we directed you to in the attached email was provided by AREVA subsequent to, and therefore is not included in, ER Rev.2.

If you need additional assistance, please let me know.

Thanks,
Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

From: Hebdon,Lance [mailto:lance.hebdon@idfg.idaho.gov]
Sent: Wednesday, September 08, 2010 9:52 AM
To: Lemont, Stephen
Cc: Kiefer,Sharon
Subject: Eagle Rock Enrichment Facility

Stephen-
In reviewing the DEIS for the Eagle Rock Enrichment Facility I saw a reference to a

document cited as (AES, 2010) AREVA Enrichment Services, LLC. "Eagle Rock Enrichment Facility
4 Environmental Report, Rev. 2." Bethesda, Maryland. April.

Would you be able to send me an electronic copy of the report or give me a link where I can download it?

Thank you for your assistance,
Lance

Lance Hebdon
Inter-Governmental Policy Coordinator
Idaho Department of Fish and Game
208-287-2711
lance.hebdon@idfg.idaho.gov

The attachment referred to in this document is included in Section B.1 of Appendix B, directly preceding this document.

B.2 National Historic Preservation Act Consultation

June 17, 2009

Ms. Janet Gallimore, Executive Director
Idaho State Historical Society
2205 Old Penitentiary Road
Boise, Idaho 83712

SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106 PROCESS FOR AREVA EAGLE ROCK ENRICHMENT FACILITY

Dear Ms. Gallimore:

On December 30, 2008, AREVA Enrichment Services (AES) submitted an environmental report (ER) to the U.S. Nuclear Regulatory Commission (NRC). The ER is one part of an application for a license to authorize construction, operation, and decommissioning of a proposed uranium enrichment facility. The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located near Idaho Falls, Idaho in Bonneville County. The facility, if licensed, would use a gas centrifuge enrichment technology to enrich the isotope uranium-235 in uranium hexafluoride up to 5 percent by weight. The EIS that NRC is preparing will document the environmental impacts associated with the construction, operation, and decommissioning of the proposed facility.

The proposed AES parcel is approximately 1,700 hectares (4,200 acres). In November 2008, AES commissioned an archeological survey of the facility's footprint which involves approximately 381 hectares (941 acres) of the total parcel. The report is attached along with a map showing the area of potential effect, as it appears in the AES ER. As a result of the surveys, AES recorded a number of isolated finds and concluded that one find (MW004) was potentially eligible for inclusion in the National Register of Historic Places. AES proposes minimizing any adverse impacts through a mitigation plan for this find.

In the ER, AES indicated their submission of the archeological surveys to your office. As required by 36 CFR 800.4(a), the NRC is requesting the views of the State Historic Preservation Officer on any further actions necessary to identify historic properties that may be affected by the construction, operation, and decommissioning of the proposed facility, including whether find MW004 should be included in the National Register of Historic Places.

We intend to use the EIS process to comply with Section 106 of the National Historic Preservation Act of 1966, as described in 36 CFR Part 800.8. After assessing information you provide, we will determine any additional actions that are necessary to comply with the Section 106 consultation process. If you have any questions or comments, or need any additional information, please contact Gloria Kulesa of my staff on 301-415-5308.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

Enclosure: Volume Report

September 16, 2009

Ms. Susan Pengilly
Deputy State Historic Preservation Officer
Idaho State Historical Society
2205 Old Penitentiary Road
Boise, Idaho 83712

SUBJECT: NOTIFICATION OF AN EXEMPTION REQUEST FROM U.S. NUCLEAR REGULATORY COMMISSION'S (NRC) REGULATED ACTIONS SUBMITTED BY AREVA ENRICHMENT SERVICES (AES)

Dear Ms. Pengilly:

On June 11, 2009, my staff sent a letter to the office of Idaho State Historical Society requesting input on identifying any cultural or historic properties that may be affected by the construction, operation and decommissioning of the proposed facility. We look forward to receiving your written feedback soon and will incorporate the details of your response within our environmental impact statement (EIS).

In addition, we want to communicate pertinent and new information to your office. On June 17, 2009, AREVA Enrichment Services (AES) requested an exemption that would allow them to commence certain activities prior to NRC's completion of its environmental review under Title 10 of the Code of Federal Regulations, Part 51 (10 CFR 51) and the Nuclear Regulatory Commission's issuance of a Materials License for the Eagle Rock Enrichment Facility under 10 CFR 70.

NRC's approval of the exemption would permit AES to undertake the following list of actions. These actions do not affect radiological health and safety or common defense and security. As such, NRC has determined that these activities do not require a license.

- Clearing, Grading and Erosion Control
- Excavation, Including Rock Blasting and Removal
- Construction of Storm Water Detention Pond, Highway Access and Site Roads
- Installation of Utilities, Storage Tanks and Fences
- Installation of Parking Areas, Construction Buildings, Offices, Warehouses and Guardhouses.

If approved, the exemption would allow AREVA to commence the above pre-construction activities before NRC completes its licensing determination. AREVA plans on performing this pre-construction work in September 2010. The approval to perform pre-construction does not equate to approval of a license to construct, operate and decommission a facility. AREVA assumes the risk of completing these activities and then not receiving a license to construct and operate the facility.

The pre-construction activities of both the environmental impacts above and construction of the facility will be considered in NRC's environmental impact statement which will be issued after pre-construction activities begin. We will continue to communicate with you regarding important issues for NRC to consider on assessing the environmental impacts of these pre-construction and construction activities.

NRC anticipates completing its review of the exemption request by mid December 2009. If approved, AES will supplement its Environmental Report to distinguish between the environmental impacts of the construction activities covered by the exemption and construction activities which will not be undertaken until after issuance of a license by the NRC. This supplement will allow NRC staff to consider the impacts of pre-construction in its cumulative impact analysis within the EIS.

Please respond by October 15, 2009 with any comments or concerns that you may have on this subject. If you have any questions or comments with regard to this request from AES, or need any additional information, please contact Mathews George of my staff on 301-415-7065.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

February 17, 2010

Janet Gallimore
Executive Director and State Historic
Preservation Officer
Idaho State Historical Society
2205 Old Penitentiary Road
Boise, Idaho 83712

SUBJECT: CONTINUING CONSULTATION UNDER THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106 PROCESS FOR THE PROPOSED AREVA EAGLE ROCK ENRICHMENT FACILITY

Dear Ms. Gallimore:

The U.S. Nuclear Regulatory Commission (NRC) previously contacted your office by letter dated June 17, 2009, informing you of the submittal by AREVA Enrichment Services LLC (AES) of an application to the NRC for a license to construct, operate and decommission a gas centrifuge uranium enrichment facility in Bonneville County, Idaho. The proposed facility, the Eagle Rock Enrichment Facility (EREF), would be located approximately 20 miles west of Idaho Falls. As discussed in our June 17, 2009 letter, NRC is developing an Environmental Impact Statement (EIS) for the proposed EREF. The purposes of the present letter are to inform you: (1) that the project scope has been modified to include the construction and operation of a 161-kilovolt (KV) electrical transmission line needed to power the proposed EREF; and (2) of a change to the Area of Potential Effect (APE) for the EREF site.

Transmission Line

On January 29, 2010, AES submitted supplemental information to NRC for the construction and operation of a proposed transmission line, an electrical substation, and substation upgrades. The submittal updates and supersedes AES' previous transmission line addendum dated December 4, 2009, (Supplemental Information, EREF Environmental Report, Appendix H, EREF 161-KV Transmission Line Project). A Cultural Resource Inventory report was included with the December 4, 2009, supplement. NRC understands that AES sent copies of both the December 4, 2009 and January 29, 2010, submittals to your office. The locations of the transmission line and substations are shown in AES' January 29, 2010, submittal. NRC's EIS for the proposed EREF will now include a discussion of the impacts associated with the construction and operation of the transmission line and associated substations. Likewise, our Section 106 consultation for the EREF project will expand to include the proposed transmission line right-of-way and other lands needed for this line and associated structures.

The new transmission line and associated structures would be located entirely on private land within Bonneville County. Rocky Mountain Power (RMP), a division of PacifiCorp, will be the builder, owner, and operator. The transmission line would originate from the existing RMP Bonneville Substation and extend in a general westward direction to the new point of service, the Twin Buttes Substation on the proposed EREF site. In AES' updated proposal, there will be no use of Bureau of Land Management and U.S. Department of Energy (Idaho National Laboratory) lands, as there was in AES' December 4, 2009, proposal.

Beginning at the Bonneville Substation, the proposed transmission line route is west along the county road (West 65 North Street) to the existing RMP Kettle Substation, a distance of approximately 14.5 kilometers (9 miles), continuing west to the eastern portion of the EREF site, a distance of approximately 1.2 kilometer (0.75 mile), then north within the EREF site to its northern end, then west and south to the new RMP Twin Buttes Substation, for a distance of approximately 6.4 kilometers (4 miles). The area being affected by the transmission line is approximately 84 hectares (208 acres).

As discussed above, as part of its December 4, 2009, supplement, AES commissioned an archeological survey of the APE associated with the transmission line and associated structures (see Cultural Resource Inventory). This survey, which identified nine sites that are recommended potentially eligible for inclusion on the National Register of Historic Places, encompassed a large area that included much of the area of the presently proposed transmission line shown in AES' January 29, 2010, submittal. However, to NRC's knowledge, none of the nine historic properties identified are within the presently proposed transmission line right-of-way. AES stated in its January 29, 2010, submittal that there are no cultural or historical resources along the proposed transmission line corridor.

EREF Project Site APE

Additionally, AES has indicated that the APE for the EREF project site has been modified. The original APE encompassed 240 hectares (597 acres). Based on an August 28, 2009, submission by AES to NRC, an additional 26 hectares (64 acres) was added to the main project APE, increasing the EREF project site APE to 265 hectares (656 acres). The additional acreage was surveyed by AES' archaeological contractor with no historic properties identified. NRC understands that AES provided your office with a copy of the report on this survey (Amendment to: A Class III Cultural Resource Inventory of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho, Western Cultural Resource Management, Inc., August 28, 2009).

If you have any questions regarding the project, or need additional information, please contact Stephen Lemont of my staff at 301-415-5163 or Stephen.Lemont@nrc.gov.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No: 70-7015

Bruce M. Biwer
Environmental Systems Engineer
Radiological Health Risk Section

Environmental Science Division
Argonne National Laboratory
9700 South Cass Avenue, Bldg.240
Argonne, IL 60439

1-630-252-5761 phone
1-630-252-4624 fax
bbiwer@anl.gov

Argonne NATIONAL LABORATORY

April 16, 2010

Ms. Suzi Pengilly
Idaho State Historic Preservation Office
210 Main Street
Boise, ID 83702

Dear Ms. Pengilly,

Enclosed are copies of the additional documents that you indicated were needed by your office to conduct a review of the proposed AREVA Eagle Rock Enrichment Facility (EREF) in Bonneville County. The documents included are:

1) details of the proposed 161-kV transmission line required to power the EREF as provided in the February 18, 2010 submittal from AREVA Enrichment Services LLC (AES) to the U.S. Nuclear Regulatory Commission (NRC), also included are a set of higher resolution figures of the proposed transmission line corridor that were provided by AES under separate cover,

2) the MW004 treatment plan and the analysis of obsidian artifacts in the February 19, 2010 submittal from AES to the NRC (Enclosures 2 and 3, respectively, in that document), and

3) the report "AMMENDMENT TO: A CLASS III CULTURAL RESOURCE INVENTORY OF THE PROPOSED EAGLE ROCK ENRICHMENT FACILITY BONNEVILLE COUNTY, IDAHO" that details the survey of the additional 64 acres on the EREF property.

Please contact Steve Lemont at the NRC (301-415-5163 or stephen.lemont@nrc.gov) if you have any further questions.

Sincerely,

Bruce M. Biwer

Bruce M. Biwer, Ph.D.
Environmental Science Division

cc: S. Lemont, NRC
D. O'Rourke, ANL
R. Van Lonkhuyzen, ANL

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Office: (208) 334-3847
Fax: (208) 334-2775

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Old Penitentiary and Historic Sites
2445 Old Penitentiary Road
Boise, Idaho 83712-8254
Office: (208) 334-2844
Fax: (208) 334-3225
Statewide Sites
- Franklin Historic Site
- Pierce Courthouse
- Rock Creek Station & Stricker Homesite

Public Archives and Research Library
2205 Old Penitentiary Road
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Fax: (208) 334-3198
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- Research Library
- Oral History

North Idaho Office
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Moscow, ID 83843
Office: (208) 882-1540
Fax: (208) 882-1763

May 3, 2010

Stephen Lemont
Nuclear Regulatory Commission
Environmental Review Branch
U.S. Nuclear Regulatory Commission
Washington D.C., 20555-0001

RE: AREVA Eagle Rock Enrichment Facility, Bonneville County, Idaho

Dear Mr. Lemont:

Our office has received information on the expanded footprint, proposed 161 kV transmission line, and archaeological treatment plan for AREVA's proposed Eagle Rock Enrichment Facility in Bonneville County, Idaho. Our comments on each project component and associated document(s) are outlined below. We have also provided guidance on the next steps in the Section 106 review process.

1. **Expanded Footprint:** AREVA wishes to expand the originally proposed footprint for the enrichment facility by 64 acres. The expansion was surveyed by Western Cultural Resource Management and documented in a report dated August 28, 2009. Two sites and seven isolates were identified within the expansion area. We agree that sites AR-2 and AR-3 are not eligible for the National Register of Historic Places for the reasons stated in the report. Although not addressed in the report, we also recommend that the isolates (IF-19 through IF-25) are not eligible.

   Before we can accept this report, however, we will need the following: 1) two copies of the report and site forms; and 2) maps showing the site locations attached to *each* site form. These requirements apply to this submission and any future archaeological reports and forms submitted to the Idaho SHPO. For backup and local reference, we send the second copy of the report and forms to the regional repository. In this case, we will send the second copy to the Museum of Natural History in Pocatello.

2. **Transmission Line:** We received a report and site forms completed by North Wind documenting archaeological survey of two proposed alternate routes for a transmission line to the planned Eagle Rock facility.

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We found this report and the project proposal difficult to follow. To remedy this, we first recommend that the report by reformatted to discuss each alternate route separately with archaeological findings and potential effects described by route. The alternatives should be clearly marked on maps in the report.

As the preferred alternative is now known, it too can be shown on a map, and its specific findings and effects discussed in the report. It should be clearly pointed out that no federal land is involved in the preferred alternative, if that is still the case.

The environmental document presents good maps that should be included in the revised archaeological report. Also, the aerials recently sent showing the final surveyed areas (Figure 1, Sheet 1; Figure 1, Sheet 2, etc.) should be included in the revised report.

We will need to receive two copies of the revised report and two copies of each site form. A map should be attached to each site form. It appears that we do not have maps for isolate R1 and for archaeological sites R3 and R7. Archaeological site forms are filed separately from the IHSI forms, so we need a map attached to each.

What is NNR1? It appears on figure 13, but we cannot find any other reference to it.

3. **Treatment of Site MW004 and Analysis of Obsidian Artifacts:**
We support the proposed treatment of site MW004. We should receive two copies of the report that documents the investigations along with two copies of photographs and other appendices or attachments.

   We appreciate receiving the letter report on the XRF analysis.

4. **Next steps:** When the project design is finalized and all of the archaeological survey and site evaluations have been completed, the NRC should draft a Memorandum of Agreement (MOA) that outlines mitigation measures. The agreed upon Treatment Plan should be referenced as planned mitigation, and the XRF can be listed as completed mitigation. If monitoring is required, that too should be described in the MOA.

   We will be happy to review a draft of the MOA. NRC also needs to notify the Advisory Council on Historic Preservation of the adverse effect and determine the Council's participation. If the Council chooses to not participate, NRC and our office will conclude the agreement with Argonne (and/or AREVA) as concurring parties. Mitigation documentation will then be sent to our office for review and acceptance.

We appreciate your cooperation. If you have any questions, please do not hesitate to call me at 208-334-3847, ext. 107.

Sincerely,

Susan Pengilly
Deputy SHPO and
Compliance Coordinator

cc: Bruce M. Biwer, Ph.D., Environmental Science Division, Argonne National Laboratory

From:	Suzi Pengilly
To:	Lemont, Stephen
Subject:	RE: NRC Letter to ACHP re: Adverse Effect to Historic Property and MOA for AREVA Eagle Rock Enrichment Facility, Bonneville County, Idaho
Date:	Wednesday, September 01, 2010 10:11:59 AM

The letter looks very thorough and complete. IT should be all they need, and they likely won't want to be involved, but you never know.

Thanks,
Suzi.

From: Lemont, Stephen [mailto:Stephen.Lemont@nrc.gov]
Sent: Wednesday, September 01, 2010 9:09 AM
To: Suzi Pengilly
Cc: Biwer, Bruce M.; danorourke@anl.gov; Van Lonkhuyzen, Robert A.
Subject: NRC Letter to ACHP re: Adverse Effect to Historic Property and MOA for AREVA Eagle Rock Enrichment Facility, Bonneville County, Idaho

Hi, Suzi. Now that we've gotten past the completion of our Draft EIS and public meetings, the NRC staff has been able to prepare and send the subject letter to ACHP. You will be receiving a copy in the mail, but I have attached an advance copy for your reference. NRC is now in the process of drafting the MOA discussed in the letter.

By the way, thank you for your comments on our Draft EIS.

Regards,
Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

The attachment referred to in this document is provided later in Section B.2 of Appendix B. It is the letter to Mr. Reid Nelson, Director, Federal Agency Programs, Advisory Council on Historic Preservation, dated August 31, 2010.

Biwer, Bruce M.

From: Lemont, Stephen [Stephen.Lemont@nrc.gov]
Sent: Wednesday, September 29, 2010 12:21 PM
To: Suzi Pengilly
Subject: RE: Update on Section 106 Issues for the Proposed AREVA Eagle Rock Enrichment Facility Project in Bonneville County 092910

Suzi,

Do you still also need two copies of the expanded footprint report, including the site forms and maps?

Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

From: Suzi Pengilly [mailto:Suzi.Pengilly@ishs.idaho.gov]
Sent: Wednesday, September 29, 2010 12:21 PM
To: Lemont, Stephen
Subject: RE: Update on Section 106 Issues for the Proposed AREVA Eagle Rock Enrichment Facility Project in Bonneville County

Stephen,
Thank you for the update. With regard to the transmission line report, the only version that we have is dated December 4, 2009. Therefore, we still need two copies of the revised version.

Thanks,
Suzi.

From: Lemont, Stephen [mailto:Stephen.Lemont@nrc.gov]
Sent: Monday, September 27, 2010 10:12 AM
To: Suzi Pengilly
Cc: 'Biwer, Bruce M.'; O'Rourke, Daniel J.; Van Lonkhuyzen, Robert A.
Subject: Update on Section 106 Issues for the Proposed AREVA Eagle Rock Enrichment Facility Project in Bonneville County

Suzi,

The purpose of this email is to follow up on your letter to me dated May 3, 2010 (see attached) and in so doing, provide you with an update on Section 106 activities by the U.S. Nuclear Regulatory Commission (NRC) for the proposed AREVA Eagle Rock Enrichment Facility (EREF) project. Also, I want to thank you for your July 22, 2010 comments on the Draft Environmental Impact Statement (EIS), which indicated your finding that the Historic and Cultural Properties sections accurately reflect the identification efforts conducted to date under Section 106 of the National Historic Preservation Act.

The discussion below follows the order of topics addressed in your May 3, 2010 letter, and includes some questions and issues to which I need your response:

1. **Expanded Footprint:** You requested two (2) copies of the August 28, 2009 report by Western Cultural Resource Management, including site forms and maps showing the site locations attached to *each* site form. I believe you are referring to the report, "Amendment to: A Class III Cultural Resource Inventory of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho," Prepared by Western Cultural Resource Management, Inc., August 28, 2009. The NRC does not have the requested maps so I plan to ask AREVA to send you the two copies of the report and site forms with the maps included. However, before I do that, please let me know if you still need these items.

2. **Transmission Line:** You also requested two (2) copies of the report on the transmission line portion of the project, including site forms, maps, and clarifications of various issues. The NRC does not have some of the requested items so I plan to ask AREVA to send you the two copies of the report with the additional items and any necessary clarifications included. However, before I do that, please note and/or respond to the following:

    a. First, I want to point out that it appears from statements in your letter that you were not reviewing the most recent version of the cultural resource survey report for the proposed transmission line route. In January 2010, AREVA decided to drop and no longer consider the proposed transmission line coming from west of the proposed EREF site, which would have been located partially on lands of the Bureau of Land Management and Idaho National Laboratory. Thus, the proposed transmission line coming from the west is no longer part of the proposed EREF project. Accordingly, it was not addressed in the NRC's Draft EIS.

    b. AREVA is currently proposing a single transmission line coming from the Bonneville Substation that is located east of the proposed EREF site, and has selected a route for that line that involves no Federal land. The archaeological and historical survey report on this single, preferred route was prepared by North Wind, Inc., and is dated January 21, 2010 ("Archaeological and Historic Survey Report, Archaeological Survey of Idaho. In: *Eagle Rock Enrichment Facility Transmission Line,*" NWI 10247.001, Prepared by North Wind, Inc., January 21, 2010.). I thought AREVA had sent a copy of that report to your office.

    c. Please let me know if you still need the two copies of North Wind's January 21, 2010 archaeological and historical survey report on the transmission line portion of the project, including site forms, maps, and clarifications (as necessary) of various issues.

3. **Treatment of Site MW004 and Analysis of Obsidian Artifacts:** Thank you for your support and acceptance of the proposed treatment of site MW004 and of the letter report of the XRF analysis of obsidian artifacts. The NRC has asked AREVA to provide your office with two copies of the requested report that documents the investigations associated with the treatment of site MW004, along with two copies of photographs and other appendices or attachments.

4. **Next steps:** As you know, in a letter dated August 31, 2010, the NRC notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect on site MW004 and invited ACP to participate in the Section 106 consultation for the project. As I believe you also know, in a letter dated September 20, 2010, the ACHP responded that they do not believe that their participation in the consultation is needed at this time.

   Also, the NRC is in the process of preparing a draft Memorandum of Agreement (MOA) for the project. I believe I mentioned during our conference call on July 19, 2010, that our legal counsel had developed a rough draft of the MOA. That rough draft is currently being revised by our legal counsel, after which it will be reviewed by NRC management. We will then send the MOA to your office and to the other parties for review. Please note that Argonne would not be a party to the MOA as they are serving only as consultant to the NRC for preparation of the EIS.

We also discussed during our July 19, 2010 conference call that The Shoshone-Bannock (S-B) Tribes would not be a party to the MOA because they have shown little interest in the project. However, based on a meeting that NRC staff had with the S-B Tribes on August 11, 2010 (the day before our public meeting on the Draft EIS in Idaho Falls) and on comments received from the tribes on the Draft EIS, the NRC is now considering inviting the S-B Tribes to be a concurring party on the MOA.

I look forward to receiving your responses to the questions and issues raised above. Please contact me if you have any questions or need additional information.

Thanks,
Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

The attachment referred to in this document is provided earlier in Section B.2 of Appendix B. It is the letter to Stephen Lemont, Nuclear Regulatory Commission, dated May 3, 2010.

Biwer, Bruce M.

From: Suzi Pengilly [Suzi.Pengilly@ishs.idaho.gov]
Sent: Thursday, October 14, 2010 9:38 AM
To: Lemont, Stephen
Cc: Biwer, Bruce M.; O'Rourke, Daniel J.; Van Lonkhuyzen, Robert A.
Subject: RE: Further Update on Section 106 Activities for the AREVA Eagle Rock Enrichment Facility Project 101410

Thank you for the update--
suzi.

From: Lemont, Stephen [Stephen.Lemont@nrc.gov]
Sent: Wednesday, October 13, 2010 2:20 PM
To: Suzi Pengilly
Cc: Biwer, Bruce M.; O'Rourke, Daniel J.; Van Lonkhuyzen, Robert A.
Subject: Further Update on Section 106 Activities for the AREVA Eagle Rock Enrichment Facility Project

Hi, Suzi. This is to bring you up to date on the latest Section 106 activities for the subject project:

- As you may already know, AREVA's consultant began work last week on the mitigation of site MW006. It is my understanding that they are coordinating with Ken Reid of your office regarding the progress and interim findings of the mitigation work. I have asked AREVA to have their consultant prepare and submit a report on the mitigation, in accordance with the request in your May 3, 2010 letter; and AREVA has indicated their intention to do so.

- On October 8, 2010, the NRC sent a letter to The Shoshone-Bannock Tribes, inviting them to be a concurring party on the MOA. A copy of that letter is attached, although you will also be receiving a copy in the mail. On October 8, I gave Willie Preacher of the Tribes advance notice of this letter and what it is about.

- The NRC's attorneys are continuing to work on the draft MOA for the project.

- On October 11, 2010, I was informed by AREVA that the "expanded footprint" and "transmission line" reports and associated information requested in your May 3, 2010 letter were mailed out on that day. I had requested that they send the reports directly to you, but please keep on the lookout for them just in case they didn't. Please contact me if you don't receive the reports in the very near future. Also, if after you receive the reports you find that you have any questions or need additional information, please let me know. We look forward to receiving your comments on those reports.

Thanks,
Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

The attachment referred to in this document is provided later in Section B.2 of Appendix B. It is the letter to Chairman Small, the Shoshone-Bannock Tribes, dated October 8, 2010.

1

Biwer, Bruce M.

From: Suzi Pengilly [Suzi.Pengilly@ishs.idaho.gov]
Sent: Monday, October 18, 2010 1:10 PM
To: Lemont, Stephen
Cc: Biwer, Bruce M.; O'Rourke, Daniel J.; Van Lonkhuyzen, Robert A.
Subject: RE: Further Update on Section 106 Activities for the AREVA Eagle Rock Enrichment Facility Project 101810

I recei ved the reports today, but have not looked at them. I will let you know if anything is missing.

From: Lemont, Stephen [mailto:Stephen.Lemont@nrc.gov]
Sent: Wednesday, October 13, 2010 2:20 PM
To: Suzi Pengilly
Cc: Biwer, Bruce M.; O'Rourke, Daniel J.; Van Lonkhuyzen, Robert A.
Subject: Further Update on Section 106 Activities for the AREVA Eagle Rock Enrichment Facility Project

Hi, Suzi. This is to bring you up to date on the latest Section 106 activities for the subject project:

- As you may already know, AREVA's consultant began work last week on the mitigation of site MW006. It is my understanding that they are coordinating with Ken Reid of your office regarding the progress and interim findings of the mitigation work. I have asked AREVA to have their consultant prepare and submit a report on the mitigation, in accordance with the request in your May 3, 2010 letter; and AREVA has indicated their intention to do so.

- On October 8, 2010, the NRC sent a letter to The Shoshone-Bannock Tribes, inviting them to be a concurring party on the MOA. A copy of that letter is attached, although you will also be receiving a copy in the mail. On October 8, I gave Willie Preacher of the Tribes advance notice of this letter and what it is about.

- The NRC's attorneys are continuing to work on the draft MOA for the project.

- On October 11, 2010, I was informed by AREVA that the "expanded footprint" and "transmission line" reports and associated information requested in your May 3, 2010 letter were mailed out on that day. I had requested that they send the reports directly to you, but please keep on the lookout for them just in case they didn't. Please contact me if you don't receive the reports in the very near future. Also, if after you receive the reports you find that you have any questions or need additional information, please let me know. We look forward to receiving your comments on those reports.

Thanks,
Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
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Mail Stop: T-8F5
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Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

The attachment referred to in this document is provided later in Section B.2 of Appendix B. It is the letter to Chairman Small, the Shoshone-Bannock Tribes, dated October 8, 2010.

From: Lemont, Stephen [mailto:Stephen.Lemont@nrc.gov]
Sent: Wednesday, January 26, 2011 10:01 AM
To: Suzi Pengilly
Cc: Biwer, Bruce M.; O'Rourke, Daniel J.; Van Lonkhuyzen, Robert A.
Subject: Section 106 Consultation Update and Questions - AREVA Eagle Rock Enrichment Facility

Suzi,

This is to provide you with an update on the U.S. Nuclear Regulatory Commission's (NRC's) Section 106 consultation efforts and activities related to the proposed AREVA Eagle Rock Enrichment Facility (EREF) project in Bonneville County, and to ask you some questions regarding the process.

UPDATE
Following is an update on recent Section 106 efforts and activities for the subject project:

- On December 22, 2010, the Shoshone-Bannock Tribes accepted the NRC's invitation to be a concurring party on the Memorandum of Agreement (MOA) for the proposed EREF project.

- The NRC has developed a draft MOA that is currently undergoing internal review by our management and legal counsel. When that review is complete, which will be in the near term, it will be distributed by the NRC for review and comment, to the Idaho State Historic Preservation Office, AREVA, and the Shoshone-Bannock Tribes.

- The NRC is currently working on completing the Final Environmental Impact Statement (EIS) for the project, and will provide you with copies when it is completed. The Final EIS will provide updated information on impacts to historic and cultural resources and on associated mitigation, and will discuss that an MOA is being developed.

QUESTIONS
Please respond to the following questions related to the Section 106 process for the proposed EREF project:

1. Regarding the two hard copies of the "expanded footprint" and "transmission line" reports that AREVA sent to you in October 2010, you had indicated in earlier correspondence that you received those reports. Does your office have any comments on those reports, or are they acceptable as is?

2. AES provided other cultural resources survey reports and related documents, these are listed in Attachment A to this email (items 2 and 3 in the attachment are the "expanded footprint" and "transmission line" reports, respectively.) I believe that you are aware of, and have reviewed and accepted, all of the documents listed in Attachment A. However, do you still need two hard copies of, and/or do you have any concerns with, any of these reports.

3. I understand from AREVA that their archaeological consultant, Western Cultural Resource Management, Inc. (WCRM) was in contact with Dr. Kenneth Reid of your office throughout their professional excavation and data recovery activities at site MW004, and that WCRM sent Dr. Reid the attached letter report dated November 17, 2010 (Attachment B). In the first paragraph of your attached November 26, 2010 letter

to AREVA (Attachment C), you referenced a "data recovery report" that Dr. Reid reviewed and accepted for this project. With regard to that data recovery report:

a. Is that report the WCRM letter report dated November 17, 2010 (i.e., Attachment B)?
b. Did you receive from AREVA the two hard copies of that report that you requested in your November 26, 2010 letter?
c. Does your statement in your November 26, 2010 letter regarding Dr. Reid's acceptance of the data recovery report constitute your office's approval that the site MW004 mitigation has been completed to your office's satisfaction?
d. If Dr. Reid does, in fact, consider the site MW004 mitigation to be complete, can you please send me a letter to that effect?

I look forward to hearing back from you on this update and on receiving your responses to my questions. If you need additional information, please let me know.

Thanks,
Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
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Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

Attachment A
Cultural Resource Reports and Documents Provided by AREVA
for the Eagle Rock Enrichment Facility Project

1. A Class III Cultural Resource Inventory of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho (Volume I: Report and Volume II: Cultural Resource Documentation). Prepared by Western Cultural Resource Management, Inc. November 21, 2008.

2. Amendment to: A Class III Cultural Resource Inventory of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho. Prepared by Western Cultural Resource Management, Inc. August 28, 2009. **NOTE: This is the "expanded footprint" report.**

3. Archaeological and Historic Survey Report, Archaeological Survey of Idaho. In: *Eagle Rock Enrichment Facility Transmission Line.* NWI 10247.001. Prepared by North Wind, Inc. January 21, 2010. **NOTE: This is the "transmission line" report.**

4. Letter to U.S. Nuclear Regulatory Commission from Jim A. Kay, Licensing Manager, AREVA Enrichment Services LLC. Subject: Response to Request for Additional Information - AREVA Enrichment Services LLC Environmental Report for the Eagle Rock Enrichment Facility - RAI 6.a. *Unanticipated Discovery Plan.* September 18, 2009

5. A Treatment Plan for Historic Site MW004 in the Area of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho. Prepared by Western Cultural Resource Management, Inc. January 28, 2010. (This includes the obsidian artifacts report at the end.)

WCRM
WESTERN CULTURAL RESOURCE MANAGEMENT, INC.

November 17, 2010

Kenneth Reid, Ph.D.
State Archaeologist
Deputy State Historic Preservation Officer
Idaho State Historical Society
210 Main Street
Boise, ID 83702

Dear Dr. Reid,

This letter is to summarize Western Cultural Resource Management's data recovery activities for the Eagle Rock Enrichment Facility Project located in Bonneville County, Idaho (west of Idaho Falls) and to request a notice-to-proceed for our client, AREVA Enrichment Services, LLC (AES). Data recovery was conducted by WCRM from October 5 to November 8, 2010, and is now complete.

Project Background
AES is preparing an application to the U.S. Nuclear Regulatory Commission (NRC) to construct, operate, and decommission a gas centrifuge uranium enrichment plant called the Eagle Rock Enrichment Facility in Bonneville County. WCRM conducted cultural resource inventories of the proposed project area in 2008 and 2009, surveying a total of 1,005 acres and identifying and recording 13 new archaeological sites and 25 isolated finds (Ringhoff et al. 2008; Estes and Raley 2009). One of the sites, MW04 (a historic homestead with a small prehistoric lithic scatter), was determined eligible to the National Register of Historic Places by the NRC under 36 CFR part 60.4, Criteria A and D. The State Historic Preservation Office (SHPO) concurred with this determination in a letter dated September 29, 2009.

WCRM prepared a data recovery plan detailing treatment recommendations to mitigate adverse impacts of the proposed facility to the eligible archaeological site, MW04 (Ringhoff and Stoner 2010). This plan also includes the collection of all known obsidian bifacial tools within the project so that they can be chemically sourced through x-ray fluorescence analysis, per the recommendation of the Idaho SHPO.

Summary of Recommended and Completed Treatment
Table 1 shows the recommended treatment described in the data recovery plan as well as what activities took place during the data recovery effort. Recommended treatment for site MW04 included mapping the entire site with a total station transit, collecting a representative sample of surface historic artifacts, excavating up to six 1 x 1 m units in Feature 1 (a dugout), doing a Class III+ artifact inventory of Feature 8 (a historic refuse concentration) as well as excavating one 1 x

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1 m unit in that feature, and excavating one 1 x 1 m unit in Feature 7 (a possible privy). Additionally, 11 obsidian bifacial tools from multiple sites and isolated finds in the project area were to be collected.

All treatment proposed in the data recovery plan was completed or attempted. Not all the obsidian tools could be relocated, but all other activities were completed at least to the extent described in the treatment plan. Additionally, the treatment of Feature 1 required more work than originally proposed due to the unexpected discovery of a wood floor. While only six excavation units were initially recommended for that feature, 27 units were ultimately excavated in order to expose the extent of the wood floor (see Figures 1-4).

Table 1. Recommended and Completed Treatment of Cultural Resources for the Eagle Rock Enrichment Facility Project

Location	Recommended Treatment	Completed Treatment
MW04 - General site	Detailed mapping of entire site using total station transit.	Detailed mapping of entire site using total station transit.
MW04 - General site	Collection of a representative sample of diagnostic historic artifacts.	Collection of a representative sample of diagnostic historic artifacts.
MW04 – Feature 1 (dugout)	Linear series of up to six 1 x 1 m units to be excavated by hand, with at least one placed outside the feature.	Grid of 27, 1 x 1 m units (including one placed outside the feature) excavated by hand. Initial 6 units placed in a line along middle of feature, with additional units added as necessary to expose entire extent of feature's wood floor (an unexpected discovery).
MW04 – Feature 7 (possible privy)	One 1 x 1 m unit placed over feature and excavated by hand to a sufficient depth to determine if feature is cultural.	One 1 x 1 m unit placed over feature and excavated by hand in ten arbitrary 10 cm deep levels, with a 1.25 m deep auger test placed at the bottom. No cultural materials were revealed.
MW04 – Feature 8 (historic refuse concentration)	Set up a surface grid of 1 x 1 m units to cover entire feature and do a Class III+ artifact inventory for each unit. Collect a representative surface sample of the feature's artifacts. Excavate by hand one 1 x 1 m unit to determine presence or absence of subsurface materials.	Set up a surface grid of twelve 1 x 1 m units to cover entire feature and did a Class III+ artifact inventory for each unit. Collected a representative surface sample of the feature's artifacts. Excavated by hand one 1 x 1 m unit to determine presence or absence of subsurface materials; no subsurface cultural materials were identified.
Multiple sites and IFs throughout the area previously inventoried by WCRM	Collect 11 obsidian bifacial tools.	Collected 4 of the 11 known obsidian bifacial tools; 7 could not be relocated. One previously unidentified tool was also found and collected, bringing the total number of obsidian tools collected up to 5.

At this time, field work related to the treatment of cultural resources related to this project is complete. WCRM is preparing a detailed final report that will contain discussion and analysis of the results of the data recovery. We respectfully request that a notice-to-proceed be granted to the project proponent, AES.

If you have any questions or comments, feel free to call me (775-358-9003).

Sincerely,

J Sigler

Jennifer Sigler, M.A., RPA
Project Manager
WCRM, Inc.

Jim Kay (AES)
Stacy Thomson (Areva NP)
Tom Lennon (WCRM)

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Figure 1. Feature 1 during excavation, with bed frame on wood floor of dugout. View facing southwest.

Figure 2. Wood floor of dugout (Feature 1) exposed in its entirety. View facing south.

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Figure 3. Wood floor of dugout (Feature 1) exposed in its entirety. View facing west.

Figure 4. Feature 1 with all excavation completed. View facing east.

References Cited

Estes, Mark and Jaclyn Raley

2009 *Amendment To: A Class III Cultural Resource Inventory of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho.* Prepared by Western Cultural Resource Management, Inc., Sparks, Nevada for AREVA Enrichment Services, LLC, Bethesda, Maryland.

Ringhoff, Mary and Edward J. Stoner

2010 *A Treatment Plan for Historic Site MW04 in the Area of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho.* Prepared by Western Cultural Resource Management, Inc., Sparks, Nevada for AREVA Enrichment Services, LLC, Bethesda, Maryland.

Ringhoff, Mary, Edward J. Stoner, Collette Chambellan, and Steve Mehls

2008 *A Class III Cultural Resource Inventory of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho.* Prepared by Western Cultural Resource Management, Inc., Sparks, Nevada for AREVA Enrichment Services, LLC, Bethesda, Maryland.

Attachment C

IDAHO STATE HISTORICAL SOCIETY

"The History and Preservation People"

Our mission: to educate through the identification, preservation, and interpretation of Idaho's cultural heritage.

www.idahohistory.net

C.L. "Butch" Otter
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Janet L. Gallimore
Executive Director

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Boise, Idaho 83712-8250

Public Archives
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Fax: (208) 334-2626

Research Library
Office: (208) 334-3356
Fax: (208) 334-3198

Oral History
Office: (208) 334-3863
Fax: (208) 334-3198

November 26, 2010

James A. Kay
Licensing Manager
AREVA
Solomon Pond Park
400 Donald Lynch Boulevard
Marlborough MA 01752

RE: Geotechnical Borings at the Propose Twin Buttes Substation within Cultural Resource Site 10BV246 (MW004), Eagle Rock Enrichment Facility, Bonneville County, Idaho

Dear Mr. Kay:

Thank you for requesting our views on geotechnical drilling within the boundaries of site 10BV246 (MW004) for the proposed Twin Buttes Substation. While Dr. Reid did review and accept the data recovery report for this project, *we will need two hard copies of the report sent to us in the mail. We do not accept reports via email.*

With this said, we agree that you can proceed with the geotechnical drilling at this location. As you know, however, we will need to have a fully signed Memorandum of Agreement from the Nuclear Regulatory Commission before construction of the facility can begin.

We appreciate your cooperation. If you have any questions, please feel free to contact me at 208-334-3847, ext. 107.

Sincerely,

Susan Pengilly
Deputy SHPO and
Compliance Coordinator

Cc: Stephen Lemont, NRC

The Idaho State Historical Society is an Equal Opportunity Employer.

August 31, 2010

Mr. Reid Nelson
Director, Federal Agency Programs
Advisory Council on Historic Preservation
Old Post Office Building
1100 Pennsylvania Avenue, Suite 803
Washington, DC 20004

SUBJECT: NOTIFICATION OF ADVERSE EFFECT TO A HISTORIC PROPERTY AND ASSOCIATED MEMORANDUM OF AGREEMENT FOR PROPOSED AREVA ENRICHMENT SERVICES LLC EAGLE ROCK ENRICHMENT FACILITY PROJECT IN BONNEVILLE COUNTY, IDAHO

Dear Mr. Nelson:

With this letter, in accordance with 36 CFR 800.6(a)(1), the U.S. Nuclear Regulatory Commission (NRC) is notifying the Advisory Council on Historic Preservation (ACHP) of an adverse effect to site MW004 (John Leopard Homestead), as a result of the proposed AREVA Enrichment Services LLC (AES) Eagle Rock Enrichment Facility (EREF) project in Bonneville County, Idaho. The John Leopard Homestead is a *National Register of Historic Places (*NRHP)-eligible site. The NRC is drafting a Memorandum of Agreement (MOA) regarding the mitigation of the adverse effect to the John Leopard Homestead.

For your reference, this letter includes background on the NRC's activities pursuant to Section 106 of the *National Historic Preservation Act of 1966*, as amended (NHPA) to date, as well as a summary of the cultural resource information contained in the Draft Environmental Impact Statement (EIS) (NUREG-1945) for the proposed EREF. A copy of the EREF Draft EIS was provided to you by the NRC with a letter dated July 14, 2010 (Enclosure 1). In addition, the Draft EIS is available through the NRC's *Agencywide Documents Access and Management System* (ADAMS), at http://www.nrc.gov/reading-rm/adams.html. From this website, enter the Accession Number for the Draft EIS, ML101890384. The Draft EIS also may be accessed on the internet at http://webwork.nrc.gov:300/reading-rm/doc-collections/nuregs/staff/sr1945/.

Pursuant to 36 CFR 800.6(a)(1), the NRC staff invites the ACHP to participate in the NHPA Section 106 consultation for this project and requests your response within 15 calendar days of receipt of this letter and enclosures.

BACKGROUND

The NRC staff is reviewing an application submitted by AES for a license to construct, operate, and decommission a uranium enrichment facility, the proposed EREF, near Idaho Falls in Bonneville County, Idaho. AES submitted the original license application to the NRC on December 30, 2008. AES proposes to locate the facility in Bonneville County, Idaho, approximately 32 kilometers (20 miles) west of Idaho Falls. Revisions to the license application were submitted on April 23, 2009 (Revision 1), and April 30, 2010 (Revision 2). The proposed EREF, if licensed, would use a gas centrifuge process to enrich uranium-235 isotope found in natural uranium to concentrations up to 5 percent by weight. The enriched uranium would be

used to manufacture nuclear fuel for commercial nuclear power reactors. As part of the review of the application, the NRC has conducted an environmental review and prepared a Draft EIS, which includes an analysis of relevant environmental issues, including potential impacts on historic and cultural resources, and documents the NRC staff's preliminary determination regarding the environmental impacts from the preconstruction (e.g., site preparation), construction, operation, and decommissioning of the proposed EREF. The NRC is the lead Federal agency, in accordance with 36 CFR 800.1(a).

Note that many of the activities required to build a uranium enrichment facility (e.g., site clearing and grading, excavation, erection of fences, erection of support buildings) do not fall within the NRC's regulatory authority and, therefore, are not "construction" as defined by the NRC (see 10 CFR 51.4). Such activities are referred to as "preconstruction" activities in 10 CFR 51.45(c).

SECTION 106 CONSULTATION

By letter dated June 17, 2009 (Enclosure 2), the NRC staff initiated consultation under Section 106 of the NHPA with the Idaho State Historic Preservation Office (ID SHPO) concerning the proposed EREF project. Also, by the letter dated June 17, 2009 (Enclosure 2), and a supplemental letter dated February 17, 2010 (Enclosure 3), the NRC staff notified the ID SHPO that it will comply with its obligations under Section 106 of the NHPA, using the process set forth in 36 CFR 800.8(c). Pursuant to 36 CFR 800.8(c), the NRC staff is using the preparation of the EIS required by the *National Environmental Policy Act of 1969*, as amended (NEPA), to comply with its obligations under Section 106 of the NHPA. The NRC staff is using 36 CFR 800.8(c) in lieu of the procedures set forth in 36 CFR 800.3 through 36 CFR 800.6. As indicated below, consultation with the ID SHPO is ongoing.

In letters dated July 29, 2009 (Enclosure 4), and February 19, 2010 (Enclosure 5), the NRC staff also contacted the Shoshone-Bannock Tribes, identified as having potential interest in the proposed undertaking. To date, the Shoshone-Bannock Tribes have not responded to our consultation letters.

DRAFT EIS PRELIMINARY FINDINGS

To evaluate the potential impacts to historic and cultural resources resulting from the proposed EREF project, the NRC staff visited the proposed EREF site in June 2009, reviewed cultural resources survey reports prepared by AES's archaeological contractors, and conducted an independent historic and cultural resources records review. Preliminary findings regarding historical and cultural resources are summarized below and further discussed in the Draft EIS, Sections 3.3, 4.2.2, 4.2.16.2, and 4.3.2.

NOTE: Enclosures 6, 7, 10 and 12 identified below contain sensitive information and are withheld from public disclosure.

Proposed EREF Project Site

In the Draft EIS, the NRC staff presented its determination that the Area of Potential Effect (APE) for the NHPA Section 106 review of the proposed EREF project site is the 240-hectare (592-acre) portion of the proposed site that would be directly affected by preconstruction, construction, and operations activities. Two archaeological surveys have been undertaken by

an AES archaeological contractor for the proposed project site (Enclosures 6 and 7). The contractor directly examined 407 hectares (1005 acres) of the proposed AES property, within which the 240-hectare (592 acre) APE is included. The acreage surveyed included additional areas for expansion outside the presently proposed preconstruction, construction, and operations areas, which are no longer deemed necessary by AES for the proposed project.

Thirteen archaeological sites and 24 isolated finds were identified within the APE of the proposed EREF project site. Isolated finds are isolated occurrences of cultural resource material that are not associated with subsurface remains and are not considered archaeological sites. Three of the archaeological sites were prehistoric in age, six were from the historic era, and four contained evidence from both the historic and prehistoric periods. The prehistoric sites consisted of stone tools or evidence of stone tool manufacture. The historic sites were primarily historic trash scatters consisting of cans and glass. None of the isolated finds are considered eligible for listing on the NRHP. On the basis of the survey results, nine of the sites were recommended not eligible for listing on the NRHP. Site MW004, the John Leopard Homestead, is recommended eligible for listing on the NRHP for its potential to provide information on the practices of historic era farmers in the region. Several other sites of this type have been previously identified on Idaho National Laboratory property north of the proposed EREF site (see Enclosure 8), so removal of all sites of this type from the region is unlikely. Site MW004 consists of several structural remains including a cistern, privy and historic dugout house foundation. AES's archaeological contractor conducted additional research for the three other sites found during the survey and found that these sites lacked sufficient information to be considered significant (see Enclosure 6).

Site MW004 would be directly impacted by preconstruction of the proposed EREF. Preconstruction activities would destroy this site because it would be under the footprint of the proposed facility's security fence and an electrical substation for a transmission line that would bring power to the proposed EREF (see below). In a letter dated September 29, 2010 (Enclosure 9), the ID SHPO concurred with the evaluations and recommendations in the two AES survey reports, and agreed that site MW004 is the only one of the 13 sites located in the proposed EREF site eligible for listing on the NRHP, and recommended mitigation for the impacts to site MW004 to be included as stipulations in an MOA, discussed below.

Proposed 161-kilovolt (kV) Transmission Line Project

On January 19, 2010, AES informed the NRC of a license application change involving the addition to the proposed project of an electrical transmission line to power the proposed EREF. This new 161-kV transmission line would be run to the proposed EREF from Rocky Mountain Power's Bonneville Substation located to the east of the proposed EREF site, mostly along the right-of-way (ROW) of an existing 69-kV transmission line.

In the Draft EIS, the NRC staff presented its determination that the APE for AES's proposed 161-kV transmission line project is 202.3 hectares (500 acres) for the line itself. This is derived from the 22.12-kilometer (13.74-mile) proposed transmission line ROW length and 45.72 meters (150 feet) on either side of the centerline (91.4-meter [300-foot] total width). In addition to that, there is the fenced area at the proposed modified Bonneville Substation, which is 1.3 hectares (3.1 acres), and the proposed new Twin Buttes Substation that will occupy a 2.1-hectare (5.2-acre) fenced area on the proposed EREF site itself.

Portions of the proposed Twin Buttes Substation and of the proposed transmission line adjacent to the proposed EREF were surveyed previously as part of the survey for the main portion of the proposed EREF site (Enclosure 6). The ROW for the proposed transmission line has also been surveyed by an AES archaeological contractor for the presence of historical and cultural resources (Enclosure 10). This survey examined the 202.3-hectare (500-acre) APE. No historic and cultural resources were identified in these surveys. It is currently unclear whether additional areas would be needed for some aspects of the transmission line construction (e.g., pulling and tensioning sites). AES has provided an unanticipated discoveries and monitoring plan (Enclosure 11) to the NRC and Idaho SHPO, which will be in place during preconstruction and construction and which the NRC proposes to reference in the MOA.

MEMORANDUM OF AGREEMENT

As discussed above, during its environmental review and as documented in the Draft EIS, the NRC staff identified an adverse effect to the NRHP-eligible John Leopard Homestead (site MW004) located on the proposed EREF site. Preconstruction activities would destroy site MW004 because it would be under the footprint of the proposed EREF's security fence and an onsite electrical substation for the proposed 161-kV transmission line. In its letter dated September 29, 2009 (Enclosure 9), the ID SHPO recommended mitigation of the adverse effect through data recovery, historic research for the John Leopard Homestead site, and that all obsidian bifacial tools within the EREF project area be chemically traced to their geologic sources through x-ray fluorescence (XRF) analysis. Further, the ID SHPO stated that these mitigation measures should be drafted as stipulations in an MOA.

AES subsequently provided a Treatment Plan for site MW004 (Enclosure 12) that addresses the procedures that will be employed to conduct mitigation measures recommended by the ID SHPO. At the end of this plan is a letter that reports on the completed geochemical XRF analysis of obsidian artifacts collected at the ID SHPO's request (Letter to Kenneth Reid, State Archaeologist and Deputy State Historic Preservation Officer, Idaho State Historical Society, from Edward J. Stoner, Western Cultural Resource Management, Inc. December 18, 2009.). In a letter dated May 3, 2010 (Enclosure 13), the ID SHPO expressed its support for the proposed treatment of site MW004 and requested a report from AES that documents the investigations conducted as part of the mitigation along with photographs and other appropriate appendices and attachments.

The NRC is currently in the process of drafting an MOA as requested by the ID SHPO. As recommended in the ID SHPO's September 29, 2009, letter (Enclosure 9), AES's Treatment Plan (Enclosure 12) will be referenced with regard to the mitigation of site MW004; and as additionally stated in the ID SHPO's May 3, 2010, letter (Enclosure 13), the XRF analysis will be listed as completed mitigation, and any required monitoring will be described. Also, because AES has indicated that final design of the proposed EREF and associated 161-kV transmission line project will not be completed until after the NRC license is issued, the draft MOA will also address the survey by AES for historic cultural resources of any previously un-surveyed areas that may be identified following final design (e.g., transmission line construction pulling and tensioning sites). As such, AES's unanticipated discoveries and monitoring plan mentioned above (Enclosure 11) will be referenced in the draft MOA. The purpose of this plan is to: (1) monitor and protect existing and known archaeological sites and historic properties located within the proposed EREF site; (2) set forth the process for dealing with discoveries of human remains or previously unidentified archaeological sites that are discovered during activities that

cause surface or subsurface disturbances and may result in an irreversible loss of the resource; and (3) establish procedures for evaluation and treatment of unanticipated discoveries in accordance with 36 CFR 800.13.

Proposed signatories to this MOA will be the NRC, the ID SHPO, AES, and the ACHP, if it so chooses. Because the Shoshone-Bannock Tribes have not responded to our consultation letters, they are not included as either a signatory or concurring party.

As mentioned in the introduction to this letter, the NRC staff invites the ACHP to participate in the NHPA Section 106 consultation for this project pursuant to 36 CFR 800.6(a)(1) and requests your response within 15 calendar days of receipt of this letter and enclosures. If you have any questions or require additional information, please contact the Stephen Lemont, Senior Project Manager, at (301) 415-5163, or by email at Stephen.Lemont@nrc.gov.

Sincerely,

/RA/

Diana Diaz-Toro, Chief
Environmental Review Branch A
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

Enclosures: See attached list

cc w/o enclosures: S. Pengilly, ID SHPO
J. Kay, AES

LIST OF ENCLOSURES

1. Letter to Reid Nelson, Director, Office of Federal Agency Programs, Advisory Council on Historic Preservation, from D. Diaz-Toro, Chief, Environmental Review Branch A, Environmental Protection and Performance Assessment Directorate, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission. Subject: Section 106 Consultation, Notification of the Issuance of, and Request for Comments on the Draft Environmental Impact Statement for the Proposed AREVA Enrichment Services LLC Eagle Rock Enrichment Facility in Bonneville County, Idaho. July 14, 2010. ADAMS Accession No. ML101650142.

2. Letter to Janet Gallimore, Executive Director, Idaho State Historical Society, from Andrea Kock, Chief, Environmental Review Branch, Environmental Protection and Performance Assessment Directorate, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission. Subject: Initiation of the National Historic Preservation Act Section 106 Process for AREVA Eagle Rock Enrichment Facility. June 17, 2009. ADAMS Accession No. ML091660205.

3. Letter to Janet Gallimore, Executive Director and State Historic Preservation Officer, Idaho State Historical Society, from Andrea Kock, Chief, Environmental Review Branch, Environmental Protection and Performance Assessment Directorate, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission. Subject: Continuing Consultation under the National Historic Preservation Act Section 106 Process for the Proposed AREVA Eagle Rock Enrichment Facility. February 17, 2010. ADAMS Accession No. ML100471023.

4. Letter to Chairman Alonzo A. Cohy, The Shoshone Bannock Tribes, from Andrea Kock, Chief, Environmental Review Branch, Environmental Protection and Performance Assessment Directorate, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission. Subject: Initiation of the National Historic Preservation Act Section 106 Process for AREVA Eagle Rock Enrichment Facility. July 29, 2009. ADAMS Accession No. ML092090444.

5. Letter to Chairman Alonzo A. Cohy, The Shoshone Bannock Tribes, from Andrea Kock, Chief, Environmental Review Branch, Environmental Protection and Performance Assessment Directorate, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission. Subject: Continuing Consultation under the National Historic Preservation Act Section 106 Process for the Proposed AREVA Eagle Rock Enrichment Facility. February 19, 2010. ADAMS Accession No. ML100480141.

6. A Class III Cultural Resource Inventory of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho (Volume I: Report and Volume II: Cultural Resource Documentation). Prepared by Western Cultural Resource Management, Inc. November 21, 2008. ADAMS Accession Nos. ML101330115, ML101330103, ML101330104, ML101330106, ML101330107, ML101330108, ML101330109, ML101330110, ML101330125, ML101330112, ML101330113, and ML101330114. **NOTE: These documents contain sensitive information and are withheld from public disclosure.**

7. Amendment to: A Class III Cultural Resource Inventory of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho. Prepared by Western Cultural Resource Management, Inc. August 28, 2009. ADAMS Accession No. ML101330102. **NOTE: This document contains sensitive information and is withheld from public disclosure.**

8. Personal communication from Holly Gilbert, Idaho National Laboratory, to Daniel O'Rourke, Argonne National Laboratory. Subject: Uniqueness of Late 19th Century Homestead Sites in the General Vicinity of the EREF Property. April 26, 2010. ADAMS Accession No. ML101790310.

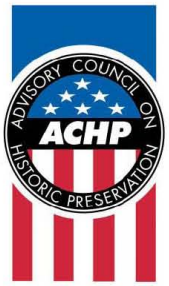
9. Letter to George A. Harper, Vice President, Engineering, Eagle Rock Enrichment Facility, AREVA Enrichment Services LLC, from Kenneth C. Reid, State Archaeologist and Deputy State Historic Preservation Officer, Idaho State Historical Society. Subject: Class III Cultural Resource Inventory of the Proposed Eagle Rock Enrichment Facility, Bonneville County, and amendment. September 29, 2009. ADAMS Accession No. ML092810293.

10. Archaeological and Historic Survey Report, Archaeological Survey of Idaho. In: *Eagle Rock Enrichment Facility Transmission Line*. NWI 10247.001. Prepared by North Wind, Inc. January 21, 2010. ADAMS Accession Nos. ML101330124 and ML101330101. **NOTE: These documents contain sensitive information and are withheld from public disclosure.**

11. Letter to U.S. Nuclear Regulatory Commission from Jim A. Kay, Licensing Manager, AREVA Enrichment Services LLC. Subject: Response to Request for Additional Information - AREVA Enrichment Services LLC Environmental Report for the Eagle Rock Enrichment Facility - RAI 6.a. Unanticipated Discovery Plan. September 18, 2009. ADAMS Accession No. ML092640684.

12. A Treatment Plan for Historic Site MW004 in the Area of the Proposed Eagle Rock Enrichment Facility, Bonneville County, Idaho. Prepared by Western Cultural Resource Management, Inc. January 28, 2010. ADAMS Accession No. ML100540693. **NOTE: This document contains sensitive information and is withheld from public disclosure.**

13. Letter to Stephen Lemont, Environmental Review Branch, Nuclear Regulatory Commission, from Susan Pengilly, Deputy SHPO and Compliance Officer, Idaho State Historical Society. Subject: AREVA Eagle Rock Enrichment Facility, Bonneville County, Idaho. May 3, 2010. ADAMS Accession No. ML101330126.



Preserving America's Heritage

September 20, 2010

Diana Diaz-Toro, Chief
Environmental Review Branch A
Environmental Protection and Performance Assessment Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Ref: ***Proposed Eagle Rock Enrichment Facility Project***
Bonneville County, Wyoming

Dear Ms. Diaz-Toro:

On September 1, 2010, the Advisory Council on Historic Preservation (ACHP) received your notification regarding the adverse effects of the referenced undertaking on the John Leopard Homestead, which is eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed at this time. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, consulting party, or other party, we may reconsider this decision. Should circumstances change, and you determine that our participation is needed, please notify us accordingly.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Idaho SHPO and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the opportunity to review this undertaking. If you have any questions, feel free to contact Tom McCulloch at 202-606-8554, or via email at tmcculloch@achp.gov.

Sincerely,

Raymond V. Wallace

Raymond V. Wallace
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION
1100 Pennsylvania Avenue NW, Suite 803 ¬ Washington, DC 20004
Phone: 202-606-8503 □ Fax: 202-606-8647 □ achp@achp.gov □ www.achp.gov

July 29, 2009

Chairman Alonzo A. Cohy
The Shoshone-Bannock Tribes
P.O. Box 306
Fort Hall, ID 83203

SUBJECT: INITIATION OF THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106 PROCESS FOR AREVA EAGLE ROCK ENRICHMENT FACILITY

Dear Chairman Cohy:

On December 30, 2008, AREVA Enrichment Services (AES) submitted an environmental report (ER) to the U.S. Nuclear Regulatory Commission (NRC). The ER is one part of an application for a license to authorize construction, operation, and decommissioning of a proposed uranium enrichment facility. The NRC is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located near Idaho Falls, Idaho in Bonneville County. The facility, if licensed, would use a gas centrifuge enrichment technology to enrich the isotope uranium-235 in uranium hexafluoride up to 5 percent by weight. The EIS that NRC is preparing will document the environmental impacts associated with the construction, operation, and decommissioning of the proposed facility.

The proposed AES parcel is approximately 1,700 hectares (4,200 acres). In November 2008, AES commissioned an archeological survey of the facility's footprint which involves approximately 381 hectares (941 acres) of the total parcel. The report is attached along with a map showing the area of potential effect, as it appears in the AES ER. As a result of the surveys, AES recorded a number of isolated finds and concluded that one find (MW004) was potentially eligible for inclusion in the National Register of Historic Places. AES proposes minimizing any adverse impacts through a mitigation plan for this find.

In the ER, AES indicated their submission of the archeological surveys to your office. As required by 36 CFR 800.4(a), the NRC is requesting the views of the tribe on any further actions necessary to identify historic properties that may be affected by the construction, operation, and decommissioning of the proposed facility, including whether find MW004 should be included in the National Register of Historic Places.

We intend to use the EIS process to comply with Section 106 of the National Historic Preservation Act of 1966, as described in 36 CFR Part 800.8. After assessing information you provide, we will determine any additional actions that are necessary to comply with the Section 106 consultation process. If you have any questions or comments, or need any additional information, please contact Mathews George of my staff on 301-415-7065.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

Enclosure: Volume Report

cc: Willie Preacher
The Shoshone-Bannock Tribes

Stan Day
AES Eagle Rock Enrichment Facility

George A. Harper, P.E.
AES Eagle Rock Enrichment Facility

September 16, 2009

Chairman Alonzo A. Cohy
The Shoshone-Bannock Tribes
P.O. Box 306
Fort Hall, ID 83203

SUBJECT: NOTIFICATION OF AN EXEMPTION REQUEST FROM U.S. NUCLEAR REGULATORY COMMISSION'S (NRC) REGULATED ACTIONS SUBMITTED BY AREVA ENRICHMENT SERVICES (AES)

Dear Chairman Cohy:

On July 29, 2009, U.S. Nuclear Regulatory Commission (NRC) staff sent a letter to the office of The Shoshone-Bannock Tribe. My staff requested input from the tribe on identifying any cultural or historic properties that may be affected by the construction, operation and decommissioning of the proposed facility. We look forward to receiving your written feedback soon and will incorporate the details of your response within our environmental impact statement (EIS).

In addition, we want to communicate pertinent and new information to your office. On June 17, 2009, AREVA Enrichment Services (AES) requested an exemption that would allow them to commence certain activities prior to NRC's completion of its environmental review under Title 10 of the Code of Federal Regulations, Part 51 (10 CFR 51) and the NRC's issuance of a Materials License for the Eagle Rock Enrichment Facility under 10 CFR 70.

NRC's approval of the exemption would permit AES to undertake the following list of actions. These actions do not affect radiological health and safety or common defense and security.

- Clearing, Grading and Erosion Control
- Excavation, Including Rock Blasting and Removal
- Construction of Storm Water Detention Pond, Highway Access and Site Roads
- Installation of Utilities, Storage Tanks and Fences
- Installation of Parking Areas, Construction Buildings, Offices, Warehouses and Guardhouses.

If approved, the exemption would allow AREVA to commence the above pre-construction activities before NRC completes its licensing determination. AREVA plans on performing this pre-construction work in September 2010. The approval to perform pre-construction does not equate to approval of a license to construct, operate and decommission a facility. AREVA assumes the risk of completing these activities and then not receiving a license to construct and operate the facility.

The pre-construction activities of both the environmental impacts above and construction of the facility will be considered in NRC's environmental impact statement which will be issued after pre-construction activities begin. We will continue to communicate with you regarding important issues for NRC to consider on assessing the environmental impacts of these pre-construction and construction activities

NRC anticipates completing its review of the exemption request by mid December 2009. If approved, AES will supplement its Environmental Report to distinguish between the environmental impacts of the construction activities covered by the exemption and construction activities which will not be undertaken until after issuance of a license by the NRC. This supplement will allow NRC staff to consider the impacts of pre-construction in its cumulative impact analysis within the EIS.

Please respond by October 15, 2009 with any comments or concerns that you may have on this subject. If you have any questions or comments with regard to this request from AES, or need any additional information, please contact Mathews George of my staff on 301-415-7065.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

cc:
Willie Preacher
The Shoshone-Bannock Tribes

Stan Day
AES Eagle Rock Enrichment Facility

George A Harper, P.E.
AES Eagle Rock Enrichment Facility

February 19, 2010

Chairman Alonzo A. Cohy
The Shoshone-Bannock Tribes
P.O. Box 306
Fort Hall, Idaho 83203

SUBJECT: CONTINUING CONSULTATION UNDER THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106 PROCESS FOR THE PROPOSED AREVA EAGLE ROCK ENRICHMENT FACILITY

Dear Chairman Cohy:

The U.S. Nuclear Regulatory Commission (NRC) previously contacted you by letter dated July 29, 2009, informing you of the AREVA Enrichment Services LLC (AES) submittal of an application to NRC for a license to construct, operate, and decommission a gas centrifuge uranium enrichment facility in Bonneville County, Idaho, and NRC's preparation of an Environmental Impact Statement (EIS) in support of its licensing action for the facility. The proposed facility, the Eagle Rock Enrichment Facility (EREF), would be located about 20 miles west of Idaho Falls. The purpose of this letter is to inform you that the scope of the project has been modified to include the construction and operation of an electrical transmission line and associated structures needed to power the proposed EREF.

On January 29, 2010, AES submitted supplemental information to NRC for the construction and operation of a proposed transmission line, an electrical substation, and substation upgrades. The locations of the transmission line and substations are shown in the January 29, 2010, submittal, a copy of which is enclosed. Also, AES commissioned an archeological survey of the area of potential effect (APE) associated with the transmission line route; the Idaho State Historic Preservation Officer has a copy of the survey report. As discussed in AES' January 29, 2010, submittal, no historic properties were identified in the APE of the proposed transmission line project. NRC's EIS for the proposed EREF will include a discussion of the impacts associated with the construction and operation of this transmission line project. Likewise, NRC's Section 106 consultations for the EREF project will expand to include cultural resources along the proposed transmission line right-of-way.

The new transmission line and associated structures would be located entirely on private land within Bonneville County. Rocky Mountain Power (RMP), a division of PacifiCorp, will be the builder, owner, and operator. The transmission line would originate from the existing RMP Bonneville Substation and extend in a general westward direction to the new point of service, the Twin Buttes Substation on the proposed EREF site. Beginning at the Bonneville Substation, the proposed transmission line route is west along the county road (West 65 North Street) to the existing RMP Kettle Substation, a distance of approximately 14.5 kilometers (9 miles), continuing west to the eastern portion of the EREF site, a distance of approximately 1.2 kilometer (0.75 mile), then north within the EREF site to its northern end, then west and south to the new RMP Twin Buttes Substation, for a distance of approximately 6.4 kilometers (4 miles). The area being affected by the transmission line is approximately 84 hectares (208 acres).

As noted in our earlier letter, NRC intends to use the EIS process to comply with Section 106 of the National Historic Preservation Act, as described in 36 CFR Part 800.8. As required by 36 CFR 800.4(a), NRC is requesting the views of the tribes on any further actions necessary to identify historic properties that may be affected by the construction and operation of the proposed transmission line and associated structures. After assessing information you provide, we will determine any additional actions that are necessary to comply with the Section 106 consultation process.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions regarding the project, or need additional information, please contact Stephen Lemont, of my staff at 301-415-5163 or Stephen.Lemont@nrc.gov.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Enclosure: As stated

Docket No: 70-7015

Lemont, Stephen

From: Lemont, Stephen
Sent: Friday, March 12, 2010 11:26 AM
To: 'Willie Preacher'
Subject: RE: Follow-up to Consultation Letters Regarding AREVA Eagle Rock Uranium Enrichment Facility, Bonneville County, Idaho

Willie,

Thank you for responding. I apologize for the misspelling of Chairman Coby's name in the letters. I noticed that too when I was preparing my email.

I look forward to hearing back from you regarding the letters.

Thanks again.

Steve

Stephen Lemont
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

From: Willie Preacher [mailto:wpreacher@sbtribes.com]
Sent: Friday, March 12, 2010 11:06 AM
To: Lemont, Stephen
Subject: RE: Follow-up to Consultation Letters Regarding AREVA Eagle Rock Uranium Enrichment Facility, Bonneville County, Idaho

Stephen the name of our Chairman in Alonzo A. Coby, you do have it right in this letter to me, but the letter that was sent to him personally is addressed to Alonzo A. Cohy. We are reviewing the letters and will get back with you and as soon as we can. -Willie

From: Lemont, Stephen [mailto:Stephen.Lemont@nrc.gov]
Sent: Friday, March 12, 2010 8:39 AM
To: Willie Preacher
Subject: Follow-up to Consultation Letters Regarding AREVA Eagle Rock Uranium Enrichment Facility, Bonneville County, Idaho

Dear Mr. Preacher:

I am Steve Lemont, the new U.S. Nuclear Regulatory Commission (NRC) Project Manager for the Environmental Impact Statement (EIS) that the NRC is preparing in support of its licensing action for the proposed AREVA Eagle Rock uranium enrichment facility in Bonneville County. NRC contacted Chairman Coby regarding this project in a letter dated July 29, 2009, and more recently in a letter dated February 19,

2010, regarding the proposed electrical transmission line for the AREVA Eagle Rock facility. For your reference, I have attached these two letters to this email.

The purpose of this email is to follow-up on the two letters, to request the views of the Shoshone-Bannock Tribes regarding any further actions necessary to identify historic properties that may be affected by the construction, operation, and decommissioning of the proposed AREVA Eagle Rock facility and the proposed transmission line and associated structures. Find MW004, which is discussed in the July 29 letter, has been determined to be eligible for listing in the National Register of Historic Places. Any other information you may have would also be appreciated. After assessing information you provide, we will identify any further actions that are necessary to comply with the consultation process under Section 106 of the National Historic Preservation Act.

If you have any questions regarding the project, or need additional information, please contact me at 301-415-5163 or Stephen.Lemont@nrc.gov. I appreciate your assistance in this matter, and look forward to receiving your response. Thank you.

Sincerely,
Steve Lemont

Stephen Lemont
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

October 8, 2010

Chairman Nathan Small
The Shoshone-Bannock Tribes
P.O. Box 306
Fort Hall, Idaho 83203

SUBJECT: CONTINUING CONSULTATION UNDER THE NATIONAL HISTORIC PRESERVATION ACT SECTION 106 PROCESS FOR DEVELOPMENT OF MEMORANDUM OF AGREEMENT FOR THE AREVA ENRICHMENT SERVICES LLC EAGLE ROCK ENRICHMENT FACILITY PROJECT IN BONNEVILLE COUNTY, IDAHO

Dear Chairman Small:

The Nuclear Regulatory Commission (NRC) previously contacted The Shoshone-Bannock Tribes concerning the AREVA Enrichment Services LLC (AES) proposed Eagle Rock Enrichment Facility (EREF) in Bonneville County. Our most recent consultation letter, dated February 19, 2010, concerned alterations to the project's scope for the National Historic Preservation Act (NHPA) Section 106 review. Also, with a letter dated July 14, 2010, the NRC provided a copy of the project's Draft Environmental Impact Statement (EIS) for comment.

Preliminary findings regarding historical and cultural resources are discussed in the Draft EIS, Sections 3.3, 4.2.2, 4.2.16.2, and 4.3.2. One of these findings is that the proposed project is expected to cause an adverse effect on historic site MW004, the John Leopard Homestead. Site MW004 is a multi-component site consisting of a late nineteenth century to early twentieth century homestead component and a prehistoric component. The historic component of this site has been determined eligible for listing on the National Register of Historic Places (NRHP), and consists of a dug out depression, one possible privy depression, a cement lined cistern, one trash concentration, two rock piles, and a scatter of domestic trash. The prehistoric component consists of two non-diagnostic obsidian biface fragments and two flakes.

The NRC is in the process of drafting a Memorandum of Agreement (MOA) with the Idaho State Historic Preservation Office (ID SHPO) and AES, which will address the mitigation of the impacts to site MW004. In addition, because AES has indicated that final design of the proposed EREF and associated 161-kV transmission line project will not be completed until after the NRC license is issued, the draft MOA will also address the survey by AES for historical and cultural resources of any previously un-surveyed areas that may be identified following final design (e.g., transmission line construction pulling and tensioning sites). The draft MOA will also include reference to AES's unanticipated discoveries and monitoring plan.

Pursuant to Title 36 of the *U.S. Code of Federal Regulations* (36 CFR) Part 800.6(c)(3), the NRC staff invites The Shoshone-Bannock Tribes to participate in the development of the MOA for this project as a concurring party, and requests your response within 15 calendar days of receipt of this letter. As a concurring party, The Shoshone-Bannock Tribes will have the opportunity to review the draft MOA and provide comments prior to enactment of the agreement. If you accept the NRC's invitation, please provide the name and title of, and contact information for, the tribal member with whom we would coordinate for the MOA development.

If you have any questions regarding the MOA or the EREF project, or need any additional information, please contact Stephen Lemont at 301-415-5163, or by email at Stephen.Lemont@nrc.gov.

Sincerely,

/RA/

Diana Diaz-Toro, Chief
Environmental Review Branch A
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

cc: S. Pengilly, ID SHPO
J. Kay, AES

Biwer, Bruce M.

From:	Lemont, Stephen [Stephen.Lemont@nrc.gov]
Sent:	Friday, October 29, 2010 6:54 AM
To:	wpreacher@sbtribes.com
Subject:	RE: Invitation to Participate as Concurring Party in Section 106 Memorandum of Agreement for AREVA Eagle Rock Project 102910
Attachments:	Letter to Shoshone-Bannock Tribes re Section 106 MOA Participation (ML102740387).pdf

Hi, Willie. I am just following up to find out if the council has considered the invitation in the attached letter, and if The Shoshone-Bannock Tribes would like to be a concurring party on the subject Memorandum of Agreement.

Thanks,
Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

From: Lemont, Stephen
Sent: Friday, October 08, 2010 3:30 PM
To: 'wpreacher@sbtribes.com'
Subject: Invitation to Participate as Concurring Party in Section 106 Memorandum of Agreement for AREVA Eagle Rock Project

Hi, Willie. This is to give you advance notice of a letter the U.S. Nuclear Regulatory Commission (NRC) is sending to Chairman Small regarding the development of a National Historic Preservation Act Section 106 Memorandum of Agreement (MOA) for the AREVA Eagle Rock Enrichment Facility project.

The letter, a copy of which is attached, discusses the need for, and basic content of, the MOA. However, the main purpose of the letter is to invite The Shoshone-Bannock Tribes to participate in the development of the MOA as a concurring party. In that role, The Tribes will have the opportunity to review the draft MOA and provide comments prior to enactment of the agreement. The MOA is currently being drafted by the NRC's attorneys and when ready, will be distributed for review by the parties to the agreement. These parties already include the Idaho State Historic Preservation Office and AREVA, in addition to the NRC.

Please contact me if you have any questions regarding the letter or if you need additional information. We hope the Tribes will accept the NRC's invitation and look forward to working with you on the development of the MOA. Thank you.

Sincerely,
Steve

Stephen Lemont, Ph.D.
Senior Environmental Project Manager

U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

The attachment referred to in this document is included in Section B.2 of Appendix B, directly preceding this document.

NRC FORM 699 (9-2003) U.S. NUCLEAR REGULATORY COMMISSION

CONVERSATION RECORD

DATE: 11/30/2010

TIME:

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

TELEPHONE NO.: 208-478-3707

ORGANIZATION: The Shoshone-Bannock Tribes, Fort Hall Indian Reservation, Idaho

SUBJECT: Follow-up on NRC Invitation to The Shoshone-Bannock Tribes to be a Concurring Party on the Section 106 Memorandum of Agreement for the AREVA Eagle Rock Project

TYPE OF CONVERSATION
- ☐ VISIT
- ☐ CONFERENCE
- ☒ TELEPHONE
  - ☐ INCOMING
  - ☒ OUTGOING

SUMMARY *(Continue on Page 2)*

I told Mr. Preacher that I was calling to follow up on the October 8, 2010, letter that the NRC sent to Chairman Small of The Shoshone-Bannock Tribes, inviting the Tribes to be a concurring party on the National Historic Preservation Act Section 106 Memorandum of Agreement, or MOA, for the AREVA Eagle Rock project. Mr. Preacher said that he gave the letter to Carolyn Smith, the Tribes' cultural resources person; and that he would check with her and get back to me.

Continue on Page 2

ACTION REQUIRED: None.

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
Stephen Lemont		11/30/2010

ACTION TAKEN

TITLE OF PERSON TAKING ACTION	SIGNATURE OF PERSON TAKING ACTION	DATE

NRC FORM 699 (9-2003) PRINTED ON RECYCLED PAPER

From: Lemont, Stephen [mailto:Stephen.Lemont@nrc.gov]
Sent: Tuesday, December 21, 2010 10:19 AM
To: 'wpreacher@sbtribes.com'
Subject: Follow-up on NRC Invitation to Participate as Concurring Party in Section 106 Memorandum of Agreement for AREVA Eagle Rock Project

Willie,

The purpose of this email is to check back with you once more to find out if the Shoshone-Bannock Tribes would like to be a concurring party on the subject Memorandum of Agreement (MOA) for the AREVA Eagle Rock Enrichment Facility project. The U.S. Nuclear Regulatory Commission's (NRC's) invitation to be a concurring party was provided in the attached letter that was sent to Chairman Small on October 8, 2010. When I called you about this invitation on November 30, you mentioned that you had given the letter to Carolyn Smith, the Tribes' Cultural Resources Coordinator, and that you would check with her and get back to me.

The purpose and basic content of the MOA is discussed in the attached letter. As a concurring party, the Tribes will have the opportunity to review the draft MOA and provide comments prior to enactment of the agreement. The draft MOA is currently being completed by the NRC's attorneys and when ready, will be distributed for review by the parties to the agreement. Presently, these parties include the Idaho State Historic Preservation Office and AREVA, in addition to the NRC.

Please contact me if you have any questions regarding the attached letter or if you need additional information. We hope the Shoshone-Bannock Tribes will accept the NRC's invitation and look forward to working with you on the development of the MOA.

I look forward to receiving your reply soon. Thank you.

Sincerely,
Steve

Stephen Lemont
Senior Environmental Project Manager
U. S. Nuclear Regulatory Commission
Office of Federal and State Materials and
Environmental Management Programs
Mail Stop: T-8F5
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5369
Email: Stephen.Lemont@nrc.gov

The attachment referred to in this document precedes the October 29, 2010, email to Willie Preacher included in Section B.2 of Appendix B.

NRC FORM 699 (9-2003) — U.S. NUCLEAR REGULATORY COMMISSION

CONVERSATION RECORD

DATE: 12/22/2010

TIME:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU: Carolyn Smith, Cultural Resources Coordinator

TELEPHONE NO.: 208-221-0326

ORGANIZATION: The Shoshone-Bannock Tribes, Fort Hall, Idaho

SUBJECT: NRC Invitation to the Tribes to be a Concurring Party on the Section 106 MOA fo r AREVA Eagle Rock Project

TYPE OF CONVERSATION:
- ☐ VISIT
- ☐ CONFERENCE
- ☑ TELEPHONE
  - ☐ INCOMING
  - ☑ OUTGOING

SUMMARY *(Continue on Page 2)*

I confirmed the phone message I received today from Ms. Smith that the Tribes do want to be a party to the MOA. I explained that the Tribes would be a concurring party, meaning that they would be able to comment on the draft MOA. I said that the NRC is in the process of completing the draft MOA, and that it wi ll be sent to the Idaho SHPO, AREVA, and the Tribes for review; and that I intend to hold a conference call to discuss a ll of our comments.

Ms. Smith said to mail the draft MOA to her and to Willie Preacher. I said tha t I will probably send an advance copy of the draft MOA and transmittal letter to them by email, and asked for Ms. Smith's email address. It is csmith@sbtribes.com.

Continue on Page 2

ACTION REQUIRED: None

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
Stephen Lemont		12/22/2010

ACTION TAKEN

TITLE OF PERSON TAKING ACTION	SIGNATURE OF PERSON TAKING ACTION	DATE

B.3 Other Consultation

October 2, 2009

Mr. Keith Dunbar
National Park Service
Chief of Park Planning
and Environmental Compliance
909 First Avenue,
Seattle, WA 98104

Dear Mr. Dunbar:

On December 30, 2008, AREVA Enrichment Services (AES) submitted an Environmental Report (ER) to the U.S. Nuclear Regulatory Commission (NRC). The ER is one part of an application for a license to authorize construction, operation, and decommissioning of a proposed uranium enrichment facility. The NRC staff is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located 20 miles west of Idaho Falls, Idaho in Bonneville County. The facility, if licensed, would use a gas centrifuge based technology to enrich the isotope uranium-235 in uranium hexafluoride up to 5 percent by weight. The EIS will document the impacts associated with the construction, operation, and decommissioning of the proposed facility.

The proposed location for the facility is due north of the Hell's Half Acre National Natural Landmark. The proposed AES parcel is approximately 1,700 hectares (4,200 acres). AES states that the facility footprint encompasses 381 hectares (941 acres) of the site for which construction, operation, and decommissioning activities will occur. The proposed site is situated on the north side of U.S. Highway 20. The coordinates for the center of the action area are 43 degrees, 35 minutes, 7.37 seconds North and longitude 112 degrees, 25 minutes, 28.71 seconds West. The project area is currently mixed used for open range land and agriculture.

The Hell's Half Acre National Natural Landmark is managed by the Bureau of Land Management (BLM) as a Wildlife Study Area. The BLM has been contacted by both the NRC and AES concerning the project. The NRC wants to provide the National Park Service with an opportunity to comment on the abovementioned project. The NRC is requesting the views of your office on any impacts that may be caused by the construction, operation and decommissioning of the proposed facilitity. After assessing information you provide, we will determine if any additional actions or mitigation actions are necessary.

We would like a response from your office by ***Oct 31, 2009,*** if possible. If you have any questions or comments with regard to this, or need any additional information, please contact Mathews George of my staff on 301-415-7065.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

United States Department of the Interior

NATIONAL PARK SERVICE
Pacific West Region
909 First Avenue, Fifth Floor
Seattle, Washington 98104-1060

IN REPLY REFER TO:
EC-Hell's Half-Acre

December 28, 2009

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

RE: Application for license for proposed uranium enrichment facility north of Hell's Half-Acre Lava Field National Natural Landmark

Dear Ms. Kock:

Thank you for your letter dated October 2, 2009, concerning AREVA Enrichment Services' proposed uranium enrichment facility near Hell's Half-Acre Lava Field National Natural Landmark (NNL), which the National Park Service (NPS) oversees as part of the NNL program. As you know, Hell's Half-Acre Lava Field NNL is located on land owned by the Bureau of Land Management (BLM) and is a Wilderness Study Area (WSA). (Please note that it is not a Wildlife Study Area as the October letter stated.) It also appears that the State of Idaho may own sections of land within the NNL.

Hell's Half-Acre Lava Field NNL was designated in 1976 primarily for its geologic significance (e.g., single event, geologic process with a fully exposed pahoehoe lava flow). However, the NNL also provides an outstanding example of pioneer vegetation establishing itself on a lava flow. This is evidenced by numerous mosses, lichens, and ferns that have established themselves in, on, and among fractures, depressions, and small lava caves throughout the NNL/WSA. In addition, a significant number of visitors hike on trails located adjacent to the NNL/WSA, and many recreate on the lava flow within the NNL/WSA.

The Idaho National Laboratory (INL), administered by the U.S. Department of Energy, is located directly adjacent to the proposed project. The INL is an ecological field laboratory where scientists may set up long-term experiments which answer questions about human impact on the natural environment. It is a leading center for nuclear safety research, defense programs, nuclear waste technology and advanced energy concepts, and has an extensive environmental monitoring program both on- and off-site. Off-site monitoring data and information can be found at: http://www.stoller-eser.com/index.htm. DOE also funds a similar state-run monitoring program: http://www.deq.idaho.gov/inl_oversight/index.cfm.
The greatest concern that has been identified on the INL is on-site groundwater contamination. Airborne radioactive contamination has not been detected off-site. While the proposed AREVA facility is not a

TAKE PRIDE IN AMERICA

DOE project and is not officially connected with the INL, the INL has extensive information that should be relevant for developing impact analyses in the Environmental Impact Statement (EIS), because of the proposed project's close proximity to the INL. NPS recommends the following areas of analysis:

- Potential groundwater and airborne radioactive contamination that might impact the NNL/WSA.
- Lighting impacts to the dark night sky at the NNL, as well as at Craters of the Moon National Monument and Preserve (CRMO) located 45 miles west from the proposed facility.
- Cumulative impacts on the dark night sky at the NNL and CRMO, especially since there is already a significant light dome associated with the INL..
- Construction impacts, especially from excessive dust, to the unique botanical resources of the NNL (e.g., dust could settle and accumulate on these plants, including outlier juniper trees, depriving them of needed sunlight).

We would appreciate receiving a copy of the Draft EIS (please see attached instructions). Please also notify the following persons when the Draft EIS is available for review:

Mr. Steve Gibbons,
Coordinator
National Natural Landmarks Program
National Park Service
810 State Route 20
Sedro Woolley, WA 98284
Telephone: (360) 854-7203
FAX: (360) 856-1934
Email:
steve_gibbons@nps.gov

Mr. Doug Neighbor,
Superintendent
Craters of the Moon National Monument & Preserve
PO Box 29
Arco, ID 83213
Phone: (208) 527-1310
FAX: (208) 527-3073
E-mail:
doug_neighbor@nps.gov

Ms. Kelly Powell
Realty Specialist
168 S. Jackson St., 2nd Floor
Seattle, WA 98104-2853
Phone: (206) 220-4106
FAX: (206) 447-4246
Email:
kelly_powell@nps.gov

Thank you for the opportunity to provide these comments.

Sincerely,

Rory D. Westberg

Rory D. Westberg
Acting Regional Director
Phone: (206) 220-4106
FAX: (206) 220-4159
Rory_Westberg@nps.gov

Attachment

U.S. Department of the Interior
ENVIRONMENTAL REVIEW DISTRIBUTION REQUIREMENTS
September 2007

To expedite requests to the Department of the Interior (Department) for the review of environmental documents under the National Environmental Policy Act (NEPA); Section 4(f) of the Department of Transportation Act; project planning, design, and application documents under various Federal authorities; and requests for coordination and consultation early in project planning; please note the following:

Appendix III to the Council on Environmental Quality's (CEQ) regulations (49 FR 49778; December 21, 1984) lists the Director, Office of Environmental Project Review (now the Office of Environmental Policy and Compliance (OEPC)), as the individual responsible for receiving and commenting on other agencies' environmental documents. If properly followed, this process results in your agency receiving one set of comments consolidating the views of all commenting bureaus and offices within the Department. Therefore, please send all officially approved documents requesting environmental and other project review to the following address:

Director, Office of Environmental Policy and Compliance
U.S. Department of the Interior
Main Interior Building (MS 2462)
1849 C Street, NW
Washington, DC 20240

OEPC is the central coordination office for the Department on all environmental reviews proposed by other federal agencies. It is unnecessary to send copies of environmental and other project review requests to any other bureau or office within Interior, unless that bureau or office has been a part of your coordination or cooperating agency processes. However, a sufficient number of copies must still be sent to OEPC to allow distribution of the document to those Interior bureaus identified by OEPC to participate in the review process. The requested numbers of copies allow for simultaneous review throughout each bureau thus producing the Department's consolidated review in the shortest possible time. The following numbers of copies should be provided:

Twelve (12) copies of a draft and six (6) copies of a final document for projects in the Eastern United States including MN, IA, MO, AR, and LA. The same numbers of copies should be provided for projects in HI and the U.S. Territories (American Samoa, Commonwealth of Northern Mariana Islands, Guam, Puerto Rico, and U.S. Virgin Islands).

Eighteen (18) copies of a draft and nine (9) copies of a final document for projects in the Western United States westward of the western boundaries of MN, IA, MO, AR, and LA.

Eighteen (18) copies of a draft and nine (9) copies of a final document for review requests which are national in scope (e.g. agency regulations, scientific reports, special reports, program plans, and other interagency documents).

Sixteen (16) copies of a draft and eight (8) copies of a final document for projects in AK.

When a review document does not have draft and final versions, the larger number of copies is requested.

In an effort to help reduce the Federal government's cost for the reproduction of paper documents and to help reduce waste, we ask that you provide the URL for projects available on the Internet. Copies of environmental and project review documents that are available in CD-ROM or any other widely used electronic method may also be furnished in lieu of paper copies. When this is the case, we would still appreciate receiving one paper copy for our official file. Please provide an Internet address, CDs, one paper copy, or paper copies, as appropriate, directly to this office.

Appendix II to the CEQ regulations (49 FR 49754; December 21, 1984) lists Interior bureaus and offices having jurisdiction by law or special expertise on environmental quality issues. Appendix II should be used to determine appropriate Interior contacts for coordination during early planning, NEPA scoping, and other preliminary activities. Since this document may be out of date, it is recommended that you consult the following Internet addresses for the latest bureau contacts. http://ceq.eh.doe.gov/nepa/nepanet.htm or http://www.doi.gov/oepc/nepacontacts.html.

All early coordination and scoping requests, environmental assessments or reports not accompanied by project planning or design documents, findings of no significant impact, preliminary or working draft or final environmental impact statements, and similar material of a regional nature should be sent directly to Interior bureaus at the field level. It is not necessary to send copies of early coordination documents to the OEPC in Washington, DC. Please note that our Regional Environmental Officers (REO) serve as representatives of OEPC and should be contacted if there are questions about these procedures at the field level. A REO list is attached and is also available on our web site at: http://www.doi.gov/oepc/reo.html.

Representatives of your organization should establish direct working relationships with Departmental and bureau field level offices, which welcome such contact. This type of relationship is important not only during early project coordination, but also to expedite the early resolution of environmental issues that would otherwise surface during the formal review of a project document. In many cases, Interior's comments on an environmental review will designate an office at the field level for follow-up activities.

We ask that you make a wide distribution of this information throughout your organization. Such a distribution will greatly assist our agencies in better meeting our obligations under existing laws and in planning projects that will be mutually beneficial.

Attachment (REO List)

U.S. DEPARTMENT OF THE INTERIOR

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June 24, 2009

Mr. Paul Kjellander
Office of Energy Resources
322 East Front Street
P.O. Box 83720
Boise, ID 83720

SUBJECT: REQUEST FOR INFORMATION REGARDING ENDANGERED SPECIES AND CRITICAL HABITATS FOR THE PROPOSED AREVA EAGLE ROCK ENRICHMENT FACILITY LOCATED IN BONNEVILLE COUNTY, IDAHO

Dear Mr. Kjellander:

On December 30, 2008, AREVA Enrichment Services (AES) submitted an environmental report (ER) to the U.S. Nuclear Regulatory Commission (NRC). The ER is one part of an application for a license to authorize construction, operation, and decommissioning of a proposed uranium enrichment facility. The NRC staff is in the initial stages of developing an Environmental Impact Statement (EIS) for the proposed facility to be located near Idaho Falls, Idaho in Bonneville County. The facility, if licensed, would use a gas centrifuge based technology to enrich the isotope uranium-235 in uranium hexafluoride up to 5 percent by weight. The EIS will document the impacts associated with the construction, operation, and decommissioning of the proposed facility.

NRC requests information on the following items within the action area for the proposed facility, if available:

- Endangered or threatened species, or other species of concern to the state of Idaho, that are known to be or likely to be at the proposed AREVA site, and nearest known locations based on the element occurrence database. Enclosed is a preliminary list of species compiled from Idaho Fish and Game (IDFG) county lists (plants) and the IDFG Snake River Basalts Ecological Section list (animals). Habitat on the site consists of sagebrush steppe, non-native grassland (primarily crested wheatgrass and cheatgrass), and irrigated crops.

- Nearest known lek sites (based on the element occurrence database), nesting habitat, brood-rearing habitat, and winter habitat for greater sage grouse, migratory status of the local population, the number of leks nears the site, and trends.

- Information on Sagebrush Reserves (location, size, species, management) or other sensitive or rare habitats in the project vicinity.

- Information on mule deer, pronghorn, and elk herds, including seasonal habitat (such as crucial winter habitat areas), local migration routes, and concerns such as population trends.

- Important migration routes for migratory birds.

- Maps or GIS shapefiles regarding species or habitats.

- Concerns of IDFG regarding potential impacts of the proposed project.

The proposed AES parcel is approximately 1,700 hectares (4,200 acres). AES states that the facility footprint encompasses 381 hectares (941 acres) of the site for which construction, operation, and decommissioning activities will occur. The proposed site is situated within Bonneville County, Idaho, on the north side of U.S. Highway 20, about 113 km (70 miles) west of the Idaho/Wyoming State line. The coordinates for the center of the action area are 43 degrees, 35 minutes, 7.37 seconds North and longitude 112 degrees, 25 minutes, 28.71 seconds West.

We have enclosed additional background information relating to ecological resources on the site, including a map showing the action area, as it appears in the AES ER.

We intend to use the EIS process to comply with Section 7 of the Endangered Species Act of 1973, as amended. After assessing information you provide, we will determine what additional actions are necessary to comply with the Section 7 consultation process. If you have any questions or comments, or need any additional information, please contact Gloria Kulesa of my staff at 301-415-5308.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

Enclosures:
1. Special Status Plants and Species
2. Ecology Field Survey Report
3. Fall 2008 Survey
4. Sage Grouse Survey Report

Idaho Special Status Plants and Species of Greatest Conservation Need

Earth lichen (*Catapyrenium congestum*)
Gray willow (*Salix glauca*)
Green spleenwort (*Asplenium trichomanes-ramosum*)
Iodine bush (*Allenrolfea occidentalis*)
Meadow milkvetch (*Astragalus diversifolius*)
Payson's bladderpod (*Lesquerella paysonii*)
Payson's milkvetch (*Astragalus paysonii*)
Red glasswort (*Salicornia rubra*)
Slickspot peppergrass (*Lepidium papilliferum*)
Ute ladies'-tresses (*Spiranthes diluvialis*)
Western Sedge (*Carex occidentalis*)

Utah valvata snail (*Valvata utahensis*)

Northern leopard frog (*Rana pipiens*)

Ring-necked snake (*Diadophis punctatus*)

Black-crowned night-heron (*Nycticorax nycticorax*)
Blue grosbeak (*Passerina caerulea*)
Burrowing owl (*Athene cunicularia*)
California gull (*Larus californicus*)
Ferruginous hawk (*Buteo regalis*)
Franklin's gull (*Larus pipixcan*)
Juniper titmouse (*Baeolophus ridgwayi*)
Lesser goldfinch (*Carduelis psaltria*)
Merlin (*Falco columbarius*)
Northern pintail (*Anas acuta*)
Peregrine falcon (*Falco peregrinus*)
Pinyon jay (*Gymnorhinus cyanocephalus*)
Sharp-tailed grouse (*Tympanuchus phasianellus*)
Swainson's hawk (*Buteo swainsoni*)
Virginia's warbler (*Vermivora virginiae*)
White-faced ibis (*Plegadis chihi*)
Yellow-billed cuckoo (*Coccyzus americanus*)

Canada lynx (*Lynx canadensis*)
Gray wolf (*Canis lupus*)
Great Basin ground squirrel (*Spermophilus mollis*)
Grizzly bear (*Ursus arctos*)
Idaho pocket gopher (*Thomomys idahoensis*)
Little pocket mouse (*Perognathus longimembris*)
Merriam's shrew (*Sorex merriami*)
Pygmy rabbit (*Brachylagus idahoensis*)
Spotted bat (*Euderma maculatum*)
Townsend's big-eared bat (*Corynorhinus/Plecotus townsendii*)
Townsend's pocket gopher (*Thomomys townsendii*)
Wyoming ground squirrel (*Spermophilus elegans*)

Enclosure 1

February 18, 2010

Paul Kjellander
Idaho Office of Energy Resources
322 East Front Street, Suite 560
Post Office Box 83720
Boise, Idaho 83720-0199

SUBJECT: COORDINATION REGARDING ELECTRICAL TRANSMISSION LINE FOR PROPOSED AREVA EAGLE ROCK URANIUM ENRICHMENT FACILITY, BONNEVILLE COUNTY, IDAHO

Dear Mr. Kjellander:

As discussed in our earlier letter to you dated June 24, 2009, AREVA Enrichment Services LLC (AES) has submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a license to construct, operate, and decommission a gas centrifuge uranium enrichment facility. The proposed facility, the Eagle Rock Enrichment Facility (EREF), would be located in Bonneville County, Idaho, near Idaho Falls. NRC is preparing an Environmental Impact Statement (EIS) in support of its licensing action for this facility. The purpose of the present letter is to report an addition to the scope of the EREF project, a 161-kilovolt (KV) transmission line to power the facility.

On January 29, 2010, AES submitted information to NRC for the construction and operation of a proposed transmission line, an electrical substation, and substation upgrades. The locations of the transmission line and substations are shown in the January 29, 2010 submittal, a copy of which is enclosed. NRC's EIS for the proposed EREF will include a discussion of the impacts associated with the construction and operation of the transmission line project. NRC requests your office's feedback on potential impacts to electrical distribution in the area of the EREF or on any other matter related to the proposed transmission line or the EREF project itself. Also, we understand that your office coordinates with other State of Idaho agencies on energy resource matters. Therefore, please feel free to share this letter with other State agencies. NRC is already coordinating separately with the Idaho Department of Fish and Game and Idaho Department of Environmental Quality.

The new transmission line and associated structures would be located entirely on private land within Bonneville County. Rocky Mountain Power (RMP), a division of PacifiCorp, will be the builder, owner, and operator. The transmission line would originate from the existing RMP Bonneville Substation and extend in a general westward direction to the new point of service, the Twin Buttes Substation on the proposed EREF site. Beginning at the Bonneville Substation, the proposed transmission line route is west along the county road (West 65 North Street) to the existing RMP Kettle Substation, a distance of approximately 14.5 kilometers (9 miles), continuing west to the eastern portion of the EREF site, a distance of approximately 1.2 kilometer (0.75 mile), then north within the EREF site to its northern end, then west and south to the new RMP Twin Buttes Substation, for a distance of approximately 6.4 kilometers (4 miles). The area being affected by the transmission line is approximately 84 hectares (208 acres).

If you have any questions regarding this request, or need additional information, please contact Stephen Lemont of my staff at 301-415-5163 or Stephen.Lemont@nrc.gov.

Sincerely,

/RA/

Andrea Kock, Chief
Environmental Review Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Enclosure:
January 29, 2010 Ltr.

Docket No: 70-7015

November 23, 2010

Mr. Matt McMillen, Director
Environmental Compliance Division
Loan Programs Office, DOE
U.S. Department of Energy LP 10
1000 Independence Avenue, SW
Washington, DC 20585

SUBJECT: OCTOBER 21, 2010, TELEPHONE CONVERSATION REGARDING COMPLIANCE WITH FARMLAND PROTECTION POLICY ACT FOR THE PROPOSED AREVA ENRICHMENT SERVICES LLC EAGLE ROCK ENRICHMENT FACILITY IN BONNEVILLE COUNTY, IDAHO

Dear Mr. McMillen:

The U.S. Nuclear Regulatory Commission (NRC) appreciates the participation of U.S. Department of Energy (DOE) Loan Programs Office (LPO) staff in telephone conversations with NRC staff regarding compliance with the Farmland Protection Policy Act (FPPA) for the proposed AREVA Enrichment Services LLC (AES) Eagle Rock Enrichment Facility (EREF). For this project, the NRC is currently reviewing the license application from AES, and the DOE LPO has offered AES a conditional loan guarantee.

During an October 21, 2010, telephone conversation between Mr. Joseph Montgomery, DOE LPO consultant, and Mr. Stephen Lemont of the NRC, Mr. Montgomery related the DOE LPO's decision to go through the FPPA process for the proposed EREF project, including the completion of the necessary U.S. Department of Agriculture forms over the next few weeks. This is appropriate because the DOE's loan guarantee action is subject to the requirements of the FPPA, but the NRC's licensing action is not. It was also discussed that in the Final Environmental Impact Statement the NRC is currently preparing in support of its licensing action, there will be language to the effect that (1) the DOE conditional loan guarantee action is subject to the requirements of the FPPA for purposes of the EREF project, and (2) the DOE has completed/will complete the required farmland conversion impact rating and any associated actions or determinations in compliance with the FPPA, as necessary.

Please contact Mr. Stephen Lemont of my office at 301-415-5163, or by email at Stephen.Lemont@nrc.gov, if you have any questions. Thank you.

Sincerely,

/RA/

David L. Skeen, Acting Deputy Director
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 70-7015

cc: Joseph Montgomery, DOE

APPENDIX C
AIR QUALITY ANALYSIS

APPENDIX C
AIR QUALITY ANALYSIS

Air quality modeling was performed to estimate concentration increments at the property boundary as a result of air emissions during the construction phase at the proposed Eagle Rock Enrichment Facility (EREF). Air quality modeling was performed for criteria air pollutants including sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), and particulate matter (PM) (particulate matter equal to or smaller than 10 micrometers in aerodynamic diameter [PM_{10}] and particulate matter equal to or smaller than 2.5 micrometers in aerodynamic diameter [$PM_{2.5}$]). Air quality modeling for ozone (O_3) and lead was not conducted.[1] The following sections describe the air dispersion model, determination of surface characteristics, meteorological data processing, terrain data processing, and the modeling assumptions behind the results and the discussions presented in Section 4.2.4.

C.1 Selection of Air Dispersion Model

For this modeling analysis, the latest version of the AMS/EPA Regulatory MODel (AERMOD) modeling system (Version 07026) (EPA, 2009) was used. AERMOD is the U.S. Environmental Protection Agency's (EPA's) preferred or recommended model for a wide range of regulatory applications (EPA, 2009). AERMOD is a refined, steady-state plume model that incorporates air dispersion based on state-of-the-art planetary boundary layer turbulence structure and scaling concepts, building wake effects, and plume downwash for point sources. It includes treatment of both surface and elevated sources (including multiple-point, area, and volume sources) and both simple and complex terrain, and can be applied to rural and urban areas. The model uses hourly sequential preprocessed meteorological data to estimate not only airborne concentrations but also dry and wet deposition fluxes for both particulate and gaseous emissions of nonreactive pollutants for averaging times ranging from one hour to periods as long as one to multiple years.

AERMOD contains three major separate components:

- AERMET – meteorological data preprocessor that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts

- AERMAP – terrain data preprocessor that incorporates complex terrain using digital elevation data

[1] At a regional level, ozone is formed by highly complex and nonlinear reactions involving nitrogen oxide (NO_x) and volatile organic compound (VOC) precursors. Air quality modeling for ozone requires extensive meteorological and emission data processing and substantial computational resources. Neither construction- nor operation-related activities would produce impacts high enough to have significant influence on regional ozone levels. No ozone modeling is therefore warranted. Air quality modeling for lead was not conducted because there are no significant sources of lead emissions related to the projected activities at the proposed EREF. Since the phase-out of leaded gasoline in the 1970s, ambient air impacts from lead emissions during construction and operation of the proposed EREF would be insignificant.

- AERMOD – air dispersion model to estimate airborne concentrations and dry/wet deposition fluxes

In addition, AERSURFACE, a surface characteristics preprocessor part of AERMOD that estimates surface characteristics including surface roughness length, albedo, and Bowen ratio for input to the AERMET was also run to complement and refine the AERMOD results. Two other related modeling programs, BPIPPRIME (a tool that calculates building parameters to account for building downwash effects of point source(s) for input to the AERMOD) and AERSCREEN (a screening model for AERMOD that produces estimates of regulatory design concentrations without the need for meteorological data and is designed to produce more conservative results than AERMOD) are also part of the AERMOD dispersion modeling system. However, neither would have produced relevant or more accurate results applicable to the proposed EREF site and were therefore not used.

C.2 Determination of Surface Characteristics

In order to compute the fluxes and stability of the atmosphere, AERMET needs three surface characteristic parameters: surface roughness length, albedo, and the Bowen ratio. The surface roughness length is a measure of irregularities at the surface, including vegetation, topography, and structures, which influence the near-surface wind stress. Surface roughness length plays the most crucial role in determining the magnitude of mechanical turbulence and the stability of the boundary layer. The typical values range from 0.001 meter (0.003 feet) over calm water surfaces and 1 meter (3.3 feet) or more over a forest or urban area. Albedo is the ratio of the amount of radiation reflected from the surface to the amount of radiation incident on the surface. Typical values range from 0.1 for thick deciduous forests to 0.9 for fresh snow. The Bowen ratio, an indicator of surface moisture, is the ratio of sensible heat flux to the latent heat flux. The Bowen ratio is used to determine the planetary boundary layer parameters for convective conditions. The typical values range from 0.1 over water to 10 over desert at midday.

Surface characteristics should represent the meteorological data at the application site. If such data is not available for the application site, then data from a nearby representative measurement site must instead be used. The proposed EREF has no onsite meteorological station. The nearest meteorological station is near the Materials and Fuels Complex (MFC) within the Idaho National Laboratory (INL) site, which is located about 11 miles (18 kilometers) west of the proposed EREF. The MFC and proposed EREF sites are located in the middle of the Eastern Snake River Plain (ESRP), which is a wide flat bow-shaped depression extending about 400 miles (640 kilometers). The elevation and terrain features and land uses surrounding the MFC area are comparable to those of the proposed EREF site. Accordingly, the MFC site is considered adequately representative of the proposed EREF site and was used as a substitute for onsite meteorological data for this assessment.

The AERSURFACE tool was developed to aid users in obtaining realistic and reproducible surface characteristic values, which is, in turn, input to AERMET. AERSURFACE requires land cover data from the U.S. Geological Survey (USGS) National Land Cover Data 1992 archives (NLCD92). These surface characteristics for the MFC site, downloaded from the USGS Web site (http://seamless.usgs.gov/), were used as representative of the land cover types around the proposed EREF site.

Seasonal surface characteristics were determined for each of twelve 30-degree sectors for this analysis. A default upwind distance of 1 kilometer (0.6 mile) from the measurement sites on the proposed EREF property was used to determine the surface roughness values, per recommendation in EPA's AERMOD Implementation Guide (EPA, 2009). A default domain defined by a 10-kilometer by 10-kilometer (6.2-mile by 6.2-mile) area centered on the measurement sites at the proposed EREF property was used for determination of albedo and Bowen ratio. To determine the Bowen ratio, the surface moisture condition around the proposed site was needed to characterize the proposed EREF site relative to climatological normals. Surface moisture conditions for the Bowen ratio were determined by year, based on the 30-year (1971–2000) annual precipitation record at the Pocatello Municipal Airport, which has more comprehensive precipitation data than other nearby meteorological sites, including National Weather Service's (NWS) MFC station (NCDC, 2009a,b). For this analysis, annual precipitation data from the MFC site for the years 2004–2008 were compared to the representative dry, normal, and wet conditions established using the 30-year Pocatello Airport precipitation data. If annual precipitation for each of these years falls within lower-30th percentile or the upper-30th percentile of the 30-year record, dry and wet conditions, respectively, are assigned. Otherwise, average moisture conditions are assigned. Year 2005 was characterized as a wet condition; 2008 was characterized as a dry condition; 2004, 2006, and 2007 were characterized as average with respect to annual rainfall. Additional inputs to affect surface characteristic values include whether the site is an airport, an arid region, or experiences continuous snow cover most of the winter. For this analysis, the MFC site was identified as a non-airport site, so the AERSURFACE model would select high surface roughness values representative of commercial and industrial land cover. For selection of an arid region such as the location of the proposed EREF, the AERSURFACE model uses the seasonal characteristics for shrubland and bare rock/sand/clay categories that are more representative of a desert area. Appropriate seasonal values for the three parameters are applied, depending on whether the site experiences continuous snow cover most of the winter.

C.3 Meteorological Data Processing

The meteorological data preprocessor AERMET requires three types of data: data collected from an onsite measurement program such as from an instrumented tower, if available; NWS hourly surface observations; and NWS twice-daily upper air soundings. As discussed above, the MFC site was assumed to represent the proposed EREF site for this assessment.

Meteorological data at the MFC site, including wind speed and direction, ambient temperature, and standard deviation of horizontal wind direction, were collected at two heights (10 and 76 meters [33 and 249 feet]). Surface wind data measured at an elevation of 1.5 meters from a nearby airport are typically used to describe surface characteristics for the site. Three airports exist within a 50-mile (80-kilometer) radius of the proposed EREF: Idaho Falls (31 kilometers [19 miles]), Pocatello (76 kilometers [47 miles]), and Rexburg (58 kilometers [36 miles]). Because of its proximity to the proposed EREF site, hourly surface meteorological data from Idaho Falls Fanning Field were used for estimating boundary layer parameters. Twice-daily upper soundings data from the NWS station in Boise, Idaho, were used. This station is located in the Western Snake River Plain and is the only station in Idaho at which upper soundings data are collected. The most recent five years (2004 to 2008) of meteorological data from the NWS station at the Idaho Falls Fanning Field Airport, together with meteorological data from MFC and upper sounding data from the NWS station in Boise, Idaho, were processed as inputs to the

AERMOD model. Table C-1 presents detailed information on surface, upper-air, and onsite meteorological stations, data file formats, anemometer heights, and distance and direction from the proposed EREF.

Typically, the wind speed threshold of sensors at monitoring stations not located at an airport is low (e.g., 0.134 meter per second [0.440 feet per second] for the MFC data), but the wind speed threshold for airport data is set at 1 meter per second (3.28 feet per second) by default in AERMET. Accordingly, AERMOD modeling results using non-airport data could be higher than using airport data. However, AERMOD tends to overpredict non-buoyant low-level releases in low-wind speed conditions (Paine and Connors, 2009), resulting in a conservative estimation of impact. An additional AERMOD run was made assuming the sensor threshold of 1 meter per second (3.28 feet per second) to determine the sensitivity of the modeling results to sensor threshold values. Tables C-2 and C-3 provide an indication of AERMOD's sensitivity to wind speed thresholds.

Figure C-1 presents a wind rose at the 10-meter (33-foot) level of the MFC station for the 2004–2008 period. The area experiences the predominant southwest–northeast wind flows at the proposed EREF site. The mountains bordering the ESRP would act to channel the prevailing west winds into a southwesterly flow due to the northeast–southwest orientation of the ESRP between the bordering mountain ranges. The prevailing wind directions are from the southwest (about 16 percent of the time) and secondarily from the south-southwest (13.3 percent). Winds from northeast and north-northeast combined occur more than 18 percent of the time. In January, winds blow equally from south-southwest, north-northeast, and northeast; in February, north-northeast winds prevail. From March through December,

Table C-1 Meteorological Data Information

Station Name	Station ID	Location (lat/long)[a]	Elevation (m)	File Format	Anemometer Height (m)	Distance & Direction from Proposed EREF[a]	Notes
Surface							
Idaho Falls Fanning Field	KIDA USAF: 725785 WBAN: 24145	43.517°N 112.067°W	1445	ISHD (TD-3505)	7.9	19 mi east-southeast	NA[b]
Upper Air							
Boise	BOI WBAN: 24131 WMO: 72681	43.57°N 116.22°W	871	FSL	NA	190 mi west	NA
Onsite							
Materials and Fuels Complex (MFC)	NA	43.594°N 112.652°W	1568	NA	10 and 76	11 mi west	Sensor threshold = 0.134 m/s

[a] Proposed EREF: latitude=43.585°N; longitude=112.425°W; elevation=1583 m.

[b] NA = not applicable.

Source: Hukari, 2009; NCDC, 2009c; NOAA, 2009.

Table C-2 Maximum Air Quality Impacts Due to Emissions Associated with Construction Activities of the Proposed Eagle Rock Enrichment Facility in Idaho (Sensor Threshold = 0.134 meter per second [0.440 feet per second])

		Concentration ($\mu g/m^3$, except ppm for CO)[b]				Percent of NAAQS/SAAQS[c]	
Pollutant[a]	Averaging Time	Maximum Increment[d]	Background[e]	Total	NAAQS/ SAAQS	Increment	Total
CO	1 hour	0.8	4.3	5.1	35	2.4	14.6
	8 hours	0.1	2.1	2.2	9	1.5	24.9
NO_2	Annual	1.0	11.3	12.3	100	1.0	12.3
SO_2	3 hours	11.3	159.7	171.0	1300	0.9	13.2
	24 hours	1.8	62.8	64.6	365	0.5	17.7
	Annual	0.1	15.7	15.8	80	0.1	19.7
PM_{10}	24 hours	355.2	52.0	407.2	150	236.8	271.5
	Annual	15.9	22.0	37.9	50	31.8	75.8
$PM_{2.5}$	24 hours	15.9	21.0	36.9	35	45.3	105.3
	Annual	1.6	6.4	8.0	15	10.5	53.2

[a] CO = carbon monoxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter ≤2.5 μm; PM_{10} = particulate matter ≤10μm; and SO_2 = sulfur dioxide.

[b] To convert $\mu g/m^3$ to ppm for gaseous pollutants, such as SO_2 and NO_2, divide values in $\mu g/m^3$ by the product of 40.82 and the molecular weight.

[c] NAAQS = National Ambient Air Quality Standards; SAAQS = State Ambient Air Quality Standards.

[d] For short-term (≤24 hours) averages, the highest of the second-highest modeled concentrations over five years is presented, except for PM_{10} and $PM_{2.5}$. For 24-hour PM_{10}, high-6th-high over five years (2004–2008) is presented. For $PM_{2.5}$, the highest of the five-year average of the 8th-highest concentration at each receptor is presented. For long-term (annual) average, the highest of the annual averages over five years is presented for NO_2 and SO_2. The highest of multi-year averaged annual means across the receptors are presented for PM_{10} and $PM_{2.5}$.

[e] Source: Table 4-4.

winds blow predominantly from southwest or south-southwest. Average annual wind speed is about 4.1 meters per second (9.2 miles per hour), and relatively low calm winds are recorded about 0.17 percent of the time due to low sensor threshold. Wind speeds of 4.6 meters per second (10.4 miles per hour) are the highest in spring, reducing in summer and fall, and become the lowest at 3.4 meters per second (7.7 miles per hour) in winter.

C.4 Terrain Data Processing

The AERMAP terrain data preprocessor was used to account for the effects of terrain features. The terrain elevations for source and receptor locations were estimated based on the Digital Elevation Model (DEM) elevation data in the USGS DEM format (USGS, 2008). For the AERMOD modeling, 12 vertices for the construction site of about 75 hectares (185 acres) were identified, and sixty-two receptors were placed along the property line of the proposed EREF site, the overall size of which is about 208 hectares (515 acres). No offsite receptors were

Table C-3 Maximum Air Quality Impacts Due to Emissions Associated with Construction Activities of the Proposed Eagle Rock Enrichment Facility in Idaho (Sensor Threshold = 1 meter per second [3.28 feet per second])

		Concentration ($\mu g/m^3$, except ppm for CO)[b]				Percent of NAAQS/SAAQS[c]	
Pollutant[a]	Averaging Time	Maximum Increment[d]	Background[e]	Total	NAAQS/ SAAQS	Increment	Total
CO	1 hour	0.3	4.3	4.6	35	0.9	13.2
	8 hours	0.1	2.1	2.2	9	0.8	24.1
NO_2	Annual	0.8	11.3	12.1	100	0.8	12.1
SO_2	3 hours	6.3	159.7	166.0	1300	0.5	12.8
	24 hours	1.0	62.8	67.8	365	0.3	17.5
	Annual	0.1	15.7	15.8	80	0.1	19.7
PM_{10}	24 hours	189.9	52.0	241.9	150	126.6	161.3
	Annual	13.1	22.0	35.1	50	26.2	70.2
$PM_{2.5}$	24 hours	12.0	21.0	33.0	35	34.1	94.1
	Annual	1.3	6.4	7.7	15	8.6	51.3

[a] CO = carbon monoxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter ≤2.5 μm; PM_{10} = particulate matter ≤10 μm; and SO_2 = sulfur dioxide.

[b] To convert $\mu g/m^3$ to ppm for gaseous pollutants, such as SO_2 and NO_2, divide values in $\mu g/m^3$ by the product of 40.82 and the molecular weight.

[c] NAAQS = National Ambient Air Quality Standards; SAAQS = State Ambient Air Quality Standards.

[d] For short-term (≤24 hours) averages, the highest of the second-highest modeled concentrations over five years is presented except PM_{10} and $PM_{2.5}$. For 24-hour PM_{10}, high-6th-high over five years (2004–2008) is presented. For $PM_{2.5}$, the highest of the five-year average of the 8th-highest concentration at each receptor is presented. For long-term (annual) average, the highest of the annual averages over five years is presented for NO_2 and SO_2. The highest of multi-year averaged annual means across the receptors are presented for PM_{10} and $PM_{2.5}$.

[e] Source: Table 4-6.

established because most emission sources at the construction site would be either area sources or point/mobile sources with low stack height, resulting in most emissions being released at ground or near-ground level. Thus, maximum concentrations would occur in the immediate vicinity of the source and would be adequately reflected in property boundary receptors. The AREAPOLY source option was used to specify an area source as an irregularly shaped polygon of a construction site, and one elevation representative of the construction site was needed for input to the AERMOD. For receptors, AERMAP determines the elevations of receptors along with hill height scale, which is the elevation of the terrain feature that dominates the flow at a receptor of interest. The area surrounding the proposed EREF has no significant terrain features nearby, so hill height scales for all receptors were equal to their elevations.

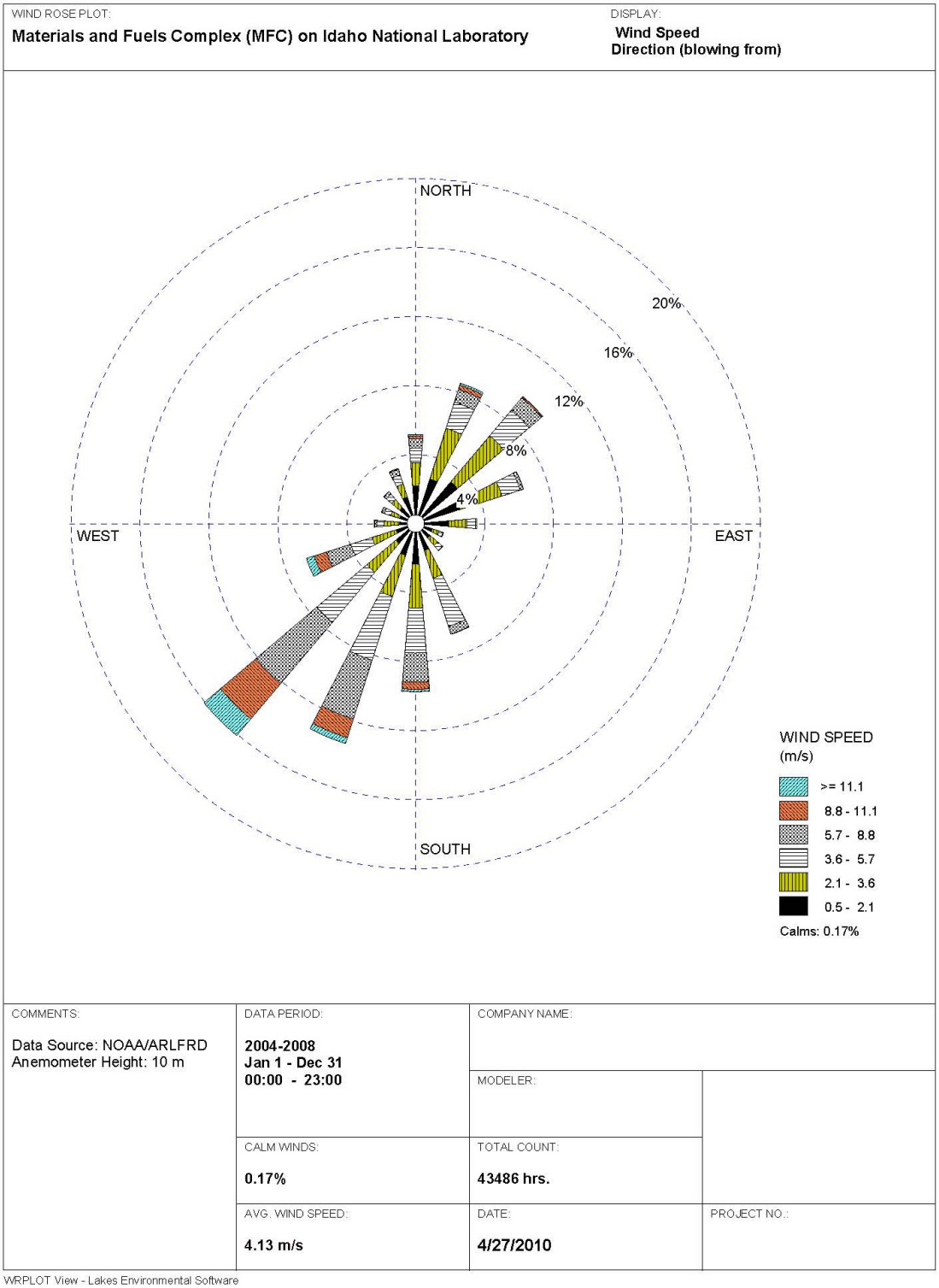

Figure C-1 Wind Rose at 10-meter (33-foot) Level at the Meteorological Station near the Materials and Fuels Complex within the Idaho National Laboratory in Idaho, 2004–2008 (data from Hukari, 2009)

C.5 Modeling Assumptions

The following assumptions were established for air quality modeling and modeling result interpretations:

- Construction activities would occur 5 days/week (or 260 days per year) and 10 hours per day work schedule (7 am to 5 pm). In AERMOD, modeling was conducted for all 365 days in a year, and maximum 24-hour concentration and annual average concentrations were selected. Annual average concentrations were adjusted by multiplying the ratio of annual working days to the possible number of days in a year (260/365).

- Dry and wet deposition mechanisms are uncertain and are not recommended by EPA to be included in regulatory compliance decisions (EPA, 2005, 2009), and thus are not recommended for inclusion for typical applications unless special cases or objectives exist (e.g., deposition impacts on vegetation). Accordingly, no dry and wet depositions for construction-related PM modeling were assumed, i.e., conservatively, all PMs were presumed to be airborne.

- For the purpose of modeling demonstrations of compliance with the National Ambient Air Quality Standards (NAAQS), the following modeled concentrations were used for comparison with the NAAQS as recommended by EPA (EPA, 2005): highest of the second-highest modeled concentrations over five years were presented for 1-hour and 8-hour CO and 3-hour and 24-hour SO_2 and the highest of the annual averages over five years were presented for annual averages for SO_2 and NO_2. For PM_{10}, high-6th-high over five years (2004–2008) was presented. For $PM_{2.5}$, the highest of the five-year average of the high-8th-high concentration at each receptor was presented. Highest of five-year average annual means across the receptors for PM_{10} and $PM_{2.5}$ were presented.

- It was assumed that about 75 hectares (185 acres) would be disturbed in any year somewhere in the 208-hectare (515-acre) proposed EREF construction site. Accordingly, emissions corresponding to disturbance of 75 hectares (185 acres) were uniformly distributed over the 208-hectare (515-acre) proposed EREF construction site. Note that modeled concentration increments are expected to be higher than values predicted here when construction activities would occur near the construction site boundary.

C.6 Modeling Results

Air quality modeling estimates concentration increments over the background. To obtain total concentrations for comparison with applicable air quality standards, these modeled concentration increments were added to measured background concentrations at ambient air quality monitoring sites operated by the Idaho Department of Environmental Quality (see Table 4-4) that are representative of the proposed EREF site.

To quantify the anticipated bias introduced by the AERMOD model in estimating dispersion concentrations in low wind speed conditions, the model was run at two low wind speed default values, 0.134 meters per second (0.440 feet per second) and the higher 1 meter per second (3.28 feet per second), with the results displayed in Tables C-2 and C-3, respectively. At either low wind speed default value, the model predicted exceedance of only the particulate standards.

However, allowing the model to use the higher low wind speed default value resulted in significant reductions in the extent to which the PM_{10} standard was exceeded, 271.5 percent to 161.3 percent, and reduced the anticipated dispersed concentrations of $PM_{2.5}$ from 105.3 percent of the standard to 94.1 percent of the standard.

During the construction phase, estimated maximum concentration increments and total concentrations are shown in Tables C-2 and C-3 for a given sensor threshold of 0.134 meter per second (0.440 feet per second) and a default AERMET sensor threshold of 1 meter per second (3.28 feet per second), respectively.

C.7 References

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APPENDIX D
TRANSPORTATION METHODOLOGY, ASSUMPTIONS, AND IMPACTS

APPENDIX D
TRANSPORTATION METHODOLOGY, ASSUMPTIONS, AND IMPACTS

D.1 Introduction

This appendix presents the detailed methodology, input parameters and assumptions, and results for the transportation impact assessment performed in this Environmental Impact Statement (EIS) for the proposed Eagle Rock Enrichment Facility (EREF). The analysis evaluates the transportation of:

- natural uranium hexafluoride (UF_6) (i.e., not enriched) feed to the proposed EREF
- enriched UF_6 product to fuel fabrication facilities and international ports
- depleted UF_6 to a conversion facility
- empty feed, product, and tails cylinders containing residual contamination
- low-level radioactive waste (LLRW) for disposal

Because rail access is not convenient to the proposed EREF site, AREVA Enrichment Services, LLC (AES) has proposed to use only heavy-haul tractor-trailer combination trucks for the transport of radioactive shipments.

The impact assessment determines the origin and destination of each type of shipment, the amount of radioactive material in each shipment and the associated packaging, and impacts to the environment from these shipments. The WebTRAGIS and RADTRAN 5 computer codes (Johnson and Michelhaugh, 2003; Weiner et al., 2008) were used extensively in this analysis and are discussed in more detail later. The appendix is organized into separate sections that describe the radioactive materials, the shipping routes, the dose assessments, and the results.

D.2 Methodology

The transportation impact assessment considers human health risks from routine transport (normal, incident-free conditions) of radioactive materials and from potential accidents. In both cases, risks associated with the nature of the cargo itself, or "cargo-related" impacts, and those related to the vehicle (regardless of type of cargo), or "vehicle-related" impacts, are considered.

The RADTRAN 5 computer code (Neuhauser and Kanipe, 2003; Weiner et al., 2008) was used in the assessment of routine (incident-free) and accident cargo-related risk to estimate the radiological impacts on collective populations. RADTRAN was originally developed by Sandia National Laboratories in the late 1970s to facilitate calculations presented in *Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes, Volumes I and II* (NUREG-0170) (NRC, 1977) and is the nationally accepted standard program for calculating the risks of transporting radioactive materials. The code has been updated several times to remain abreast of improvements in computer technology and has been used extensively to calculate population risks associated with the transportation of radioactive materials by truck, rail, air, ship, or barge.

D.2.1 Routine Transportation Risk Methodology

The radiological risk associated with routine (incident-free) transportation is cargo-related and results from the potential exposure to low levels of external radiation near a loaded shipment. It is assumed that there are no cargo-related risks posed by incident-free transport of hazardous chemicals. No direct chemical exposure to radioactive material will occur during routine transport because, as discussed in Section D.2.2.2, the packaging is designed and maintained to ensure containment and shielding of contents during normal transport. Any leakage or unintended release of radiological or chemical material is considered under accident risks.

Vehicle-related risks during routine transportation are caused by potential exposure to increased vehicular emissions. These emissions include diesel exhaust, tire and brake particulate emissions, and fugitive dust suspended from the roadbed by passing vehicles.

D.2.1.1 Collective Population Risk

The radiological risk associated with routine (incident-free) transportation results from the potential exposure to low-level external radiation in the vicinity of loaded shipments. Even under routine transportation conditions, some radiological exposure would occur. Because radiological consequences (dose) would occur as a direct result of normal operations, the probability of exposure is assumed to be 1 in RADTRAN 5. Because risk is typically defined as the product of probability and consequence/magnitude, the risk is then equivalent to the estimated dose. This risk is directly comparable to the accident risk discussed in Section D.2.2.

For routine transportation, RADTRAN 5 considers major groups of potentially exposed persons and calculates exposure risks from routine highway transportation for the following population groups:

- *Persons along the Route (Off-Link)*. Collective doses were calculated for all persons living or working within 0.8 kilometer (0.5 mile) of each side of a transportation route. The total number of persons within the 1.6-kilometer (1-mile) corridor was calculated separately for each route considered in the assessment.

- *Persons Sharing the Route (On-Link)*. Collective doses were calculated for persons in all vehicles sharing the transportation route. This group includes persons traveling in the same or opposite directions as the shipment, as well as persons in vehicles passing the shipment.

- *Persons at Stops*. Collective doses were calculated for persons who might be exposed while a shipment is stopped en route. For truck transportation, these stops include those for refueling, food, and rest.

- *Crew Members*. Collective doses were calculated for truck transportation crew members involved in the actual shipment of material. Workers involved in loading or unloading were not considered.

The doses calculated for the first three population groups were summed to yield the collective dose to the public; the dose calculated for the fourth group represents the collective dose to occupationally exposed workers.

The RADTRAN 5 calculations for routine dose generically compute the dose rate as a function of distance from a point source (Neuhauser and Kanipe, 2003). Associated with the calculation of routine doses for each exposed population group are parameters such as the radiation field strength, the source–receptor distance, the duration of exposure, vehicular speed, stopping time, traffic density, and route characteristics (such as population density). The RADTRAN manual contains derivations of the equations used and descriptions of these parameters (Neuhauser and Kanipe, 2003; Weiner et al., 2008).

D.2.1.2 Maximally Exposed Individual Risk

In addition to the assessment of the routine (incident-free) collective population risk, the risk to a maximally exposed individual (MEI) was estimated. In RADTRAN 5, the MEI is assumed to be located 30 meters (100 feet) from the transport route as the radioactive shipment passes at a speed of 24 kilometers per hour (15 miles per hour).

D.2.1.3 Vehicle-Related Risk

Vehicle-related health risks resulting from routine (incident-free) transportation are associated with the generation of air pollutants during shipment and are independent of cargo. The health endpoint assessed under routine transportation conditions was the excess latent mortality from inhalation of vehicular emissions. These emissions consist of particulate matter in the form of diesel engine exhaust, tire and brake particulates, and fugitive dust suspended from the roadway by transport vehicles. Vehicle-related risks from routine transportation were calculated for each shipment by multiplying the total distance traveled by the appropriate risk factor (i.e., for the specific type of vehicle) for pollutant inhalation, as discussed in Section D.3.6.

D.2.2 Accident Transportation Risk Methodology

The cargo-related radiological risk from transportation accidents is attributable to the potential release and dispersal of radioactive material into the environment during an accident and the subsequent exposure of the nearby population through multiple exposure pathways (i.e., inhalation, exposure to contaminated soil, or ingestion of contaminated food). Cargo-related hazardous chemical impacts on human health during transportation accidents arise from container failure and the inhalation of chemicals released during an accident.

The risk analysis for potential accidents differs fundamentally from that of routine (incident-free) transportation because occurrences of accidents are statistical in nature and the accident risk assessment is treated probabilistically. Accident risk is defined as the product of the accident consequence (dose or exposure) and the probability of the accident occurring. In this respect, the analysis estimates the collective accident risk to populations by considering a spectrum of transportation-related accidents. The spectrum of accidents was designed to encompass a range of possible accidents, including low-probability accidents that have high consequences and high-probability accidents that have low consequences (such as “fender-benders”). For radiological risk, the results for collective accident risk can be directly compared to the results for routine collective risk because the latter results implicitly incorporate a probability of occurrence of 1 if the shipment takes place.

Vehicle-related accident risks refer to the potential for transportation-related accidents and resulting fatalities caused by physical trauma, both of which are independent of cargo.

D.2.2.1 Radiological Accident Risk Assessment

The RADTRAN 5 calculation of collective accident risk uses models that quantify the range of potential accident severities and the responses of transported packages to accidents. The spectrum of accident severity is divided into several categories, each of which is assigned a conditional probability of occurrence – that is, the probability that if an accident occurs, it will be of a particular severity. Release fractions, defined as the fraction of the contents in a package that could be released in an accident, are assigned to each accident severity category on the basis of the physical and chemical form of the contents. The model takes into account the mode of transportation and the type of packaging through selection of the appropriate accident probabilities and release fractions, respectively. The accident rates, the definition of accident severity categories, and the release fractions used in this analysis are discussed further in Sections D.3.1.3, D.3.4.1, and D.3.4.2.

For accidents involving the release of radioactive material, RADTRAN 5 assumes that the material is dispersed in the environment according to standard Gaussian diffusion models. For this risk assessment, default data for atmospheric dispersion were used, representing an instantaneous ground-level release and a small-diameter source cloud (Neuhauser and Kanipe, 2003). The calculation of the collective population dose following the release and dispersal of radioactive material includes the following exposure pathways:

- external exposure to the passing radioactive cloud
- external exposure to contaminated ground
- internal exposure from inhalation of airborne contaminants
- internal exposure from the ingestion of contaminated food

For the ingestion pathway, the fraction of farmland in each State traversed was used as input to the RADTRAN code. Farmland fraction is used by RADTRAN to consider the amount of farmland that could be contaminated as a result of an accident, and subsequently lead to the ingestion of contaminated foodstuffs. The majority of each shipping route is considered rural; urban and suburban segments are generally minimized when routing radiological materials. Doses of radiation from external exposure and the ingestion or inhalation of radionuclides were calculated by applying standard dose conversion factors (Eckerman and Ryman, 1993; ICRP, 1996).

D.2.2.2 Chemical Accident Risk Assessment

The risks from exposure to hazardous chemicals during transportation-related accidents, can be either acute (resulting in immediate injury or fatality) or latent (resulting in cancer that would present itself after a period of several years). However, none of the chemicals that might be encountered in any of the transportation accidents involving UF_6 (i.e., HF and uranium

compounds) is carcinogenic. As a result, no excess chemically induced latent cancers would be expected from accidental chemical releases.

The acute effects from uranium or HF intake considered were assumed to exhibit a threshold nonlinear relationship with exposure (i.e., some low level of exposure can be tolerated without inducing a health effect). To estimate risks, chemical-specific concentrations were developed for potential irreversible adverse effects (DOE, 1999a). All individuals exposed at these levels or higher following an accident were included in the transportation risk estimates.

The primary exposure route of concern with respect to accidental release of hazardous chemicals would be inhalation. Although direct exposure to hazardous chemicals via other pathways such as ingestion or absorption through the skin (dermal absorption) would also be possible, these routes would be expected to result in much lower exposure than the inhalation pathway doses for hydrogen fluoride (HF) or uranium compounds. The likelihood of acute effects would be much lower for the ingestion and dermal pathways than for inhalation.

The acute health effects end point – potential irreversible adverse effects – was considered for the assessment of cargo-related population impacts from transportation accidents involving hazardous chemicals. Past analyses of depleted UF_6 shipments have shown that the estimates of irreversible adverse effects to be approximately 1 to 3 orders of magnitude lower than the estimates of public latent cancer fatalities from radiological accident exposure (DOE, 2004a,b; NRC, 2005a). In addition, only one percent or fewer of persons experiencing irreversible adverse effects from exposure to HF or uranium compounds actually results in fatality (Policastro et al., 1997). Because radiological accident impacts would be SMALL and the relative chemical hazards would be even smaller, no further analysis of chemical hazards posed by transport was conducted for this EIS.

D.2.2.3 Vehicle-Related Accident Risk Assessment

Vehicle-related accident risk refers to the potential for transportation accidents that could directly result in fatalities not related to the nature of the cargo. This risk represents fatalities from physical trauma, and State-average rates for transportation fatalities are used in the assessment. Vehicle-related accident risks are calculated by multiplying the total distance traveled by the State-specific rates for transportation fatalities. In all cases, the vehicle-related accident risks are calculated on the basis of distances for round-trip shipment, since the presence or absence of cargo is not a factor in accident frequency.

D.3 Input Parameters and Assumptions

The principal input parameters and assumptions used in the transportation risk assessment are discussed in this section. Transportation of hazardous chemical and radioactive materials is governed by the *Hazardous Materials Transportation Act* and U.S. Department of Transportation (DOT), U.S. Nuclear Regulatory Commission (NRC), and U.S. Environmental Protection Agency (EPA) regulations. These regulations may be found in the U.S. *Code of Federal Regulations* (CFR) at 49 CFR Parts 171–178 and 383–397, 10 CFR Part 71, and 40 CFR Parts 262 and 265, respectively. State organizations are also involved in regulating such transport within their borders. All transportation-related activities must be conducted in accordance with applicable regulations of these agencies. However, the DOT and NRC have

primary regulatory responsibility for shipment of radioactive materials. The regulations most pertinent to this risk assessment can be found in 49 CFR Part 173, 49 CFR Part 397, and 10 CFR Part 71.

D.3.1 Route Characteristics

The transportation route selected for a shipment determines the potentially exposed population and the expected frequency of transportation-related accidents. For truck transportation, the route characteristics most important to the risk assessment include the total shipping distance between each origin and destination and the population density along the route.

D.3.1.1 Route Selection

The DOT regulations concerning the routing of radioactive material shipments on public highways are prescribed in 49 CFR 397.101. The objectives of these regulations are to reduce the impacts of transporting radioactive materials, to establish consistent and uniform requirements for route selection, and to identify the role of State and local governments in routing radioactive materials. The regulations attempt to reduce potential hazards by prescribing that populous areas be avoided and that travel times be minimized. In addition, the regulations require that the carrier of radioactive materials ensures that the vehicle is operated on routes that minimize radiological risks, and that accident rates, transit times, population density and activity, time of day, and day of week are considered in determining risk. However, the final determination of the route is left to the discretion of the carrier.

For this analysis, all domestic shipments to and from the proposed EREF are anticipated to occur via heavy haul tractor-trailer combination trucks. There is no rail infrastructure at the proposed site, and the closest rail access is at least 20 miles away (see Section 3.10). Representative shipping routes were identified using the WebTRAGIS (Version 4.6.2) routing model (Johnson and Michelhaugh, 2003) for all truck shipments. WebTRAGIS is a Web-based version of TRAGIS (Transportation Routing Analysis Geographic Information System) and is used to calculate highway, rail, or waterway routes within the United States. The routes were selected to be reasonable and consistent with routing regulations and general practice, but they are considered only representative because the actual routes used would be chosen in the future and are often determined by the shipper. At the time of shipment, route selection would reflect current road conditions, including road repairs and traffic congestion.

The HIGHWAY data network in WebTRAGIS is a computerized road atlas that includes a complete description of the interstate highway system and of all U.S. highways. In addition, most principal State highways and many local and community highways are identified. The code is periodically updated to reflect current road conditions and has been compared with reported mileages and observations of commercial trucking firms (Johnson and Michelhaugh, 2003).

Routes are calculated within the model by minimizing the total impedance between origin and destination. The impedance is a function of distance and driving time along a particular segment of highway. Table D-1 presents a matrix of the shipping origins and destinations for the various radioactive materials.

Table D-1 Shipping Origins and Destinations[a]

Site/Facility	Feed	Product	Depleted UF_6	LLRW	Empty Feed	Empty Product	Empty Tails
Port Hope, ON	In				Out		
Metropolis, IL	In				Out		
Portsmouth, VA	In	Out			Out		In
Baltimore, MD	In	Out			Out		In
Columbia, SC		Out				In	
Richland, WA		Out				In	
Wilmington, NC		Out				In	
Clive, UT				Out			
Hanford, WA				Out			
Oak Ridge, TN				Out			
Paducah, KY			Out				In
Portsmouth, OH			Out				In

[a] In = incoming shipments to proposed EREF from origin; Out = outgoing shipments from proposed EREF to destination.
Source: AES, 2010.

Even though transportation regulations do not require restricted routing for trucking shipment of natural uranium, low-enriched uranium, or depleted uranium, routing restrictions were applied as follows:

- two drivers
- prohibit use of links prohibiting truck use
- prohibit use of ferry crossing; prohibit use of roads with hazardous materials prohibition
- Highway Route Controlled Quantity (HRCQ) preferred route
- prohibit use of roads with radioactive materials prohibition (HRCQ only)

Table D-2 presents the output from WebTRAGIS that was used in this transportation assessment. For Port Hope, Ontario, an additional 241 kilometers (150 miles) of route distance and one inspection stop were added to the WebTRAGIS output to account for the portion of the route located in Canada.

D.3.1.2 Population Density

Three population density zones – rural, suburban, and urban – were used for the population risk assessment. The fractions of travel and average population density in each zone were

Table D-2 Distance, Density, and Stop Information Generated by WebTRAGIS for Truck Route

Facility	Stops		Link Type	Distance per Trip		Population Density	
	Inspect	Rest		(km)	(mi)	(No./km^2)	(No./mi^2)
Feed Conversion, Port Hope, ON[a]	9	8	Rural	2834.7	1761.7	11.9	30.8
			Suburban	803.8	499.5	305.5	791.3
			Urban	85.0	52.9	2311.0	5985.4
Feed Conversion, Metropolis, IL	6	6	Rural	2306.0	1432.9	9.4	24.3
			Suburban	470.1	292.1	325.3	842.6
			Urban	56.1	34.8	2199.6	5697.0
International Port, Portsmouth, VA	9	8	Rural	3091.4	1921.0	12.7	32.8
			Suburban	898.2	558.1	306.4	793.7
			Urban	71.0	44.1	2216.1	5739.8
International Port, Baltimore, MD	10	9	Rural	2839.4	1764.3	12.4	32.2
			Suburban	860.4	534.6	307.9	797.5
			Urban	91.8	57.0	2291.1	5934.0
Fuel Fabrication, Columbia, SC	10	9	Rural	2867.9	1782.1	11.2	29.0
			Suburban	850.7	528.6	314.4	814.2
			Urban	77.1	47.9	2184.6	5658.1
Fuel Fabrication, Richland, WA[b]	2	3	Rural	822.7	511.2	9.8	25.4
			Suburban	149.8	93.1	305.9	792.2
			Urban	17.2	10.7	2185.7	5661.0
Fuel Fabrication, Wilmington, NC	8	10	Rural	3027.5	1881.2	11.7	30.3
			Suburban	1021.5	634.8	328.6	851.0
			Urban	87.6	54.4	2158.9	5591.5
Waste Disposal, Clive, UT[b]	1	1	Rural	378.9	235.4	10.5	27.2
			Suburban	105.0	65.3	352.7	913.5
			Urban	21.4	13.3	2360.3	6113.3
Waste Disposal, Hanford, WA[b]	2	3	Rural	856.6	532.3	9.5	24.5
			Suburban	149.2	92.7	306.4	793.6
			Urban	16.9	10.5	2174.4	5631.6
Waste Disposal, Oak Ridge, TN	7	8	Rural	2639.9	1640.4	10.7	27.7
			Suburban	642.5	399.2	310.5	804.1
			Urban	65.6	40.7	2218.1	5744.8

Table D-2 Distance, Density, and Stop Information Generated by WebTRAGIS for Truck Routes (Cont.)

Facility	Stops		Link Type	Distance per Trip		Population Density	
	Inspect	Rest		(km)	(mi)	(No./km^2)	(No./mi^2)
Depleted UF_6 Conversion, Paducah, KY	7	6	Rural	2328.7	1447.0	9.5	24.6
			Suburban	478.2	297.1	324.9	841.4
			Urban	56.1	34.8	2199.6	5697.0
Depleted UF_6 Conversion, Portsmouth, OH	8	8	Rural	2684.5	1668.1	12.1	31.2
			Suburban	645.4	401.0	295.9	766.5
			Urban	51.2	31.8	2266.0	5869.0

[a] Includes an additional 241-kilometer (150-mile) segment and one inspection stop to account for the portion of the route located in Canada. Division of the additional segment by link type is consistent with the remainder of the route (rural 76.1 percent, suburban 21.6 percent, and urban 2.3 percent).

[b] Nodes to the west of the proposed EREF were blocked to route all shipping traffic through Idaho Falls, as proposed by AES (AES, 2010).

determined using the WebTRAGIS routing model. Rural, suburban, and urban areas are characterized according to the following breakdown: rural population densities range from 0 to 54 persons per square kilometer (0 to 139 persons per square mile); suburban densities range from 55 to 1284 persons per square kilometer (140 to 3326 persons per square mile); and urban covers all population densities greater than 1284 persons per square kilometer (3326 persons per square mile). Use of these population density zones is based on an aggregation of the 11 population density zones provided in the WebTRAGIS model output (DOE, 2002). For calculation purposes, information about population density was generated at the State level and used as RADTRAN input for all routes. The population densities along a route are derived from 2000 Census data from the U.S. Census Bureau. Route-average population densities and other route characteristics are provided in Table D-2.

D.3.1.3 Accident and Fatality Rates

For calculating accident risks, vehicle accident involvement and fatality rates are taken from data provided in Saricks and Tompkins (1999). For each transport mode, accident rates are generically defined as the number of accident involvements (or fatalities) in a given year per unit distance of travel by that mode in the same year. Accident rates are derived from multiple-year averages that automatically account for such factors as heavy traffic and adverse weather conditions. For assessment purposes, the total number of expected accidents or fatalities is calculated by multiplying the total shipping distance by the appropriate accident or fatality rate.

For truck transportation, the rates presented by Saricks and Tompkins (1999) are specifically for heavy combination trucks involved in interstate commerce. Heavy combination trucks are rigs composed of a separable tractor unit containing the engine and one to three freight trailers connected to each other and the tractor. Heavy combination trucks are typically used for shipping radiological materials that would be transported to and from the proposed EREF. Truck accident rates are computed for each State on the basis of statistics compiled by the DOT

Office of Motor Carriers for 1994 to 1996. Saricks and Tompkins (1999) present accident involvement and fatality counts, estimated kilometers of travel by State, and the corresponding average accident involvement and fatality rates for the three years investigated. Fatalities (including of crew members) are deaths that are attributable to the accident and that occurred within 30 days of the accident.

The truck accident assessment presented in this EIS uses accident (fatality) rates for travel on interstate highways. The total accident risk for a route depends on the total distance traveled in each State along the route and does not rely on national average accident statistics. However, for comparative purposes, the national average truck accident rate on interstate highways presented in Saricks and Tompkins (1999) is 3.15×10^{-7} accident per truck-kilometer (5.07×10^{-7} accident per mile). Note that the accident rates used in this assessment were computed using all interstate highway shipments (regardless of the cargo), as 10 CFR Part 71 requires that HRCQ shipments be made over the interstate highway system.

D.3.2 Packaging

As noted in Section D.3, radioactive materials transported to and from the proposed EREF would be subject to both DOT and NRC shipping regulations. All shipments of UF_6 can be transported in Type A shipping containers having thermal protection (e.g., overpack or other protective assembly) that meets DOT (49 CFR Part 173) and NRC (10 CFR Part 71) requirements. Shipments of the product material are required to have fissile controls in addition to the thermal protection. However, in this assessment of the radiological impacts, any reduction in exposures due to the presence of a thermal and/or fissile overpack is ignored. Packaging for radioactive materials must be designed, constructed, and maintained to ensure that it will contain and shield the contents during normal transportation. For more highly radioactive material, the packaging must also contain and shield the contents in severe accidents. The type of packaging used is determined by the radioactive hazard associated with the packaged material. Table D-3 summarizes the shipment packaging for the shipments considered.

The uranium feed, depleted tails, and LLRW shipments would use Type A packaging. This type of packaging must withstand the conditions of normal transportation without loss or dispersal of the radioactive contents. “Normal” transportation refers to all transportation conditions except those resulting from accidents or sabotage. Approval of Type A packaging is obtained by demonstrating that the packaging can withstand specified testing conditions intended to simulate normal transportation. Type A packaging usually does not require special handling, packaging, or transportation equipment. The UF_6 feed and tails would be shipped in Type 48Y cylinders (USEC, 1999), and LLRW would be shipped in 55-gallon drums. The specifications for a Type 48Y cylinder are shown in Figure D-1 and Table D-4.

The enriched product would be shipped in Type 30B cylinders (USEC, 1999) within Type B overpacks. Figure D-2 and Table D-5 show the specifications of a 30B cylinder. In addition to meeting all Type A standards, Type B packaging must also provide a high degree of assurance that the package integrity will be maintained even during severe accidents, with essentially no loss of the radioactive contents or serious impairment of the shielding capability. Type B packaging must satisfy stringent testing criteria (as specified in 10 CFR 71.73) that were developed to simulate conditions of severe hypothetical accidents, including impact, puncture,

Table D-3 Annual Number of Containers and Trucks Required for Transport

Material	Type of Container	Number per Year	
		Containers	Trucks
Natural UF_6	48Y	1424	1424
Enriched UF_6	30B	1032	516
Depleted UF_6	48Y	1222	1222
LLRW	55-gallon drum	954	16
Empty feed cylinders	48Y	1424	712
Empty product cylinders	30B	1032	516
Empty depleted UF_6 cylinders	48Y	1222	611

Source: AES, 2010.

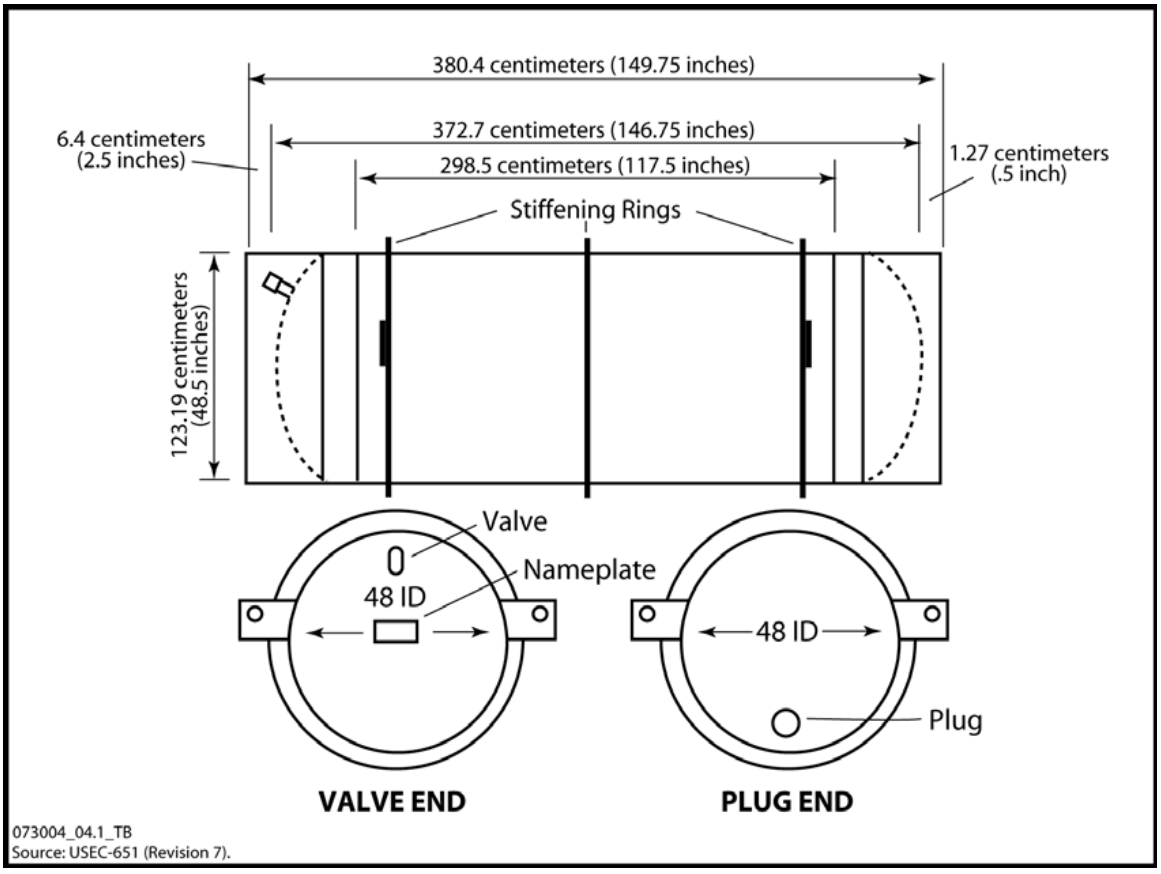

Figure D-1 Schematic of a Type 48Y Cylinder (USEC, 1995)

Table D-4 Type 48Y Cylinder Specifications

Parameter	Value
Nominal diameter	122 centimeters (48 inches)
Nominal length	380 centimeters (150 inches)
Wall thickness	1.6 centimeters (0.625 inches)
Nominal tare weight	2359 kilograms (5200 pounds)
Maximum net weight	12,500 kilograms (27,560 pounds)
Nominal gross weight	14,860 kilograms (32,760 pounds)
Minimum volume	4.04 cubic meters (142.7 cubic feet)
Basic material of construction	Steel: ASTM A-516
Service pressure	1380 kilopascals gage (200 pounds per square inch gage)
Hydrostatic test pressure	2760 kilopascals gage (400 pounds per square inch gage)
Isotopic content limit	4.5 percent ^{235}U (maximum with moderation control)
Valve used	2.54-centimeter valve (1-inch valve)

Source: USEC, 1995.

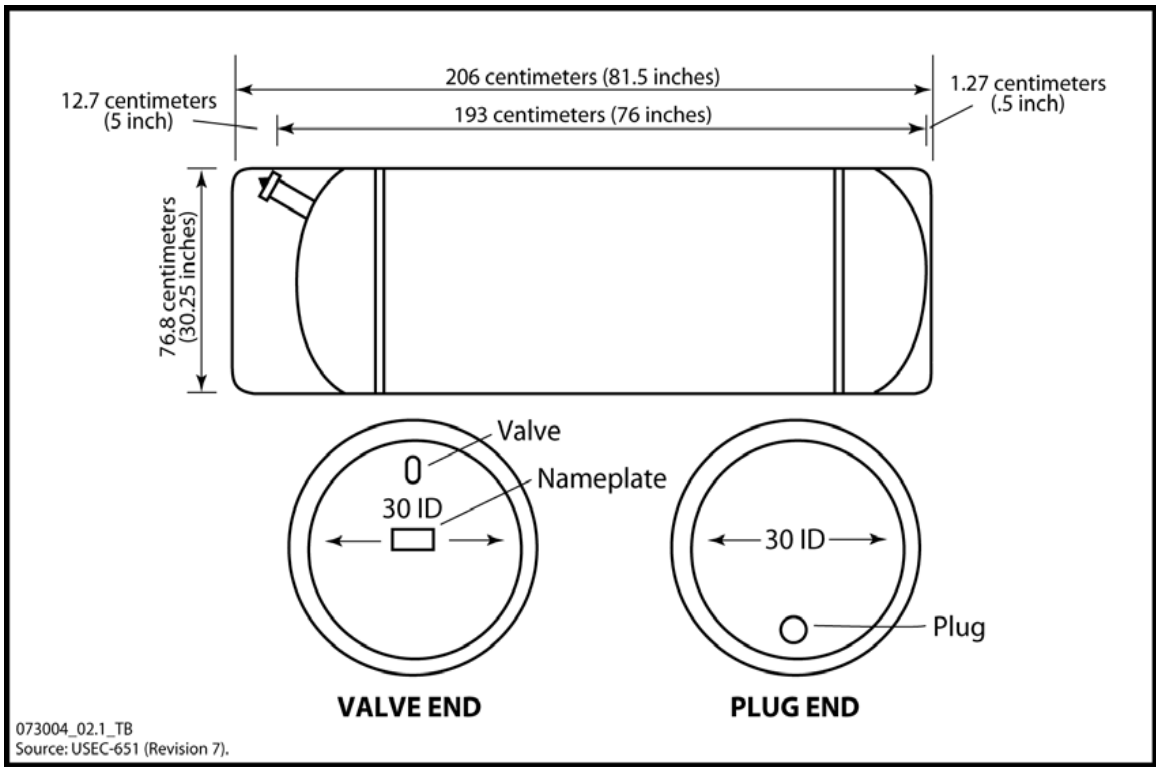

Figure D-2 Schematic of a Type 30B Cylinder (USEC, 1995)

Table D-5 Type 30B Cylinder Specifications

Parameter	Value
Nominal diameter	76 centimeters (30 inches)
Nominal length	206 centimeters (81 inches)
Wall thickness	1.27 centimeters (0.5 inches)
Nominal tare weight	635 kilograms (1400 pounds)
Maximum net weight	2300 kilograms (5000 pounds)
Nominal gross weight	2900 kilograms (6400 pounds)
Minimum volume	736 liters (26 cubic feet)
Basic material of construction	Steel: ASTM A-516
Service pressure	1380 kilopascals gage (200 pounds per square inch gage)
Hydrostatic test pressure	2760 kilopascals gage (400 pounds per square inch gage)
Isotopic content limit	5.0 percent ^{235}U (maximum with moderation control)
Valve used	2.54-centimeter valve (1-inch valve)

Source: USEC, 1995.

fire, and immersion in water. For shipping Type 30B cylinders, a UX-30 overpack would be used (to provide protection and convenience in handling through consolidation). The UX-30 has a diameter of 1.10 meters (43.5 inches) and is 2.44 meters (96 inches) in length (NRC, 2009).

D.3.3 Shipment Configurations and Number of Shipments

Several different types of radioactive materials are proposed for shipment to and from the proposed EREF. Table D-6 presents the activity (amount) of each radionuclide that would be present in containers of feed, product, depleted uranium, and LLRW. Previous EISs have incorporated one year of decay to account for delay in shipping between the generation of depleted UF_6 and any radioactive shipments. Due to the anticipated time frame of startup for the proposed EREF and the impending availability of DOE conversion services, there is no assurance that such decay would occur prior to shipment. Therefore, it was not considered in this analysis.

The radionuclide inventories for the radioactive material shipments presented in Table D-6 include a number of short-lived radionuclides that are not included in the RADTRAN 5 default library of radionuclides. Due to their short half-lives and relatively low activity, these radionuclides do not significantly contribute to the population dose in an accident scenario (incident-free doses are based on exterior dose rates and are not directly dependent on radionuclide inventory). These short-lived radionuclides are assumed to be in equilibrium with their parent radionuclides, so their internal dose contributions are included in the internal dose conversion factors of the parent radionuclides. Furthermore, this simplifying assumption is counterbalanced by the conservative assumption that there would be no decay period between generation and shipment. Therefore, use of the RADTRAN 5 default library of radionuclides in this analysis was considered adequate.

Table D-6 Curie Inventory in Selected Shipping Containers for Truck Transportation

Radionuclide	Feed (natural UF_6)	Product (enriched UF_6)	Depleted Uranium (tails/ depleted UF_6)	Depleted UF_6 Residue (heels)	Empty Product	LLRW
Thallium-207	3.84×10^{-8}	4.92×10^{-8}	1.94×10^{-8}	6.96×10^{-11}	2.45×10^{-10}	1.01×10^{-11}
Thallium-208	1.77×10^{-15}	2.26×10^{-15}	8.94×10^{-16}	3.20×10^{-18}	1.13×10^{-17}	4.63×10^{-19}
Lead-210	3.76×10^{-11}	5.68×10^{-11}	1.80×10^{-11}	6.83×10^{-14}	2.83×10^{-13}	9.87×10^{-15}
Lead-211	3.85×10^{-8}	4.93×10^{-8}	1.95×10^{-8}	6.98×10^{-11}	2.45×10^{-10}	1.01×10^{-11}
Lead-212	4.92×10^{-15}	6.30×10^{-15}	2.49×10^{-15}	8.92×10^{-18}	3.14×10^{-17}	1.29×10^{-18}
Lead-214	3.74×10^{-9}	5.64×10^{-9}	1.79×10^{-9}	6.79×10^{-12}	2.81×10^{-11}	9.82×10^{-13}
Bismuth-210	3.76×10^{-11}	5.68×10^{-11}	1.80×10^{-11}	6.83×10^{-14}	2.83×10^{-13}	9.87×10^{-15}
Bismuth-211	3.85×10^{-8}	4.93×10^{-8}	1.95×10^{-8}	6.98×10^{-11}	2.45×10^{-10}	1.01×10^{-11}
Bismuth-212	4.92×10^{-15}	6.30×10^{-15}	2.49×10^{-15}	8.92×10^{-18}	3.14×10^{-17}	1.29×10^{-18}
Bismuth-214	3.74×10^{-9}	5.64×10^{-9}	1.79×10^{-9}	6.79×10^{-12}	2.81×10^{-11}	9.82×10^{-13}
Polonium-210	1.21×10^{-11}	1.82×10^{-11}	5.78×10^{-12}	2.19×10^{-14}	9.08×10^{-14}	3.17×10^{-15}
Polonium-211	1.08×10^{-10}	1.38×10^{-10}	5.46×10^{-11}	1.96×10^{-13}	6.87×10^{-13}	2.83×10^{-14}
Polonium-212	3.15×10^{-15}	4.03×10^{-15}	1.60×10^{-15}	5.71×10^{-18}	2.01×10^{-17}	8.26×10^{-19}
Polonium-214	3.74×10^{-9}	5.64×10^{-9}	1.79×10^{-9}	6.79×10^{-12}	2.81×10^{-11}	9.82×10^{-13}
Polonium-215	3.85×10^{-8}	4.93×10^{-8}	1.95×10^{-8}	6.98×10^{-11}	2.45×10^{-10}	1.01×10^{-11}
Polonium-216	4.92×10^{-15}	6.30×10^{-15}	2.49×10^{-15}	8.92×10^{-18}	3.14×10^{-17}	1.29×10^{-18}
Polonium-218	3.74×10^{-9}	5.65×10^{-9}	1.79×10^{-9}	6.79×10^{-12}	2.81×10^{-11}	9.82×10^{-13}
Radon-219	3.85×10^{-8}	4.93×10^{-8}	1.95×10^{-8}	6.98×10^{-11}	2.45×10^{-10}	1.01×10^{-11}
Radon-220	4.92×10^{-15}	6.30×10^{-15}	2.49×10^{-15}	8.92×10^{-18}	3.14×10^{-17}	1.29×10^{-18}
Radon-222	3.74×10^{-9}	5.65×10^{-9}	1.79×10^{-9}	6.79×10^{-12}	2.81×10^{-11}	9.82×10^{-13}
Francium-223	6.13×10^{-10}	7.85×10^{-10}	3.10×10^{-10}	1.11×10^{-12}	3.91×10^{-12}	1.61×10^{-13}
Radium-223	3.85×10^{-8}	4.93×10^{-8}	1.95×10^{-8}	6.98×10^{-11}	2.45×10^{-10}	1.01×10^{-11}
Radium-224	4.92×10^{-15}	6.30×10^{-15}	2.49×10^{-15}	8.92×10^{-18}	3.14×10^{-17}	1.29×10^{-18}
Radium-226	3.74×10^{-9}	5.65×10^{-9}	1.79×10^{-9}	6.79×10^{-12}	2.81×10^{-11}	9.82×10^{-13}
Radium-228	4.41×10^{-14}	5.65×10^{-14}	2.23×10^{-14}	8.01×10^{-17}	2.81×10^{-16}	1.16×10^{-17}
Actinium-227	4.44×10^{-8}	5.69×10^{-8}	2.25×10^{-8}	8.06×10^{-11}	2.83×10^{-10}	1.17×10^{-11}
Actinium-228	4.41×10^{-14}	5.65×10^{-14}	2.23×10^{-14}	8.01×10^{-17}	2.82×10^{-16}	1.16×10^{-17}
Thorium-227	3.79×10^{-8}	4.85×10^{-8}	1.92×10^{-8}	6.87×10^{-11}	2.41×10^{-10}	9.94×10^{-12}
Thorium-228	4.91×10^{-15}	6.29×10^{-15}	2.49×10^{-15}	8.91×10^{-18}	3.13×10^{-17}	1.29×10^{-18}
Thorium-230	1.73×10^{-5}	2.61×10^{-5}	8.27×10^{-6}	3.13×10^{-8}	1.30×10^{-7}	4.53×10^{-9}

Table D-6 Curie Inventory in Selected Shipping Containers for Truck Transportation (Cont.)

Radionuclide	Feed (natural UF_6)	Product (enriched UF_6)	Depleted Uranium (tails/ depleted UF_6)	Depleted UF_6 Residue (heels)	Empty Product	LLRW
Thorium-231	1.30×10^{-1}	1.67×10^{-1}	6.58×10^{-2}	2.36×10^{-4}	8.29×10^{-4}	3.41×10^{-5}
Thorium-232	8.83×10^{-13}	1.13×10^{-12}	4.47×10^{-13}	1.60×10^{-15}	5.63×10^{-15}	2.32×10^{-16}
Thorium-234	2.82×10^{0}	4.92×10^{-1}	2.83×10^{0}	5.12×10^{-3}	2.45×10^{-3}	7.41×10^{-4}
Protactinium-231	2.80×10^{-6}	3.58×10^{-6}	1.42×10^{-6}	5.07×10^{-9}	1.78×10^{-8}	7.34×10^{-10}
Protactinium-234m	2.82×10^{0}	4.92×10^{-1}	2.83×10^{0}	5.12×10^{-3}	2.45×10^{-3}	7.41×10^{-4}
Protactinium-234	3.67×10^{-3}	6.39×10^{-4}	3.68×10^{-3}	6.66×10^{-6}	3.18×10^{-6}	9.63×10^{-7}
Uranium-234	1.92×10^{0}	2.90×10^{0}	9.18×10^{-1}	0	0	5.04×10^{-4}
Uranium-235	1.30×10^{-1}	1.67×10^{-1}	6.58×10^{-2}	0	0	3.41×10^{-5}
Uranium-236	1.79×10^{-2}	2.29×10^{-2}	9.06×10^{-3}	0	0	4.69×10^{-6}
Uranium-238	2.82×10^{0}	4.92×10^{-1}	2.83×10^{0}	0	0	7.41×10^{-4}

Source: AES, 2010.

Table D-3 presents the number of packages and number of shipments that would be required for transport to and from the proposed EREF. Uranium feed and depleted tails shipments would consist of one Type 48Y cylinder per truck, and each cylinder would contain about 12.4 metric tons (13.7 tons) of natural or depleted UF_6. Enriched UF_6 product would be shipped in Type 30B cylinders in UX-30 overpacks, two cylinders per truck (although up to five cylinders could be shipped per truck). Each 30B cylinder would contain approximately 2.3 metric tons (2.5 tons) of product. Low-level radioactive waste would be shipped in 55-gallon waste drums, 60 drums per truck. The types and amounts of LLRW that would be shipped are discussed in Section 4.2.9.2.

D.3.4 Accident Characteristics

Assessment of transportation accident risk takes into account the potential severity of transportation-related accidents and the fraction of package contents that would be released to the environment during an accident (commonly referred to as the release fraction). The method used to characterize accident severities and the corresponding release fractions for estimating both radioactive and chemical risks are described below.

D.3.4.1 Accident Severity Categories

A method to characterize the potential severity of transportation-related accidents is described in NUREG-0170, *Final Environmental Statement on the Transportation of Radioactive Material*

by Air and Other Modes (NRC, 1977), and presented in *A Resource Handbook on DOE Transportation Risk Assessment* (DOE, 2002). The NRC method divides the spectrum of accident severities into eight categories, which are further subdivided into population zones (rural, suburban, and urban) containing the fraction of occurrence within each zone. Other studies have divided the same accident spectrum into six categories (Wilmot, 1981), 20 categories (Fischer et al., 1987), or more (Sprung et al., 2000). However, these latter studies focused primarily on accidents involving shipments of spent nuclear fuel. In this analysis, the NUREG-0170 scheme was used for all shipments.

The NUREG-0170 scheme for truck transportation accident classification is shown in Figure D-3. Severity is described as a function of the magnitudes of the mechanical forces (impact) and thermal forces (fire) to which a package may be subjected during an accident. Because all accidents can be described in these terms, severity is independent of the specific accident sequence. In other words, any sequence of events that results in an accident in which a package is subjected to forces within a certain range of values is assigned to the accident severity category associated with that range. The scheme for accident severity is designed to take into account all credible transportation-related accidents, including those accidents with low probability but high consequences and those with high probability but low consequences.

Each severity category represents a set of accident scenarios defined by a combination of mechanical and thermal forces. A conditional probability of occurrence (i.e., the probability that if an accident occurs, it is of a particular severity) is assigned to each category. These fractional occurrences (conditional probabilities) for accidents by accident severity category and population density zone are shown in Table D-7 and are used for estimating the radiological transportation risks.

Category I accidents are the least severe but the most frequent; Category VIII accidents are very severe but very infrequent. To determine the expected frequency of an accident of a given severity, the conditional probability in the category is multiplied by the accident rate (see Section D.3.1.3). Each population density zone has a distinct distribution of accident severities related to differences in average vehicular velocity, traffic density, location (rural, suburban, or urban), and other factors.

D.3.4.2 Package Release Fractions

In NUREG-0170, radiological and chemical consequences are calculated by assigning package release fractions to each accident severity category. The release fraction is defined as the fraction of package contents that could be released from the package as the result of an accident of a given severity. Release fractions take into account all mechanisms necessary to create release of material from a damaged package to the environment. The release fraction is a function of the severity of the accident, the packaging, and the physical form of the material. For instance, a low-impact accident, such as a “fender-bender,” would not be expected to cause any release of material. Conversely, a severe accident would be expected to release nearly all of the material in a shipment into the environment.

Representative release fractions for accidents involving all shipments were taken from NUREG-0170 (NRC, 1977), for both Type A and Type B packages. The recommendations in NUREG-0170 were based on best engineering judgments and have been shown to provide

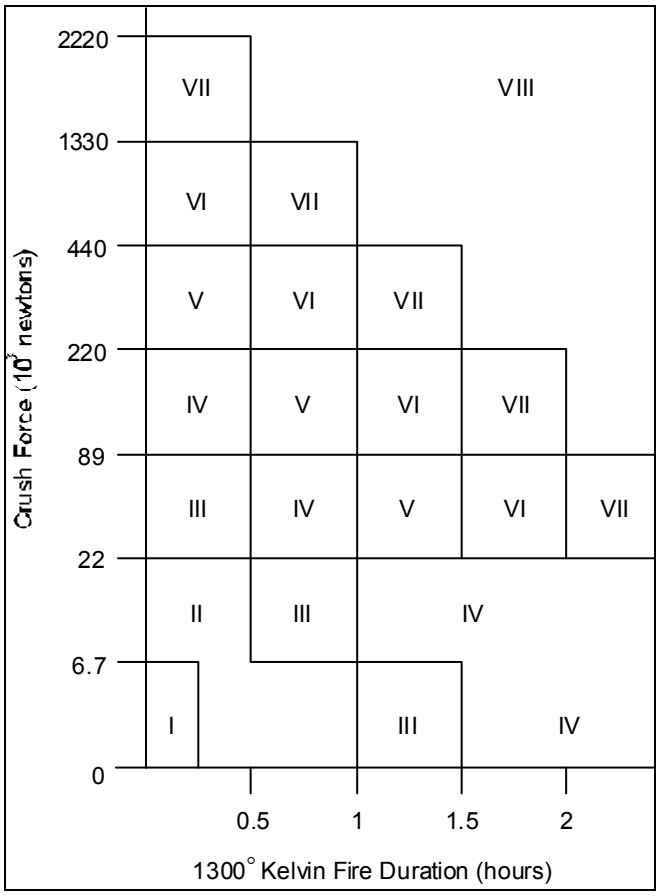

Figure D-3 Scheme for NUREG-0170 Classification by Accident Severity Category for Truck Accidents (NRC, 1977)

Table D-7 Fractional Occurrences for Accidents by Severity Category and Population Density Zone

Severity Category	Fractional Occurrence	Fractional Occurrence by Population Zone		
		Low (Rural)	Medium (Suburban)	High (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	8.50×10^{-5}	0.8	0.1	0.1
VIII	1.50×10^{-5}	0.9	0.05	0.05

Source: NRC, 1977; DOE, 2002.

conservative estimates of material releases following accidents (Sprung et al., 2000). Release fractions for accidents of each severity category are provided in Table D-8. As indicated in the table, the amount of material released from a package ranges from zero for minor accidents to 100 percent for the most severe accidents.

Also important for the purposes of risk assessment are the fraction of the released material that can be entrained in an aerosol (part of an airborne contaminant plume) and the fraction of the aerosolized material that is respirable (of a size that can be inhaled into the lungs). These fractions depend on the physical form of the material. Most solid materials are difficult to release in particulate form and are, therefore, relatively nondispersible. Conversely, liquid or gaseous materials are relatively easy to release if the container is breached in an accident. The aerosolized fraction and respirable fraction for all radiological shipments were conservatively assumed to be 1 for all accidents involving Type A packages (Table D-8). These values are conservative due to the lack of data on package failure under severe conditions (DOE, 2002).

D.3.4.3 Atmospheric Conditions during Accidents

Hazardous material released to the atmosphere is transported by wind. The amount of dispersion, or dilution, of the contaminant depends on the meteorologic conditions at the time of the accident. Because predicting the specific location of a transportation-related accident and the exact meteorologic conditions at the time of the accident is impossible, generic atmospheric conditions were selected for the accident risk assessment. Neutral weather conditions were assumed, represented by Pasquill atmospheric stability Class D with a wind speed of 4 meters per second (9 miles per hour). Because neutral meteorological conditions are the most frequently occurring atmospheric stability condition in the United States, these conditions are most likely to be present in the event of an accident involving a hazardous material shipment. Observations at National Weather Service meteorological stations at more than 300 U.S. locations indicate that on a yearly average, neutral conditions (represented by Pasquill Classes C and D) occur about half (50 percent) the time; stable conditions (Pasquill Classes E and F) occur about one-third (33 percent) of the time; and unstable conditions (Pasquill Classes A and B) occur about one-sixth (17 percent) of the time (Doty et al., 1976). The neutral

Table D-8 Fraction of Package Released, Aerosolized, and Respirable

Accident Severity	Release	Respirable	Aerosolized
I	0	1	1
II	0.01	1	1
III	0.1	1	1
IV	1	1	1
V	1	1	1
VI	1	1	1
VII	1	1	1
VIII	1	1	1

Source: DOE, 2002.

category predominates in all seasons, but it is most prevalent (nearly 60 percent of the observations) during winter.

D.3.5 Radiological Risk Assessment Input Parameters and Assumptions

The dose (and the corresponding risk) to populations during routine (incident-free) transportation of radioactive materials is directly proportional to the assumed external dose rate from the shipment. The actual dose rate from the shipment is a complex function of the composition and configuration of shielding and containment materials used in the packaging, the geometry of the loaded shipment, and the characteristics of the contents.

Table D-9 provides a summary of information from various sources regarding estimates of the external radiation near each type of shipping container. For the purposes of this EIS, the NRC staff has assumed the most conservative dose rate for each type of container. Dose rates are presented in terms of the transport index (TI), which is the dose rate at 1 meter (3 feet) from the surface of a package. The regulatory limit established in 49 CFR 173.441 and 10 CFR 71.47 to protect the public is 0.1 millisievert per hour (10 millirem per hour) at 2 meters (6 feet) from the outer lateral sides of the transport vehicle.

Note that in Table D-9 the external radiation levels for an empty cylinder (Type 48Y or 30B) are higher than those for a full cylinder. This occurs for two reasons. First, after UF_6 (feed, product, or depleted tail) is removed from a cylinder, the radioactive uranium daughter products that build up due to the radioactive decay of uranium collect at the bottom and form what is known as a "heel." The nature of the radiation emitted from the uranium daughter products results in a greater release of gamma radiation than occurs from just uranium. Second, uranium is very dense and an effective shield material for gamma radiation. When a cylinder is full of UF_6, the uranium daughters are distributed throughout the cylinder and emitted radiation must pass through a significant thickness of uranium (and thus can be stopped or absorbed by the uranium). Only gamma emissions from uranium daughters near the inner surface of the cylinder can penetrate the cylinder and contribute to a nearby person's radiation exposure. Because an empty cylinder contains largely vapor and no longer has the high shielding capability of solid UF_6, and because the heel concentrates the more highly radioactive uranium daughters next to the inner surface of the cylinder, the radiation levels near an empty cylinder are higher than those for a full UF_6 cylinder.

In addition to the specific parameters discussed previously, values for a number of general parameters must be specified within RADTRAN to calculate radiological risks. These general parameters define basic characteristics of the shipment and traffic and are specific to the mode of transportation; they include the speed of the vehicle, size of the crew, amount of time the shipment is stopped for rest or inspection, and density of the population sharing the shipping route. The RADTRAN user manual (Neuhauser and Kanipe, 2003; Weiner et al., 2008) contains derivations and descriptions of these parameters. The general RADTRAN input parameters used in the radiological transportation risk assessment are summarized in Table D-10; default RADTRAN values were used for input parameters not described in this appendix.

Table D-9 Direct Radiation Surrounding Shipping Containers[a]

Container	Assumed Dose Rate (mrem/hr)	Measured/Estimated Dose Rate (mrem/hr)	Source
Feed (48Y)	1.0	0.7	NRC, 2006; Table D-7
		0.2	NRC, 2005b; Table 4.12, C-8
		0.29	NRC, 2005b; Table D-7
Product (30B)	1.0	0.4	NRC, 2006; Table D-7
		0.19	NRC, 2005b; Table D-7
Depleted UF_6	1.0	1.0	DOE, 1999a; Sec. J.3.2.1.1
		0.28	NRC, 2005b; Table D-7
		0.23 (min)	Biwer et al., 2001; Table 5.4
		0.46 (max)	Biwer et al., 2001; Table 5.4
LLRW	1.0	1.0	NRC, 2006; Table D-7
		1.0	DOE, 2002; Table 4.2
		0.0042	NRC, 2005b; Table D-7
		0.5 (min)	Biwer et al., 2001; Table 5.4
		1.0 (max)	Biwer et al., 2001; Table 5.4
Empty feed	3.0	1.0	NRC, 2005b; Table C-8, D-7
		1.0	NRC, 2006; Table D-7
		3.0	AES, 2010
Empty product	5.0	1.0	Biwer et al., 2001; Table 5.4
		5.0	AES, 2010
Empty depleted UF_6	3.0	1.0	Biwer et al., 2001; Table 5.4
		3.0	AES, 2010

[a] At one meter.
To convert from millirem to millisievert, multiply by 1×10^{-2}.

D.3.6 Routine Nonradiological Vehicle Emission Risks

Vehicle-related risks during incident-free transportation include incremental risks caused by potential exposure to airborne particulate matter from fugitive dust (resuspended particulates from the roadway) and diesel exhaust emissions. The health end point assessed under routine (incident-free) transport conditions is the excess (additional) latent mortality caused by inhalation of vehicular emissions. Strong epidemiological evidence suggests that increases in ambient air concentrations of PM_{10} (particulate matter with a mean aerodynamic diameter less than or equal to 10 microns) lead to increases in mortality (EPA, 1996a,b). Currently, it is assumed that no threshold exists and that the dose–response functions for most health effects associated with PM_{10} exposure, including premature mortality, are linear over the concentration

Table D-10 RADTRAN 5 Input Parameters

Parameter	Link Type	Value
Traffic volume (vehicles/hour)[a]	Rural	1155
	Suburban	2414
	Urban	5490
Vehicle speed (kph [mph])	Rural	88 (55)
	Suburban	40 (25)
	Urban	24 (15)
Number of people in adjacent vehicle		2
Crew size		2
Distance from source to crew (m)		5
Stop time (h/km)[b]		0.0014
Population density at stops[b]	1 to 10 meters	30,000
	10 to 800 meters	340
Latest cancer risk (fatal cancer per person-rem)[c]		6.0×10^{-4}
Vehicle emission rate (fatalities/km per 1 person/km^2)		8.36×10^{-10}
Vehicle accident (fatalities/km)[d]		1.42×10^{-8}

[a] Previous EISs (and previous versions of RADTRAN) used values of 530, 760, and 2400. However, these values may underestimate current average traffic density on interstate highways (Weiner et al., 2008), which accounts for most of the mileage on routes used in this analysis.
[b] Hostick et al., 1992.
[c] EPA, 1999; ISCORS, 2002.
[d] In lieu of a national average vehicle accident rate, state-specific rates were used (Saricks and Tompkins, 1999).

ranges investigated (EPA, 1996a). Over short and long terms, fatalities (mortality) may result from life-shortening respiratory or cardiovascular diseases (EPA, 1996a; Ostro and Chestnut, 1998). The long-term fatalities are also assumed to include those from cancer.

The increased ambient air particulate concentrations caused by the transport vehicle have been related to premature latent fatalities in the form of risk factors for transportation risk assessments (Biwer and Butler, 1999). A conservative vehicle emission risk factor of 8.36×10^{-10} latent fatalities per kilometer for truck transport (Biwer and Butler, 1999) was used in this assessment. This value is for heavy combination trucks (Class VIIIB) and for areas with unit population density of one person per square kilometer (2.6 persons per square mile). One-way shipment risks are obtained by multiplying the vehicle emission risk factor by the average population density along the route and the route distance. The routine vehicle risks reported in this analysis are for round-trip travel of the transport vehicle.

The vehicle risks reported here are estimates based on the best available data. However, as is true for radiological risks, there is a large and not readily quantifiable degree of uncertainty in the vehicle emission risk factors. For example, large uncertainties exist as to the extent of increased mortality with an incremental rise in particulate air concentrations and as to whether there are threshold air concentrations that are applicable. Also, estimates of the particulate air concentrations caused by transport vehicles are dependent on location, road conditions, vehicle conditions, and weather.

As discussed by Biwer and Butler (1999), there are also large uncertainties in the human health risk factors used to develop the emission risks. In addition, due to the conservatism in the assumptions made by Biwer and Butler to reconcile results with those presented by EPA (EPA, 1993), latent fatality risks estimated with the above risk factor may be considered to be near an upper bound (Biwer and Butler, 1999). Use of this risk factor for Class VIIIB trucks will give estimated fatalities comparable to those from accident fatalities in some cases. In addition, what exactly constitutes a fatality as a direct consequence of increased PM_{10} levels from vehicle emissions is an open question, but long-term fatalities have been associated with increased levels of PM_{10} (Biwer and Butler, 1999).

D.4 Summary of Transportation Impacts

Table D-11 presents the estimated annual radiological and nonradiological impacts from truck shipment of radioactive material, including collective population risk from incident-free transport, latent cancer fatalities from the vehicle emissions, and fatalities from traffic accidents. Table D-12 presents the estimated radiological impacts from potential accidents during these shipments, including the contributions of each exposure pathway to the collective population dose. The accident results are presented in terms of risk, which involves weighting the impact of the various accident scenarios by the frequency that the accident scenario occurs.

The impact results in Table D-11 include a range of values for each type of shipment. This range represents the lowest to highest impact for the various proposed shipping routes. For example, for the feed materials, the values represent one year of shipments from any of the four feed supply locations to the proposed EREF. If some feed materials were provided from one location and the remaining amounts from another, the estimated impacts would fall somewhere between the low and high values (impacts could be evaluated by multiplying the fraction of material from a given location by the impacts from that location plus the fraction of material from a second location multiplied by the impacts from the second location).

To evaluate the total impacts from the transportation of radioactive materials, a scenario must be defined and the impacts from the various materials/routes can be summed. For example, the proposed EREF would receive feed material from Metropolis, Illinois, the product material would be shipped to Wilmington, North Carolina, LLRW would be shipped to Clive, Utah, and depleted UF_6 would be shipped to Paducah, Kentucky. The impacts from these materials/routes would then be summed to determine the total impacts for this scenario. Table 4-11 of this EIS summarizes the potential transportation impacts, presented as a range of collective risk for each type of shipment and the range of impacts summed over all shipping scenarios.

Table D-11 Annual Collective Population Risks from Truck Transportation

Material	Total Mileage (km)	Cargo-Related Radiological Impacts									Vehicle-Related Impacts	
		Dose Risk (person-rem)							Latent Cancer Fatalities			
		Routine Crew	Public Off-Link	Public On-Link	Public Stop	Total Public	Maximum Individual	Accident	Crew	Public	Latent Emission Fatalities	Physical Accident Fatalities
Feed, Port Hope, ON	5,302,406	1.6×10^{1}	5.7×10^{0}	1.8×10^{2}	1.2×10^{2}	3.1×10^{2}	1.9×10^{-4}	1.1×10^{1}	9.6×10^{-3}	1.9×10^{-1}	5.7×10^{-1}	7.5×10^{-2}
Feed, Metropolis, IL	4,033,480	1.2×10^{1}	3.8×10^{0}	6.4×10^{1}	9.4×10^{1}	1.6×10^{2}	1.9×10^{-4}	1.1×10^{1}	7.2×10^{-3}	9.6×10^{-2}	3.5×10^{-1}	5.7×10^{-2}
Feed, Baltimore, MD	5,399,096	1.7×10^{1}	6.6×10^{0}	1.3×10^{2}	1.3×10^{2}	2.7×10^{2}	1.9×10^{-4}	8.0×10^{0}	1.0×10^{-2}	1.6×10^{-1}	6.1×10^{-1}	7.7×10^{-2}
Feed, Portsmouth, VA	5,782,010	1.8×10^{1}	6.8×10^{0}	1.3×10^{2}	1.4×10^{2}	2.8×10^{2}	1.9×10^{-4}	1.1×10^{1}	1.1×10^{-2}	1.7×10^{-1}	5.6×10^{-1}	8.2×10^{-2}
Product, Columbia, SC	1,958,736	4.6×10^{0}	2.4×10^{0}	4.5×10^{1}	4.6×10^{1}	5.2×10^{1}	6.9×10^{-5}	8.5×10^{0}	2.8×10^{-3}	3.1×10^{-2}	2.0×10^{-1}	2.8×10^{-2}
Product, Richland, WA	510,634	1.1×10^{0}	4.2×10^{-1}	9.4×10^{0}	1.2×10^{1}	2.2×10^{1}	6.9×10^{-5}	1.4×10^{0}	6.6×10^{-4}	1.3×10^{-2}	3.9×10^{-2}	7.3×10^{-3}
Product, Wilmington, NC	2,134,589	5.1×10^{0}	3.0×10^{0}	5.2×10^{1}	5.0×10^{1}	1.1×10^{2}	6.9×10^{-5}	9.6×10^{0}	3.1×10^{-3}	6.6×10^{-2}	2.4×10^{-1}	3.0×10^{-2}
Product, Baltimore, MD	1,956,414	4.6×10^{0}	2.4×10^{0}	4.8×10^{1}	4.5×10^{1}	9.5×10^{1}	6.9×10^{-5}	9.8×10^{0}	2.8×10^{-3}	5.7×10^{-2}	2.2×10^{-1}	2.8×10^{-2}
Product, Portsmouth, VA	2,095,166	4.8×10^{0}	2.5×10^{0}	8.9×10^{1}	4.9×10^{1}	1.4×10^{2}	6.9×10^{-5}	6.5×10^{0}	2.9×10^{-3}	8.4×10^{-2}	2.0×10^{-1}	3.0×10^{-2}
Depleted UF_6/tails, Paducah, KY	3,498,830	1.0×10^{1}	3.3×10^{0}	7.0×10^{1}	8.2×10^{1}	1.6×10^{2}	1.6×10^{-4}	7.4×10^{0}	6.0×10^{-3}	9.6×10^{-2}	3.1×10^{-1}	5.0×10^{-2}
Empty feed, Port Hope, ON	2,651,203	2.3×10^{1}	8.6×10^{0}	2.7×10^{2}	1.7×10^{2}	4.5×10^{2}	2.9×10^{-4}	2.7×10^{-5}	1.4×10^{-2}	2.7×10^{-1}	2.8×10^{-1}	3.8×10^{-2}
Depleted UF_6/tails, Portsmouth, OH	4,131,704	1.3×10^{1}	4.1×10^{0}	8.1×10^{1}	9.6×10^{1}	1.8×10^{2}	1.6×10^{-4}	5.3×10^{0}	7.8×10^{-3}	1.1×10^{-1}	3.5×10^{-1}	5.9×10^{-2}

Table D-11 Annual Collective Population Risks from Truck Transportation (Cont.)

Material	Total Mileage (km)	Cargo-Related Radiological Impacts									Vehicle-Related Impacts	
		Dose Risk (person-rem)							Latent Cancer Fatalities			
		Routine Crew	Public Off-Link	Public On-Link	Public Stop	Total Public	Maximum Individual	Accident	Crew	Public	Latent Emission Fatalities	Physical Accident Fatalities
Empty feed, Metropolis, IL	2,016,740	1.8×10^{1}	5.7×10^{0}	1.2×10^{2}	1.4×10^{2}	2.7×10^{2}	2.9×10^{-4}	2.8×10^{-5}	1.1×10^{-2}	1.6×10^{-1}	1.8×10^{-1}	2.9×10^{-2}
Empty feed, Baltimore, MD	2,699,548	2.6×10^{1}	9.8×10^{0}	2.0×10^{2}	1.9×10^{2}	4.0×10^{2}	2.9×10^{-4}	4.1×10^{-5}	1.6×10^{-2}	2.4×10^{-1}	3.0×10^{-1}	3.8×10^{-2}
Empty feed, Portsmouth, VA	2,891,005	2.7×10^{1}	1.0×10^{1}	1.9×10^{2}	2.0×10^{2}	4.0×10^{2}	2.9×10^{-4}	2.8×10^{-5}	1.6×10^{-2}	2.4×10^{-1}	2.8×10^{-1}	4.1×10^{-2}
Empty product, Columbia, SC	1,958,736	2.3×10^{1}	1.2×10^{1}	2.3×10^{2}	2.3×10^{2}	4.7×10^{2}	3.5×10^{-4}	1.7×10^{-5}	1.4×10^{-2}	2.8×10^{-1}	2.0×10^{-1}	2.8×10^{-2}
Empty product, Richland, WA	510,634	5.5×10^{0}	2.1×10^{0}	4.7×10^{1}	5.9×10^{1}	1.1×10^{2}	3.5×10^{-4}	2.8×10^{-6}	3.3×10^{-3}	6.6×10^{-2}	3.9×10^{-2}	7.3×10^{-3}
Empty product, Wilmington, NC	2,134,589	2.5×10^{1}	1.5×10^{1}	2.6×10^{2}	2.5×10^{2}	5.3×10^{2}	3.5×10^{-4}	2.0×10^{-5}	1.5×10^{-2}	3.2×10^{-1}	2.4×10^{-1}	3.0×10^{-2}
Empty depleted UF_6/tails, Port Hope, ON	2,275,120	2.0×10^{1}	7.3×10^{0}	2.3×10^{2}	1.5×10^{2}	3.9×10^{2}	2.5×10^{-4}	2.3×10^{-5}	1.2×10^{-2}	2.3×10^{-1}	2.4×10^{-1}	3.2×10^{-2}
Empty depleted UF_6/tails, Metropolis, IL	1,730,658	1.5×10^{1}	4.9×10^{0}	1.0×10^{2}	1.2×10^{2}	2.2×10^{2}	2.5×10^{-4}	2.3×10^{-5}	9.0×10^{-3}	1.3×10^{-1}	1.5×10^{-1}	2.5×10^{-2}
Empty depleted UF_6/tails, Baltimore, MD	2,316,607	2.2×10^{1}	8.5×10^{0}	1.7×10^{2}	1.6×10^{2}	3.4×10^{2}	2.5×10^{-4}	4.2×10^{-5}	1.3×10^{-2}	2.0×10^{-1}	2.6×10^{-1}	3.3×10^{-2}
Empty depleted UF_6/tails, Portsmouth, VA	2,480,904	2.3×10^{1}	8.8×10^{0}	1.6×10^{2}	1.7×10^{2}	3.4×10^{2}	2.5×10^{-4}	2.3×10^{-5}	1.4×10^{-2}	2.0×10^{-1}	2.4×10^{-1}	3.5×10^{-2}
Empty depleted UF_6/tails, Paducah, KY	1,749,415	1.6×10^{1}	5.0×10^{0}	8.4×10^{1}	1.2×10^{2}	2.1×10^{2}	2.5×10^{-4}	2.3×10^{-5}	9.6×10^{-3}	1.3×10^{-1}	1.5×10^{-1}	2.5×10^{-2}

Table D-11 Annual Collective Population Risks from Truck Transportation (Cont.)

Material	Total Mileage (km)	Cargo-Related Radiological Impacts									Vehicle-Related Impacts	
		Dose Risk (person-rem)							Latent Cancer Fatalities			
		Routine Crew	Public Off-Link	Public On-Link	Public Stop	Total Public	Maximum Individual	Accident	Crew	Public	Latent Emission Fatalities	Physical Accident Fatalities
Empty depleted UF_6/tails, Portsmouth, OH	2,065,852	1.9×10^{1}	6.2×10^{0}	1.2×10^{2}	1.4×10^{2}	2.7×10^{2}	2.5×10^{-4}	1.7×10^{-5}	1.1×10^{-2}	1.6×10^{-1}	1.7×10^{-1}	2.9×10^{-2}
Solid waste, Clive, UT	8086	5.0×10^{-2}	1.0×10^{-2}	2.4×10^{-1}	1.9×10^{-1}	4.4×10^{-1}	2.1×10^{-6}	5.2×10^{-4}	3.0×10^{-5}	2.6×10^{-4}	1.2×10^{-3}	1.1×10^{-4}
Solid waste, Hanford, WA	16,362	9.0×10^{-2}	1.3×10^{-2}	2.9×10^{-1}	3.8×10^{-1}	6.8×10^{-1}	2.1×10^{-6}	4.2×10^{-4}	5.4×10^{-5}	4.1×10^{-4}	1.2×10^{-3}	2.3×10^{-4}
Solid waste, Oak Ridge, TN	53,573	3.1×10^{-1}	5.6×10^{-2}	9.5×10^{-1}	1.3×10^{0}	2.3×10^{0}	2.1×10^{-6}	2.2×10^{-3}	1.9×10^{-4}	1.4×10^{-3}	5.0×10^{-3}	7.6×10^{-4}

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Table D-12 Doses and Total Risk of Latent Cancer Fatalities from Accidents during Truck Transportation of Radioactive Materials

Material	Route	Population Dose (person-rem)					Total Population Risk of LCF
		Ground	Inhaled	Resuspended Soil	Cloud Shine	Total Dose	
Feed	Port Hope, ON	1.2×10^{-1}	1.1×10^{1}	1.8×10^{-2}	4.1×10^{-6}	1.1×10^{1}	6.6×10^{-3}
Feed	Metropolis, IL	1.2×10^{-1}	1.1×10^{1}	1.8×10^{-2}	4.2×10^{-6}	1.1×10^{1}	6.6×10^{-3}
Feed	Baltimore, MD	1.7×10^{-1}	7.8×10^{0}	1.4×10^{-2}	6.2×10^{-6}	8.0×10^{0}	4.8×10^{-3}
Feed	Portsmouth, VA	1.2×10^{-1}	1.1×10^{1}	1.8×10^{-2}	4.2×10^{-6}	1.1×10^{1}	6.6×10^{-3}
Product	Columbia, SC	1.4×10^{-1}	8.3×10^{0}	1.3×10^{-2}	2.9×10^{-6}	8.5×10^{0}	5.1×10^{-3}
Product	Richland, WA	2.2×10^{-1}	1.4×10^{0}	2.2×10^{-3}	4.7×10^{-7}	1.4×10^{0}	8.4×10^{-4}
Product	Wilmington, NC	1.6×10^{-1}	9.5×10^{0}	1.5×10^{-2}	3.3×10^{-6}	9.6×10^{0}	5.8×10^{-3}
Product	Baltimore, MD	1.6×10^{-1}	9.6×10^{0}	1.5×10^{-2}	3.3×10^{-6}	9.8×10^{0}	5.8×10^{-3}
Product	Portsmouth, VA	1.1×10^{-1}	6.4×10^{0}	1.0×10^{-2}	2.2×10^{-6}	6.5×10^{0}	3.9×10^{-3}
Depleted UF_6/tails	Paducah, KY	5.7×10^{-2}	7.3×10^{0}	1.2×10^{-2}	2.8×10^{-6}	7.4×10^{0}	4.4×10^{-3}
Depleted UF_6/tails	Portsmouth, OH	4.1×10^{-2}	5.3×10^{0}	8.5×10^{-3}	2.0×10^{-6}	5.3×10^{0}	3.2×10^{-3}
Empty feed	Port Hope, ON	1.4×10^{-6}	2.5×10^{-5}	2.1×10^{-7}	3.7×10^{-9}	2.7×10^{-5}	1.6×10^{-8}
Empty feed	Metropolis, IL	1.4×10^{-6}	2.6×10^{-5}	2.6×10^{-7}	3.8×10^{-9}	2.8×10^{-5}	1.7×10^{-8}
Empty feed	Baltimore, MD	2.1×10^{-6}	3.9×10^{-5}	3.2×10^{-7}	5.7×10^{-9}	4.1×10^{-5}	2.5×10^{-8}
Empty feed	Portsmouth, VA	1.4×10^{-6}	2.6×10^{-5}	2.6×10^{-7}	3.8×10^{-9}	2.8×10^{-5}	1.7×10^{-8}
Empty product	Columbia, SC	6.5×10^{-7}	1.7×10^{-5}	1.4×10^{-7}	1.7×10^{-9}	1.7×10^{-5}	1.0×10^{-8}
Empty product	Richland, WA	1.1×10^{-7}	2.7×10^{-6}	2.3×10^{-8}	2.8×10^{-10}	2.8×10^{-6}	1.7×10^{-9}
Empty product	Wilmington, NC	7.4×10^{-7}	1.9×10^{-5}	1.6×10^{-7}	1.9×10^{-9}	2.0×10^{-5}	1.2×10^{-8}
Empty DUF_6/tails	Port Hope, ON	1.2×10^{-6}	2.1×10^{-5}	1.8×10^{-7}	3.2×10^{-9}	2.3×10^{-5}	1.4×10^{-8}
Empty DUF_6/tails	Metropolis, IL	1.2×10^{-6}	2.2×10^{-5}	1.8×10^{-7}	3.3×10^{-9}	2.3×10^{-5}	1.4×10^{-8}
Empty DUF_6/tails	Baltimore, MD	2.2×10^{-6}	3.9×10^{-5}	3.3×10^{-7}	5.9×10^{-9}	4.2×10^{-5}	2.5×10^{-8}

Table D-12 Doses and Total Risk of Latent Cancer Fatalities from Accidents during Truck Transportation of Radioactive Materials (Cont.)

Material	Route	Population Dose (person-rem)					Total Population Risk of LCF
		Ground	Inhaled	Resuspended Soil	Cloud Shine	Total Dose	
Empty depleted UF_6/tails	Portsmouth, VA	1.2×10^{-6}	2.2×10^{-5}	1.8×10^{-7}	3.3×10^{-9}	2.3×10^{-5}	1.4×10^{-8}
Empty depleted UF_6/tails	Paducah, KY	1.2×10^{-6}	2.2×10^{-5}	1.8×10^{-7}	3.3×10^{-9}	2.3×10^{-5}	1.4×10^{-8}
Empty depleted UF_6/tails	Portsmouth, OH	1.2×10^{-6}	2.2×10^{-5}	1.8×10^{-7}	3.3×10^{-9}	2.3×10^{-5}	1.4×10^{-8}
Solid waste	Clive, UT	7.3×10^{-6}	5.1×10^{-4}	4.2×10^{-6}	1.9×10^{-10}	5.2×10^{-4}	3.1×10^{-7}
Solid waste	Hanford, WA	5.9×10^{-6}	4.1×10^{-4}	3.5×10^{-6}	1.6×10^{-10}	4.2×10^{-4}	2.5×10^{-7}
Solid waste	Oak Ridge, TN	3.1×10^{-5}	2.1×10^{-3}	1.8×10^{-5}	8.1×10^{-10}	2.2×10^{-3}	1.3×10^{-6}

D.5 Uncertainty in Transportation Risk Assessment

There are many sources of uncertainty in assessing the risks of transporting radioactive materials to and from the proposed EREF. Factors that can be quantified include the routing of the material, shipping container characteristics, mode of transport, and source or destination of the material. Each of these sources of uncertainty is discussed below.

D.5.1 Routing of Radioactive Material

There are many varying routes for the shipments of the radioactive materials to and from the proposed EREF. WebTRAGIS simplifies the routing choices by allowing the analyst to select various routing restrictions. These can range from no restrictions to HRCQ restrictions. Choices include the shortest route, fastest route, and prohibit various routes. Based on the NRC's previous analysis of different routing options (NRC, 2005b), the NRC staff used HRCQ routing for the transportation impact assessment this EIS.

D.5.2 Shipping Container Characteristics

The characteristics of the shipping container are important in the assessment of both incident-free and accident impacts. The routine (incident-free) impact is determined by the direct radiation along the side of the shipping container and the length of the container. The accident impacts are determined by the release fraction for each accident severity class. Historically, NUREG-0170 (NRC, 1977) was developed to provide background material for a review by the NRC of regulations dealing with the transportation of radioactive materials. In 2002, DOE presented a review of the historical assessments, transportation models, and a compilation of supporting data parameters, including release fractions, and generally accepted assumptions (DOE, 2002). DOE also evaluated shipments of depleted UF_6 in Type 48Y containers (DOE, 1999b); however, the release fractions were about one quarter of the DOE (2002) values. For this assessment, the NRC staff chose to use the more conservative release fractions for Type A containers (DOE, 2002).

D.5.3 Source or Destination of Radioactive Material

The source or destination of the radioactive material can also affect the transportation impact analysis. For example, as discussed in Section D.4, it is not expected that all of the feed material would be received exclusively from Port Hope, Ontario, Canada, or from Metropolis, Illinois. It is a reasonable assumption that feed could come from multiple sources. Therefore, the impact from transportation of feed material would range between the impacts evaluated for Port Hope and Metropolis. The same rationale applies to other types of shipments.

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APPENDIX E
DOSE METHODOLOGY AND IMPACTS

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DOSE METHODOLOGY AND IMPACTS

E.1 Introduction

This appendix discusses the methodology, data, and results for the analysis of the impacts on workers (construction workers, nonradiological workers, and radiation workers) and members of the general public that could result from routine operations at the AREVA Enrichment Services, LLC (AES) proposed Eagle Rock Enrichment Facility (EREF).

The consideration of radiation impacts on EREF construction workers covers the period of time when the proposed EREF is operational but not yet at full capacity. These workers would be present and could possibly be exposed to radiation during normal operations at the proposed facility. They may be exposed to external gamma radiation from stored depleted uranium cylinders, low-enriched uranium (LEU) product cylinders, natural feed cylinders, and empty cylinders. In addition, these workers would be exposed to radiation associated with the atmospheric release of uranium during normal operations.

The consideration of radiation impacts on EREF radiation workers covers internal exposures that may be associated with uranium enrichment operations, external exposures to depleted uranium and LEU product cylinders, and external exposures associated with process operations. Radiation dosimetry results associated with similar operational facilities will be used to assess worker doses at the proposed EREF.

Radiation impacts on members of the general public may result from the atmospheric release of uranium from normal operations as well as gamma radiation associated with stored depleted uranium cylinders.

E.2 Pathway Assessment Methodology

The CAP88-PC Version 3.0 computer code was used to assess the impacts on nonradiological workers and members of the general public from the atmospheric release of uranium compounds associated with normal operations (Rosnick, 2007). The CAP88-PC code estimates the total effective dose, which is the 50-year committed effective dose from internal emitters plus the effective dose from external exposure.

E.2.1 Members of the General Public

Radiological impacts on members of the general public were estimated for the following:

- collective population living within 80 kilometers (50 miles) of the proposed EREF
- nearest resident
- persons located outside the fenced boundary of the proposed EREF

The consideration of radiological impacts on the collective population and nearest resident covers the following pathways:

- external gamma radiation due to plume submersion
- external gamma radiation due to deposition
- inhalation of uranium compounds due to plume passage
- inhalation of uranium compounds due to resuspension
- ingestion of plant foods grown within 80 kilometers (50 miles) of the proposed EREF
- ingestion of meat products raised within 80 kilometers (50 miles) of the proposed EREF
- ingestion of milk produced within 80 kilometers (50 miles) of the proposed EREF

Since the area including and surrounding the proposed EREF is zoned for commercial use, for assessment purposes, the receptors were modeled as nonradiological workers that spend 2000 hours per year next to the outer boundary of the proposed EREF. The consideration of radiological impacts on persons working next to the outer fence line of the proposed EREF covers the following pathways:

- external radiation due to stored depleted uranium tail, LEU product, natural feed, and empty cylinders
- external gamma radiation due to plume submersion
- external gamma radiation due to deposition
- inhalation of uranium compounds due to plume passage
- inhalation of uranium compounds due to resuspension

E.2.2 Construction Workers

The consideration of radiological impacts on construction workers associated with continued construction operations while the proposed EREF is operational covers the following pathways:

- external radiation due to stored depleted uranium tail, LEU product, natural feed, and empty cylinders
- external gamma radiation due to plume submersion
- external gamma radiation due to deposition
- inhalation of uranium compounds due to plume passage

- inhalation of uranium compounds due to resuspension

These receptors were evaluated separately from persons working near the outer boundary because of their proximity to radiation sources such as the LEU, product, depleted uranium tail, natural feed, and empty cylinders.

E.2.3 Nonradiological Workers

The consideration of radiological impacts on nonradiological workers (i.e., general office staff) is also considered. These workers are not actively working in the uranium processing areas but rather are general office staff (administrative/secretarial support, etc.). The potential pathways would include:

- external radiation due to stored depleted uranium tail, LEU product, natural feed, and empty cylinders
- external gamma radiation due to plume submersion
- external gamma radiation due to deposition
- inhalation of uranium compounds due to plume passage
- inhalation of uranium compounds due to resuspension

The impacts associated with these workers are assessed using dosimetry records from similar operating enrichment facilities (AES, 2010).

E.2.4 EREF Radiation Workers

Radiological impacts on the EREF radiation workers were estimated on the basis of dosimetry records of historical operations at similar facilities. The EREF radiation workers would be under a radiation dosimetry program that measures both external and internal radiation doses.

E.2.5 Environmental Transport Methodology

The CAP88-PC Version 3 computer code was used to estimate the radiological impacts associated with the atmospheric transport of uranium compounds during normal operations (Rosnick, 2007). CAP88-PC estimates the total effective dose associated with the external inhalation and ingestion pathways. Version 3 of the computer code has incorporated dose conversion and risk factors from Federal Guidance Report Number 13 (FGR 13) (EPA, 1999), which used dose conversion factors from the International Commission on Radiological Protection Publication 72 (ICRP 72) (ICRP, 1996).

The CAP88-PC computer code incorporates a modified version of the AIRDOS-EPA program to calculate the environmental transport of radionuclides. Relevant sections of the CAP88-PC Version 3 users guide are reproduced in this section as referenced.

At the center of the atmospheric transport model is the Gaussian plume model of Pasquill, as modified by Gifford:

$$\chi = \frac{Q}{2\pi\sigma_y\sigma_z\mu}\exp\left[-\frac{1}{2}\left(\frac{y}{\sigma_y}\right)^2\right]\left(\exp\left[-\frac{1}{2}\left(\frac{z-H}{\sigma_z}\right)^2\right]+\exp\left[-\frac{1}{2}\left(\frac{z+H}{\sigma_z}\right)^2\right]\right), \quad (1)$$

where

- χ = concentration in air (chi) at *x* meters downwind, *y* meters crosswind, and *z* meters above ground (Ci/m^3)
- Q = release rate from stack (Ci/s)
- μ = wind speed (m/s)
- σ_y = horizontal dispersion coefficient (m)
- σ_z = vertical dispersion coefficient (m)
- H = effective stack height (m)
- y = crosswind distance (m)
- z = vertical distance (m)

The effective release height used in equation 1 considers buoyant plume rise due to compounds being released above ambient temperatures. For the proposed EREF, any released uranium compounds would be at ambient temperatures; therefore, the effective stack height is simply the height of the release point.

Annual average meteorological data sets usually include frequencies for several wind-speed categories for each wind direction and the 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 1 is applied to ground-level concentrations in air at the plume centerline by setting *y* and *z* to zero, which results in

$$\chi = \frac{Q}{2\pi\sigma_y\sigma_z\mu}\exp\left[-\frac{1}{2}\left(\frac{H}{\sigma_z}\right)^2\right]. \quad (2)$$

The average ground-level concentration in air over a sector of 22.5 degrees can be approximated by

$$\chi_{avg} = \frac{\int_0^\infty \exp\left[-\left(\frac{0.5}{\sigma_y^{\,2}}\right)y^2\right]dy}{x\tan(11.25^o)} * \frac{Q}{2\pi\sigma_y\sigma_z\mu}\exp\left[-\frac{1}{2}\left(\frac{H}{\sigma_z}\right)^2\right], \quad (3)$$

which can be reduced further to

$$\chi_{avg} = \frac{Q}{0.15871\,\pi\, x\sigma_z \mu} \exp\left[-\frac{1}{2}\left(\frac{H}{\sigma_z} \right)^2 \right]. \quad (4)$$

The CAP88-PC code considers both dry and wet deposition as well as radioactive decay. Plume depletion is accounted for by substituting a reduced release rate *Q'* for the original release rate 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, dry deposition, and radioactive decay.

Ground surface soil concentrations are calculated on an annual basis. Ingrowth and decay of progeny radionuclides are calculated by using Bateman's equations for the entire decay chain. Radionuclide concentrations in meat, milk, and vegetables are calculated by using elemental transfer factors from Report 123 of the National Council on Radiation Protection and Measurements (NCRP, 1996). The concentration in soil for each isotope is multiplied by the appropriate elemental transfer factor to generate a concentration in each ingestion pathway medium for that isotope in that sector.

E.3 Radiological Impact Assessment Input

The data and results of the radiological impacts are provided below for the following groups:

- collective population
- nearest resident
- member of the public adjacent to the outer boundary of the proposed EREF
- construction workers associated with the continued construction operations while the proposed EREF is operational
- construction worker at uranium hexafluoride (UF_6) cylinder pad
- EREF workers

E.3.1 Radionuclide Releases

The release of uranium compounds during normal operations was modeled by using the activity data provided in Table E-1. The radiological impacts were modeled by using releases from a 1.5-million-separative work unit (SWU) plant described in NUREG-1484 (NRC, 1994) linearly scaled up to a 6.6-million-SWU facility. For the 6.6-million-SWU facility, it was assumed that 19.5 megabecquerels (530 microcuries) of uranium was released. For conservatism, this same quantity of uranium was assumed to be released during the combined construction and operational phase in order to estimate the maximum potential dose that construction workers could incur.

Release points for airborne emissions were assumed to take place at an elevation of 40 m (132 ft). However, the CAP88-PC computer code does not account for building wake effects.

Table E-1 Source Term Used for the Radiological Impact Assessment for Normal Operations[a]

Radionuclide	Wt%	Activity MBq (μCi)
Uranium-234	5.5×10^{-3}	9.5 (260)
Uranium-235	0.71	0.5 (10)
Uranium-238	99.3	9.5 (260)
Total		19.5 (530)

[a] Members of the general public, 6.6-million-SWU facility. Annual uranium released: 760 grams, 19.5 MBq (530 μCi).
Source: Derived from AES, 2010.

Therefore, doses were assessed based on a combination of ground-level releases and 40-m stack releases. For conservatism, the maximum dose calculated for the same individuals or collective population from either a 40-m release or a ground-level release was used for the dose assessment.

E.3.2 Population Distributions

The general population distribution for the radiological impact assessment was made by projecting the population of the 12 counties in Idaho (Bannock, Bingham, Blaine, Bonneville, Butte, Caribou, Clark, Fremont, Jefferson, Lemhi, Madison, and Power) that fall within the 80-kilometer (50-mile) radius of the proposed EREF. Population estimates were made by using the SECPOP 2000 computer code to year 2050 (NRC, 2003). A total of 267,256 persons was considered for estimating the collective population dose. Table E-2 provides the population distribution data used for the assessment.

The worker population distributions were derived on the basis of those workers who are involved in the continued build-out of the adjoining Separation Building Modules (SBMs), the UF_6 handling areas, and the storage areas for the full tails, full feed, and empty cylinders. In total, approximately 400 construction-related persons were evaluated for the radiological dose assessment. Table E-3 provides a breakdown of the individuals by labor craft and location.

E.3.3 Exposure Time Fractions and Receptor Locations

The CAP88-PC computer code assumes that an individual spends an entire year at the locations provided. This assumption is overly conservative with regard to evaluating either the construction worker collective population dose or the dose received by a hypothetical worker at the site boundary because, on average, a worker is assumed to spend 2000 hours per year at a job site. In order to account for this limitation, the collective construction worker doses and the doses received by a hypothetical worker at the site boundary were scaled down by a factor of 4.38 (24 multiplied by 365.25/2000).

Table E-2 Extrapolated Data on Population within 80-kilometer (50-mile) Radius of Proposed EREF in 2050 (distance from proposed EREF in kilometers [top line] and miles [bottom line])

Direction	0–1.6 (0–1)	1.6–3.2 (1–2)	3.2–4.8 (2–3)	4.8–6.4 (3–4)	6.4–8.0 (4–5)	8.0–16 (5–10)	16–32 (10–20)	32–48 (20–30)	48–64 (30–40)	64–80 (40–50)
S	0	0	0	0	0	0	169	20,589	3835	61,264
SSW	0	0	0	0	0	0	49	757	1172	3477
SW	0	0	0	0	0	0	49	55	5	38
WSW	0	0	0	0	0	0	0	33	9	6
W	0	0	0	0	0	0	0	0	10	2142
WNW	0	0	0	0	0	0	0	56	220	562
NW	0	0	0	0	0	0	0	0	0	84
NNW	0	0	0	0	0	0	53	299	58	18
N	0	0	0	0	0	0	921	223	146	70
NNE	0	0	0	0	0	0	290	559	157	831
NE	0	0	0	0	0	3	193	8	1365	4882
ENE	0	0	0	0	0	3	1561	9655	29,946	4229
E	0	0	0	0	0	17	1004	13,654	3436	37
ESE	0	0	0	0	0	14	12,744	68,188	421	0
SE	0	0	0	0	0	0	741	10,303	21	2
SSE	0	0	0	0	0	75	142	6214	78	114

Table E-3 Worker Population Distribution during Build-Out/Operational Phase

Labor Craft	Plant Area	Craft Hours per Year	Persons
Civil/structural	UF_6 Handling	109,174	54
	SBM	269,296	134
	Cylinder Pad	24,729	12
Mechanical	UF_6 Handling	65,504	32
	SBM	161,577	80
	Cylinder Pad	14,837	7
Electrical	UF_6 Handling	43,669	22
	SBM	107,718	53
	Cylinder Pad	9891	5
Totals	UF_6 Handling	218,348	108
	SBM	538,592	267
	Cylinder Pad	49,459	24.5

Source: AES, 2009.

The hypothetical site boundary receptor was chosen so that a person would receive the dose; therefore, this individual can be considered a maximally exposed individual. Since Bonneville County zoning laws prohibit the land area adjacent to the proposed EREF to be zoned other than for industrial use, the receptor was modeled as a worker that spends 2000 hours per year at the proposed site boundary. On the basis of the release point and meteorological conditions present at the proposed site, the receptor was assumed to be located 1.1 kilometers (0.7 mile) north of the proposed site.

Table E-4 provides a listing of the receptor locations and the time fractions used to estimate the radiological impacts on the nearest resident and the hypothetical worker at the proposed site boundary.

E.3.4 Agricultural Productivity

The ingestion of vegetables, meat, and milk was considered in the radiological impact assessment. The U.S. Environmental Protection Agency (EPA) rural food source scenario option within CAP88-PC was selected for the assessment. On the basis of regional food production, estimates were derived for the beef cattle density, milk cattle density, and land fraction cultivated by vegetables. Table E-5 provides a list of the agricultural parameters used in CAP88-PC for the radiological impact assessment.

E.3.5 Radionuclide-Specific Input

The radiological impacts were estimated by using the CAP88-PC Version 3.0 computer code. This computer code uses the newer FGR-13/ICRP-72-based dose conversion factors. Uranium

Table E-4 Receptor Locations for Radiological Impact Assessment

Receptor	Direction from Source to Proposed Site Boundary	Distance from Source to Proposed Site Boundary in km (mi)	Time Spent at Location (h)
Nearest resident	North	8.0 (5.0)	8761
Member of the public at proposed site boundary:			
Cylinder pad	North	0.76 (0.47)	2000
Atmospheric release	North	1.1 (0.7)	NA[a]

[a] NA = Not applicable.

Table E-5 Agricultural Input Parameters Used in the Radiological Impact Assessment

	Vegetable	Meat	Milk	Scenario
Fraction from assessed area	0.7	0.4	0.442	Collective population dose
Fraction home produced	0.3	0.6	0.558	Nearest resident
Cattle density (no./km^2)		11	1.78	Collective population/nearest resident
Cultivated land fraction	0.036			Collective population/nearest resident

Source: Derived from AES, 2010.

compounds released from the proposed EREF were assumed to be in the form of uranyl fluoride (UO_2F_2), which would be more soluble than other forms of uranium, such as uranium oxide. To properly capture this chemical phenomenon, "medium" lung clearance classes were assigned to each uranium isotope.

Radionuclide transfer factors are used to model the uptake of radionuclides by plants and animals. The transfer factors are element-dependent rather than radionuclide-dependent. The default values for uranium found in the CAP88-PC Version 3.0 computer code were used for the radiological impact assessment. A list of the element- and radionuclide-specific factors used for all radiological impact modeling is provided in Table E-6.

E.4 Results of the Radiological Impact Analyses

This section provides the results of the radiological impact analyses. Radiological impacts were estimated for the following:

- collective population
- nearest resident
- member of the public adjacent to the outer boundary of the proposed EREF

Table E-6 Radionuclide-Specific Input Used in the Radiological Impact Assessment

Parameter Name	Radionuclide			Element
	Uranium-234	Uranium-235	Uranium-238	Uranium
Lung clearance class	M	M	M	
Inhalation dose conversion factor (mrem/pCi)	1.29×10^{-2}	1.14×10^{-2}	1.06×10^{-2}	
Ingestion dose conversion factor (mrem/pCi)	1.83×10^{-4}	1.73×10^{-4}	1.65×10^{-4}	
Immersion dose conversion factor (mrem m^3/µCi-yr)	7.14×10^{5}	7.55×10^{8}	2.92×10^{5}	
Ground surface dose conversion factor (mrem m^2/µCi-yr)	6.82×10^{2}	1.63×10^{5}	4.94×10^{2}	
Deposition velocity (m/s)	1.8×10^{-3}	1.8×10^{-3}	1.8×10^{-3}	
Particle size (µm)	1	1	1	
Milk transfer factor				4×10^{-4}
Meat transfer factor				8×10^{-4}
Forage uptake factor (pCi/kg of dry forage/dry soil)				0.1
Edible update factor (pCi/kg of wet soil/dry soil)				0.02

Source: Rosnick, 2007; EPA, 1999.

- construction workers associated with the continued construction operations while the proposed EREF is operational

- construction worker at uranium hexafluoride (UF_6) cylinder pad

- EREF workers

E.4.1 Collective Population

Radiological impacts on members of the general population were estimated to be 1.74×10^{-3} person-rem/yr (1.74×10^{-5} person-Sv/yr). The breakdown by radionuclide follows below:

- 9.3×10^{-4} person-rem/yr (54 percent) uranium-234

- 3.8×10^{-5} person-rem/yr (2 percent) uranium-235

- 7.7×10^{-4} person-rem/yr (44 percent) uranium-238

The inhalation pathway was the most dominant, accounting for approximately 88 percent of the total dose. The ingestion pathway contributed to approximately 11 percent of the total dose.

E.4.2 Individual Public Doses

Radiological impacts were evaluated for the nearest resident and a member of the public next to the proposed EREF site boundary. As shown in Table E-4, the nearest resident is located 8 kilometers (5 miles) to the north of the proposed EREF and is assumed to spend the entire year at that one location. The dose to this individual was estimated to be 2.12×10^{-4} millirem per year. The dominant pathway for this dose is inhalation, which makes up almost 94 percent of the total dose.

Radiological impacts on the hypothetical member of the public next to the proposed site boundary would be composed of both an external dose due to the stored UF_6 cylinders and an inhalation dose due to the release of uranium under normal operations. The total annual dose to this individual was estimated at 1.4 millirem per year; the external dose associated with the stored cylinders would account for more than 99.86 percent of the total. Since the vast majority of the dose is from external radiation associated with the UF_6 cylinders, it is more appropriate to compare this dose to the dose associated with the regulations found in Title 10 of the U.S. *Code of Federal Regulations* (10 CFR 20.1301). In comparison, this dose to the member of the public at the site boundary is more than 70 times lower than the 100-mrem/yr dose limit for members of the public as codified in 10 CFR 20.1301.

E.4.3 Worker Doses

Radiological impacts on construction workers were evaluated for the period when the proposed EREF would be operational but construction would continue on the SBM and the Cylinder Storage Pad. For this assessment, it was assumed that the cylinder pad would be constructed in 20-percent increments. For conservatism, radiological impacts were evaluated for the time when the last of the segments would be constructed. This scenario would yield the largest external dose to the workers because of the quantity of cylinders on the pad. The impacts would be dominated by the external dose associated with stored UF_6 cylinders on the pad. The MCNP Version 5 computer code was used to estimate doses when the last 20 percent of the pad would be under construction (X5 Monte Carlo Team, 2003).

The total annual collective worker dose to construction workers associated with continued construction of the remainder of the proposed EREF while a portion of the proposed facility is under construction was estimated to be 37.6 person-rem. More than 99 percent of the total dose is associated with external exposures from the depleted uranium, LEU product, natural feed, and empty cylinders. Likewise, approximately 64 percent of the collective worker dose is associated with the workers constructing the storage pad. Table E-7 provides the collective doses for both members of the general public living within 80 kilometers (50 miles) of the proposed EREF and the construction workers associated with the build-out of the existing facility.

The radiological impact on a construction worker completing the last section of the UF_6 storage pad was estimated at 196 millirem per year, with essentially the entire dose attributable to the depleted uranium, LEU product, natural feed, and empty cylinders on the storage pad. This

Table E-7 Collective Doses for Members of the General Public and Construction Workers during Proposed EREF Build-Out

Receptor	Collective Dose (person-rem/yr)	% Attributable to Cylinders on Pad
General public	1.74×10^{-3}	~0
Construction workers:		
SBM and UF_6 handling area	13.6	99.99
Storage pad	24.0	99.99
Total	37.6	99.99

Table E-8 Summary of Individual Doses for Workers and Members of the Public

Receptor	Dose (mrem/yr)	Major Pathway
Nearest receptor	2.12×10^{-4}	Inhalation
Hypothetical member of the public at the proposed site boundary	1.4	External
Construction pad worker	196[a]	External

[a] This dose exceeds the dose limit in 10 CFR 20.1301 by a factor of 1.96. The construction pad workers should therefore be part of a radiation dosimetry program and reclassified as radiation workers.

dose is almost two times the annual dose limit to members of the general public; therefore, these workers should be part of a radiation dosimetry program and classified as radiation workers. Table E-8 provides a summary of the individual doses evaluated in the radiological impact assessment.

Annual whole-body dose equivalents accrued by workers at an operating uranium enrichment plant are typically low; they ranged from 0.22 to 0.44 millisievert in URENCO (2003, 2004, 2005, 2006, 2007). In general, annual doses to workers are expected to range from 0.50 millisievert per year (5 millirem per year) for general office staff to 3 millisieverts per year (300 millirem per year) for cylinder handlers. The proposed EREF has proposed an administrative limit of 0.01 sievert per year (1 rem per year) to any radiation worker. This limit is 20 percent of the regulatory limit provided in 10 CFR 20.1201. Table E-9 provides estimates of annual doses to representative workers within the proposed EREF. Table E-10 provides estimated dose rates at several areas at the proposed EREF.

Table E-9 Estimated Annual Exposures for Various Occupations at the Proposed EREF

Position	Annual Dose Equivalent (mrem)
General office staff (nonradiological workers)	<5.0
Typical operations and maintenance technician	100
Typical cylinder handler	300

Source: AES, 2010.

Table E-10 Estimated Dose Rates at Various Locations within the Proposed EREF

Position	Dose Rate (mrem/h)
Plant general area	0.01
Separation building – Cascade Halls	0.05
Separation building	0.1
Empty used UF_6 shipping cylinder	
On contact	10
At 1 meter (3.3 feet)	1
Full UF_6 shipping cylinder	
On contact	5
At 1 meter (3.3 feet)	0.2

Source: AES, 2010.

E.5 References

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APPENDIX F
SOCIOECONOMIC ANALYSIS METHODS

APPENDIX F
SOCIOECONOMIC ANALYSIS METHODS

This appendix describes the methods used to estimate the socioeconomic impacts of preconstruction and construction activities and facility operations of the proposed Eagle Rock Enrichment Facility (EREF). Impacts are evaluated for a two-county region of influence (ROI) consisting of Bingham and Bonneville Counties, Idaho. The ROI is the area in which the majority of the proposed EREF permanent employees would live and spend their wages and which is expected to be the primary source of labor for each phase of the proposed EREF (AES, 2010).

The socioeconomic analysis was divided into four main steps: (1) expenditure and employment data during construction and operations were used to estimate direct and indirect economic impacts; (2) the impact on direct State and local tax revenues were estimated; (3) the number of in-migrating workers required to fill onsite job positions during each project phase, and associated family members, was estimated based on information gathered from local economic development agencies; and (4) the resulting housing and local community service employment impacts were estimated.

F.1 Employment, Income, and Tax Impacts

Employment and income impacts include both direct and indirect employment and income associated with the various phases of the proposed EREF development. Direct employment and income are created by onsite activities at the facility itself, while indirect employment and income are created in the ROI as workers directly employed by the proposed EREF spend their salaries and as jobs are created with the purchase of materials, equipment, services, and other non-payroll expenditures. Direct employment and income created during each stage of the proposed project were estimated on the basis of anticipated labor inputs and salaries for the various engineering and construction activities associated with each phase of the proposed project. The indirect impacts of the proposed EREF on regional employment and income were estimated using regional economic multipliers. Multipliers capture the indirect (offsite) effects of onsite activities associated with construction and operation.

The multipliers used in this analysis were taken from the RIMS-II Input-Output Model developed by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA, 2010). The multipliers take into account the flow of commodities to industries from producers and institutional consumers in the various sectors of the economy of the ROI. Input–output accounts also show consumption activities by workers, owners of capital, and imports from outside the region. The RIMS II model contains 528 sectors representing the industries of agriculture, mining, construction, manufacturing, wholesale and retail trade, utilities, finance, insurance and real estate, and consumer and business services. For each sector, the model also includes information on employee compensation; proprietary and property income; personal consumption expenditures; Federal, State, and local expenditures; inventory and capital formation; and imports and exports.

The RIMS-II multipliers measure the total (direct plus indirect) impact of direct facility employment on ROI output, income, and employment. Multipliers associated with each major expenditure category (for example, separator equipment, process building and offices, utilities,

spare parts, and construction payroll) taken from the RIMS-II model are multiplied by the relevant direct employment number, with the resulting total impacts in each category aggregated to produce the overall impact of each phase of the proposed facility.

State income tax revenue impacts were estimated by applying State income tax rates to projected EREF project-related construction and operations earnings. State and local sales tax revenues were estimated by applying appropriate State and local sales tax rates (see Section 3.12.4) to after-tax income generated by construction and operations employees that was spent within the ROI.

F.2 Impacts on Population

A number of workers, families, and children would migrate into the ROI, either temporarily or permanently, with construction and operation of the proposed EREF. The capacity of regional labor markets to provide sufficient numbers of workers in the appropriate occupations required for facility construction and operation is closely related to the occupational profile of the ROI and its occupational unemployment rates. Although Bingham and Bonneville Counties are expected to be the primary sources of labor for the proposed EREF, some in-migration of workers, families, and children into the ROI, either temporarily or permanently, is expected during each phase of the proposed EREF. The capacity of regional labor markets to produce sufficient numbers of workers in the appropriate occupations required for facility construction and operation is closely related to the occupational profile of the ROI and occupational unemployment rates. The number of in-migrating workers used in the analysis was assumed to be small, with the majority of craft skills being available in the ROI. Sixty-five percent of in-migrating workers were assumed to be accompanied by their families, which would consist of an additional adult and one school-age child (AES, 2010), based on the national average household size (U.S. Census Bureau, 2009).

F.3 Impacts on Local Housing Markets

The in-migration of workers during preconstruction, construction, and operation would have the potential to substantially affect the housing market in the ROI. The analysis evaluated the potential impacts resulting from the in-migration of both direct and indirect workers into the ROI by estimating the increase in demand for rental housing, the type of housing most likely to be occupied by construction workers, in the peak year of construction, and the increase in demand for owner-occupied housing, the housing type most likely to be chosen by operations workers, in the first year of operation. The relative impact on existing housing in the ROI was estimated by calculating the impact of the proposed EREF-related housing demand on the forecasted number of vacant rental housing units in the peak year of construction and the number of vacant owner-occupied units in the first year of operations using data from the U.S. Census Bureau (U.S. Census Bureau, 2009).

F.4 Impacts on Community Services

Impacts of proposed EREF in-migration on community service employment were estimated for the two ROI counties in which most of the new workers would reside. The projected numbers of in-migrating workers and families were used to calculate the numbers of new sworn police officers, firefighters, and general government employees required to maintain the existing levels

of service for each community service. Calculations were based on the existing number of employees per 1000 population for each community service. The analysis of the impacts on educational employment estimated the number of teachers required for each school district to maintain existing teacher–student ratios across all student age groups. Information on existing employment and levels of service was collected from the individual jurisdictions providing each service.

F.5 References

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APPENDIX G
ENVIRONMENTAL JUSTICE ANALYSIS DATA

APPENDIX G
ENVIRONMENTAL JUSTICE ANALYSIS DATA

This appendix provides the data used in 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 preconstruction, construction, operation, and decommissioning of the proposed Eagle Rock Enrichment Facility (EREF).

Tables G-1 through G-4 present detailed Census data for the environmental justice analysis at the State, county, and Census block group levels for 2000 (U.S. Census Bureau, 2010). Minority and low-income populations are defined in Sections 3.13.1 and 3.13.2 of this Environmental Impact Statement (EIS). ArcView® geographic information system software was used to determine minority and low-income characteristics by block group. Minority and low-income data are shown for all block groups that lay partially or completely within the area 6.4 kilometers (4 miles) from the proposed EREF.

Table G-1 State and County Minority Population Totals, 2000

Location	Total Population	Minority Population	Percent Minority
Idaho	1,293,953	116,649	9.0
Bingham County	41,735	7332	17.6
Bonneville County	82,522	5948	7.2
Jefferson County	19,155	1749	9.1

Source: U.S. Census Bureau, 2010.

Table G-2 Census Block Group Minority Population Totals, 2000

Location	County	Total Population	Minority Population	Percent Minority
Census Tract 9503, Census Block Group 1	Bingham	1438	234	16.3
Census Tract 9715, Census Block Group 1	Bonneville	790	170	21.5
Census Tract 9715, Census Block Group 2	Bonneville	987	74	7.5
Census Tract 9601, Census Block Group 1	Jefferson	957	202	21.1

Source: U.S. Census Bureau, 2010.

Table G-3 State and County Low-Income Population Totals, 1999

Location	Total Population[a]	Low-Income Population	Percent Minority
Idaho	1,263,205	148,732	11.8
Bingham County	41,342	5137	12.4
Bonneville County	81,532	8260	10.1
Jefferson County	19,155	1984	10.4

[a] Total population for which poverty status has been determined.
Source: U.S. Census Bureau, 2010.

Table G-4 Census Block Group Low-Income Population Totals, 1999

Location	County	Total Population[a]	Low-Income Population	Percent Low-Income
Census Tract 9503, Census Block Group 1	Bingham	1384	162	11.7
Census Tract 9715, Census Block Group 1	Bonneville	692	109	15.8
Census Tract 9715, Census Block Group 2	Bonneville	1053	69	6.6
Census Tract 9601, Census Block Group 1	Jefferson	957	223	23.3

[a] Total population for which poverty status has been determined.
Source: U.S. Census Bureau, 2010.

G.1 References

(CEQ, 1997) Council on Environmental Quality. "Environmental Justice: Guidance under the National Environmental Policy Act." December 10.

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APPENDIX H
BENEFIT-COST ANALYSIS OF PROPRIETARY DATA

The text in this appendix is being withheld under 10 CFR 2.390.

APPENDIX I
PUBLIC PARTICIPATION AND NRC RESPONSE TO COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

APPENDIX I
PUBLIC PARTICIPATION AND NRC RESPONSE TO COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

I.1 Introduction

This appendix summarizes the public participation process conducted by the U.S. Nuclear Regulatory Commission (NRC) staff for the environmental review and preparation of the Environmental Impact Statement (EIS) in support of the NRC's decision on issuing a license to AREVA Enrichment Services LLC (AES) to construct, operate, and decommission a proposed uranium enrichment facility. This facility is the proposed Eagle Rock Enrichment Facility (EREF) near Idaho Falls in Bonneville County, Idaho. In particular, this appendix also presents all of the comments received by the NRC on the Draft EIS and the staff's response to those comments. The NRC staff has considered and addressed the approximately 1150 individual comments that were received from approximately 220 government officials and agencies, nongovernmental organizations, and members of the general public.

I.2 Public Participation

Public participation is an essential part of the environmental review process under the *National Environmental Policy Act of 1969*, as amended (NEPA). This section discusses the process for public participation during the NRC staff's development of the EIS for the proposed EREF. As indicated in the discussions below, the NRC conducted an open, public EIS development process consistent with NEPA and the NRC's regulations under Title 10 of the U.S. *Code of Federal Regulations* (10 CFR) Part 51.

I.2.1 Initial Notification and Notice of Formal Proceeding

Upon receipt of AES's license application for the proposed EREF and completion of an initial acceptance review, the NRC published a notice in the *Federal Register* on July 30, 2009 (74 FR 38052) of receipt and availability of the application and notice of hearing. The NRC's environmental review began following acceptance and docketing of the application, which included a Safety Analysis Report and an Environmental Report. The NRC conducted its reviews pursuant to the requirements of 10 CFR 70.65 and 10 CFR 51.60, respectively.

I.2.2 Public Scoping

The NRC is required under 10 CFR 51.20(b)(10) to prepare an EIS, and under 10 CFR 51.26 to issue a Notice of Intent (NOI) to prepare the EIS and conduct a scoping process for the EIS. The NRC's public scoping process for the EIS for the proposed EREF began on May 4, 2009, with the publication in the *Federal Register* of the NOI (74 FR 20508). This NOI established a 45-day scoping period, ending on June 19, 2009, during which the public could submit written comments on the appropriate scope of issues to be considered in the EIS. The NOI also provided a brief description of the proposed EREF project and information on alternatives to be evaluated and environmental impact areas to be analyzed in the EIS; summarized the NEPA process for the proposed project; identified where information on the proposed project could be accessed; announced a public scoping meeting to be held in Idaho Falls, Idaho, during the

scoping period, on June 4, 2009; and provided information on how to submit written comments to the NRC.

At the public scoping meeting, the NRC staff provided a description of the 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 comments from the public on environmental issues and concerns related to the proposed project. Approximately 40 individuals provided oral comments at the meeting. In addition, seven individuals provided written comments via regular postal mail and another 95 individuals provided comments via email during the scoping period. Scoping comments were provided by government officials and agencies, nongovernmental organizations, and the general public.

The oral and written scoping comments received by the NRC were summarized by the staff in the *Scoping Summary Report*, issued on September 11, 2009. This report, which is included in this EIS in Appendix A, also contains additional information on the scoping process and identifies the issues that would be addressed in the EIS based on the public scoping comments.

I.2.3 Draft EIS Development and Availability for Public Comment

Once the NRC staff completed the scoping process, defined the proposed action and alternatives, and determined the scope of the EIS, the staff prepared the Draft EIS. During development of the Draft EIS, the NRC staff sought input from a number of sources, including Federal, State and local government agencies, Tribal governments, and individuals.

Pursuant to 10 CFR 51.74, on July 21, 2010, the NRC staff published a Notice of Availability (NOA) for the Draft EIS in the *Federal Register* (75 FR 42466), announcing the issuance of the Draft EIS for public comment, in accordance with 10 CFR 51.73, 51.74, and 51.117. The NOA contained a summary of the contents and preliminary findings of the Draft EIS; the NRC staff's preliminary recommendation regarding issuance of the proposed license to AES; information on the public comment meeting to be held in Idaho Falls, Idaho; information on how to submit written comments at the public comment meeting, electronically, or by mail; and information on how to access the Draft EIS and other documents related to the proposed EREF project. Additionally, pursuant to 10 CFR 51.74, the NRC distributed the Draft EIS to approximately 135 individuals including Federal, Tribal, State, and local government officials and other interested parties. Copies of the Draft EIS were also sent by the NRC staff to a public library in Idaho Falls, to maintain in an information repository on the environmental review for the proposed EREF project.

Also in the July 21, 2010, *Federal Register* notice, the NRC staff established a 45-day public comment period on the Draft EIS, consistent with the cited NRC regulations. The official public comment period began with publication in the *Federal Register* on July 23, 2010, of the Notice of Availability of the Draft EIS (75 FR 43160). The public comment period ended on September 13, 2010.

Pursuant to 10 CFR 51.74, the NRC distributed the Draft EIS to approximately 135 individuals, including Federal, Tribal, State, and local government officials and other interested parties. Copies of the Draft EIS were also sent by the NRC staff to the Idaho Falls Public Library. The staff had sent other information on the project to this library over the course of Draft EIS development, including the AES Environmental Report and revisions (AES, 2010a). At the

request of the NRC staff, the library maintains an information repository on the proposed EREF project.

I.2.4 Draft EIS Public Comment Meetings

The NRC staff conducted public meetings to receive oral and written comments on the Draft EIS from members of the public. These meetings were held on August 9, 2010, in Boise, Idaho, and on August 12, 2010, in Idaho Falls, Idaho. At these meetings, the NRC staff provided a description of the NRC's role, responsibilities, and mission; gave a brief overview of its licensing and environmental review processes; summarized the content and preliminary findings and recommendations of the Draft EIS; provided information on how the Draft EIS could be accessed or obtained and how to provide comments on the document; and solicited comments from the public on the Draft EIS. Oral comments were provided by 50 individuals during the Boise meeting and by 46 individuals during the Idaho Falls meeting. In addition, written comments were provided to the NRC staff by12 individuals at the Boise meeting and by 19 individuals at the Idaho Falls meeting. Court reporters recorded both meetings and prepared a written transcript for each.

I.2.5 Additional Public Comments Received on the Draft EIS

In addition to the written comments submitted at the two public meetings, the NRC received 7 letters, 43 postcards, and 81 emails containing comments on the Draft EIS during the Draft EIS public comment period.

I.3 Draft EIS Public Comment Compilation, Identification, Organization, Review, and Response

I.3.1 Comment Compilation

The NRC staff made the public comment meeting transcripts part of the public record, contained in the NRC's Agencywide Documents Access and Management System (ADAMS). The meeting transcripts are also available in the NRC's public website for the proposed EREF project, at http://www.nrc.gov/materials/fuel-cycle-fac/arevanc.html#3. Other comment documents were added to ADAMS as they were received by the NRC.

Members of the public can access ADAMS at http://www.nrc.gov/reading-rm/adams.html. From this website, the transcripts and other comment documents can be accessed by entering their ADAMS Accession Numbers (or ML numbers). The ADAMS Accession Numbers for the comment documents in which commenter's comments appear are identified in Table I-1. See Section I.3.2 below for a complete description of the contents of Table I-1.

I.3.2 Commenter and Comment Identification

The NRC staff reviewed the public meeting transcripts, letters, postcards, and emails to identify and extract the individual comments on the Draft EIS from these documents. These comments are presented in Section I.5 of this appendix.

The NRC staff identified commenters from the meeting transcripts and comments submitted in writing and assigned a unique identification number to each commenter, to aid the readers of

this appendix in locating comments submitted by individual commenters and the NRC staff's corresponding responses to those comments. Table I-1 below lists all of the commenters on the Draft EIS alphabetically by last name, their associated commenter number, the ADAMS Accession Number(s) of the comment document(s) in which each commenter's comments appear, and the subsection(s) of Section I.5 that contain their comments and the NRC responses to those comments.

The NRC staff also assigned a unique comment number to each individual comment. The public meeting transcripts contain multiple comments, and each written comment document received contains one or more comments. The comment identification numbers consist of two parts. The first part identifies the commenter (i.e., is the commenter identification number discussed above). The second part identifies the specific comment within one of the transcripts or submitted written comment documents, incrementing sequentially through each transcript and document.

I.3.3 NRC Comment Organization, Review, and Response

From the meeting transcripts and other comment documents, the NRC staff has reviewed, considered, and addressed the approximately 1150 individual comments that were received. Comments relating to similar issues and topics have been grouped together, as permitted by NRC regulations in 10 CFR 51.91. This grouping is also consistent with the Council on Environmental Quality's NEPA regulations at 40 CFR 1503.4(b).

Section I.5 presents all of the comments received, including groups of similar comments, along with the NRC staff's corresponding responses to these comments or groups of similar comments. The NRC staff has categorized comments in subsections of Section I.5 according to their relation to chapters and sections of this EIS and other issues. Section I.5 contains 29 subsections, or topics, under which the public comments have been categorized. Within these subsections, the comments are further categorized, or grouped, by subtopics that the comments have in common, and there are one or more such groupings of comments within each Section I.5 subsection.

Each comment or group of similar comments in Section I.5 is introduced with a brief summary by the NRC staff of the subject of the comment or comments. The text of the comment(s) is then presented, preceded by the comment identification number(s) and commenter name(s). This is then followed by the NRC response. For cases in which comments have resulted in a modification to the Draft EIS, those changes are noted in the staff's response and are included in this Final EIS. In cases for which the comments do not call for a detailed response, the NRC staff explains why no further response is necessary.

I.3.4 Major Comment Issues and Topics

The majority of the comments received specifically address the scope of the environmental review, analysis, and issues contained in the Draft EIS, including the NEPA process, purpose and need, alternatives to the proposed action, existing conditions, potential environmental impacts, proposed mitigation, environmental measurements and monitoring, and benefit-cost analysis. However, other comments address topics and issues that were not part of the NEPA review process for the proposed action. Those comments include questions about the NRC's safety evaluation of the proposed EREF, security concerns, general statements of support of, or

opposition to, the proposed EREF project, and observations regarding past AES activities (e.g., environmental and safety practices, financial activities) outside the United States.

I.3.5 Comments on Out-of-Scope Issues and Topics

The scope of the EIS analysis is defined in 10 CFR 51.71(c), NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs" (NRC, 2003), and the *Scoping Summary Report* in Appendix A of this EIS. Several commenters raised issues that are not related to – i.e., not within the scope of – the NRC staff's environmental review of AES's application to construct, operate, and decommission the proposed EREF. These include the comments regarding general opposition to, and support for, the proposed project, without reference to EIS content, presented in Sections I.5.1 and I.5.2, respectively. Most of the other comments on out-of scope issues and topics are identified in Section I.5.5 (Scope of the Analysis). Because these comments do not directly relate to the content of the Draft EIS and are outside the scope of the NEPA review of the proposed EREF, the NRC staff did not prepare detailed responses to these comments.

I.4 Mandatory Hearing

By law, a license to construct, operate, and decommission the proposed EREF cannot be issued until completion of a hearing before the NRC's Atomic Safety and Licensing Board Panel (ASLBP). The ASLBP is an adjudicatory body independent from the NRC staff. Among its responsibilities, the ASLBP appoints judges to preside over NRC licensing cases in which a hearing request has been submitted, or where a hearing is required under the *Atomic Energy Act* of 1954 (AEA). Although the NRC did not receive any hearing request in connection with the EREF application, the AEA requires a hearing with regard to the licensing of the construction and operation of a uranium enrichment facility such as the proposed EREF. On March 26, 2010, the Chief Judge of the ASLBP established a three-judge Board to preside over this mandatory hearing. The purpose of the mandatory hearing is twofold: the Board must determine whether the EREF application meets applicable safety requirements in NRC regulations, and it must also determine whether the requirements of NEPA and the NRC's NEPA-implementing regulations have been satisfied.

On May 19, 2010, the ASLBP provided notice in the *Federal Register* of its adoption of a bifurcated schedule for the mandatory hearing, such that separate safety and environmental evidentiary hearings would be conducted. The safety hearing would be held first after issuance of the staff's Final Safety Evaluation Report (SER). The environmental hearing would be held later, following issuance of the Final EIS. The SER, NUREG-1951 (NRC, 2010b), was issued in September 2010, and the safety hearing was held January 25, 2011. Following completion of the safety and environmental hearings, the ASLBP will issue written findings on whether the requested license should be issued to AES. The Board's findings will be subject to review by the Commission. Evidence submitted during the hearings and January 25th only decisions of the ASLBP and Commission are made publically available, except to the extent that they contain proprietary or sensitive security information. This evidence, along with all adjudicatory issuances and submittals, may be viewed by accessing the Electronic Hearing Docket maintained by the NRC's Office of the Secretary at http://ehd1.nrc.gov/EHD/.

Table I-1 Draft EIS Commenter Identification and Comment Response Locations

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Aarti, Reham	Member of the Public	001	ML102310563	I.5.1, I.5.4
Allgood, Lane	Partnership for Science and Technology	002	ML102310563	I.5.3
Anderson, Philip A	Idaho Academy of Science	003	ML102530073	I.5.2
Anonymous	Member of the Public	004	ML102390243	I.5.21
Anonymous	Member of the Public	005	ML102280389	I.5.2
Anonymous	Member of the Public	006	ML102280389	I.5.2, I.5.18
Ayers, Arnold	Member of the Public	007	ML102320123	I.5.2, I.5.13, I.5.16, I.5.18
Bachelder, Carol	Member of the Public	008	ML102310563 ML102320123	I.5.1, I.5.5, I.5.13, I.5.19, I.5.22
Barclay, Steve	Member of the Public	009	ML102650572	I.5.1, I.5.4
Barraclough, Jack	Member of the Public	010	ML102320123	I.5.2, I.5.13
Baxter, Donald E	Member of the Public	011	ML102390284	I.5.3
Berndt, Janice	Member of the Public	012	ML102580064	I.5.18
Blackburn, Kit	Member of the Public	013	ML102650572	I.5.1, I.5.8
Blair, William	Member of the Public	014	ML102580071	I.5.1, I.5.4, I.5.12, I.5.13, I.5.18
Bond, Dina	Member of the Public	199	ML102630195	I.5.1, I.5.6
Brailsford, Beatrice	Snake River Alliance	015	ML102320123 ML102580089	I.5.1, I.5.4, I.5.5, I.5.6, I.5.8, I.5.13, I.5.14, I.5.18, I.5.21, I.5.22, I.5.23, I.5.25

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Briggs, E. Manley	Member of the Public	016	ML102310563 ML102280275	I.5.12, I.5.17
Briggs, Sally	Member of the Public	017	ML102310563 ML102280511	I.5.1, I.5.13
Brown, Deb	Member of the Public	018	ML102650572	I.5.1, I.5.5
Buehler, George	Member of the Public	019	ML102580063	I.5.1, I.5.13, I.5.18
Busby, Tracey	Member of the Public	020	ML102390250	I.5.13
Campbell, Sean	Member of the Public	200	ML102630195	I.5.1, I.5.6
Campos, Giovanna	Member of the Public	201	ML102630195	I.5.1, I.5.6
Cannarozzo, Linda	Member of the Public	021	ML102650572	I.5.1, I.5.4
Carroll, Judy	Member of the Public	022	ML102530077	I.5.1, I.5.18
Casper, Rebecca	Member of the Public	023	ML102320123	I.5.2, I.5.13
Chalfant, Jana	Idaho Economic Development Association	024	ML102280389	I.5.2, I.5.3
Chew, Sue	Idaho State Representative, Boise District 17	025	ML102310563 ML102580070	I.5.1, I.5.4, I.5.5, I.5.13, I.5.16, I.5.28
Chiles, Robb	Greater Idaho Falls Chamber of Commerce	026	ML102310563 ML102320123	I.5.3, I.5.19
Cohn, Sara	Idaho Conservation League	027	ML102310563 ML102530075	I.5.3, I.5.5, I.5.9, I.5.11, I.5.13, I.5.14, I.5.16, I.5.17, I.5.18, I.5.21, I.5.25, I.5.27
Coney, David	Member of the Public	028	ML102310563	I.5.1, I.5.16

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Conner, Richard	Member of the Public	029	ML102650572	I.5.1, I.5.6
Cooke, Kerry	Member of the Public	030	ML102310563 ML102280511	I.5.4, I.5.5, I.5.13, I.5.18
Cooper, James	Member of the Public	031	ML102530074	I.5.1, I.5.4
Cottrell, Cindy	Member of the Public	032	ML102370760	I.5.1, I.5.4, I.5.5, I.5.13, I.5.17, I.5.18, I.5.19
Crapo, Mike	U.S. Senator – Idaho	033	ML102320123	I.5.2, I.5.3, I.5.4
Crockett, Greg[a]	Partnership for Science and Technology	034	ML102320123 ML102280389	I.5.2, I.5.3, I.5.4, I.5.19
Crowley, Stephen	Member of the Public	035	ML102310563 ML102580072	I.5.1, I.5.5
Cutler, Christina	The Shoshone-Bannock Tribes	036	ML102580061	I.5.8, I.5.9, I.5.13, I.5.14, I.5.17, I.5.18, I.5.21
Daly, Kathy	Member of the Public	037	ML102580056	I.5.1
Davidson, Brian	Member of the Public	038	ML102390248	I.5.2, I.5.19
Davis, Kreg	Electrical Wholesale Supply	039	ML102310563 ML103410527 ML103410530	I.5.2, I.5.19, I.5.28
Day, Collin	Member of the Public	040	ML102310563	I.5.4, I.5.5, I.5.13, I.5.28
de Weerd, Tammy	Mayor, City of Meridian, Idaho	041	ML102310563	I.5.2, I.5.19
Deal, John	Hyperion Power	042	ML102280389	I.5.2, I.5.3

[a] The comment document provided and signed by Greg Crockett was also signed by an additional 114 individuals in support of the statement in the document.

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Deschamps, Rocky	Member of the Public	043	ML102320123	I.5.2, I.5.19
Donnelly, Dennis	Member of the Public	044	ML102320123	I.5.5, I.5.6
Drake, Joan W.	Member of the Public	045	ML102530072	I.5.18, I.5.25
Dudley, Mr. and Mrs. David	Members of the Public	046	ML102580057	I.5.1
Duffin, Alison	Member of the Public	202	ML102630195	I.5.1, I.5.4
Dugge, Danielle	Member of the Public	203	ML102630195	I.5.1, I.5.6
Dunham, Mark	Idaho Associated General Contractors	047	ML102310563	I.5.19
Emerson, Genevieve	Member of the Public	048	ML102580081	I.5.1, I.5.5, I.5.13, I.5.18, I.5.21
Everett, Victoria	Member of the Public	049	ML102310563	I.5.16, I.5.21
Fauci, Joanie	Member of the Public	050	ML102430033	I.5.1, I.5.5, I.5.6, I.5.13, I.5.16, I.5.18, I.5.19, I.5.21, I.5.22
Filkins, Susan	Member of the Public	204	ML102630195	I.5.1, I.5.6
Flowers, Jackie	Member of the Public	051	ML102320123	I.5.2, I.5.3, I.5.4
Fuger, Rod	Member of the Public	052	ML102600333	I.5.2
Fuhriman, Jared	Mayor, City of Idaho Falls, Idaho	053	ML102310563 ML102320123 ML102280389	I.5.2, I.5.3
Fullmer, Paul	Member of the Public	054	ML102280389	I.5.19
Galaviz, Claudia	Member of the Public	055	ML102650572	I.5.1, I.5.5

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Galaviz, Mark	Member of the Public	056	ML102650572	I.5.1, I.5.5
Garman, Steven P.	Sun Valley Air, LLC	057	ML102530079	I.5.1
Gerber, Matt	Member of the Public	058	ML102280389	I.5.2
Giles, Lance	Member of the Public	059	ML102280511	I.5.2, I.5.3
Gianotto, Ericka	Idaho Falls Mayor's Youth Advisory Council	060	ML102320123	I.5.3
Greco, Nancy	Member of the Public	061	ML102580036	I.5.1, I.5.6, I.5.18
Grigg, Trevor	Member of the Public	062	ML102310563	I.5.19
Guerri, Andrea	Member of the Public	205	ML102630195	I.5.1, I.5.4
Haga, Martha	Member of the Public	063	ML102500566 ML102500567	I.5.1, I.5.5, I.5.6, I.5.8
Hally, Tom	City Council Member, City of Idaho Falls	064	ML102390267	I.5.2
Hanson, Pamela	Member of the Public	206	ML102630195	I.5.1, I.5.4
Hardcastle, Ida	City Council Member, City of Idaho Falls	065	ML102280389	I.5.2, I.5.3, I.5.19
Hardesty, Toni	Idaho Department of Environmental Quality	066	ML102580073	I.5.5, I.5.11, I.5.13, I.5.16, I.5.17, I.5.18, I.5.21, I.5.22, I.5.27
Harris, Drew	Member of the Public	207	ML102630195	I.5.1, I.5.6
Hart, Mike	Member of the Public	067	ML102310563 ML102320123	I.5.2, I.5.3, I.5.4, I.5.6, I.5.10, I.5.14, I.5.21, I.5.23, I.5.28

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Harvey, Emily	Member of the Public	208	ML102630195	I.5.1, I.5.6
Hausrath, Anne	Member of the Public	068	ML102310563 ML102600323	I.5.1, I.5.3, I.5.4, I.5.13, I.5.16, I.5.28
Hawke, Scott	Member of the Public	069	ML102390285	I.5.3
Hemingway, Virginia	Member of the Public	070	ML102310563	I.5.1, I.5.16, I.5.18, I.5.21
Hensel, David	Member of the Public	071	ML102320123	I.5.4, I.5.5, I.5.6, I.5.18
Herring, J. Stephen	Member of the Public	072	ML102320123 ML102280389	I.5.2, I.5.4
Hollar, Courtney	Member of the Public	209	ML102630195	I.5.1, I.5.4
Holzmer, Mark	Member of the Public	073	ML102390271	I.5.3, I.5.19
Hoovis, Tyler	Member of the Public	210	ML102630195	I.5.1, I.5.4
Howard, Don	Member of the Public	074	ML102310563	I.5.13, I.5.28
Huddleston, Leslie	On behalf of U.S. Senator Mike Crapo of Idaho	075	ML102320123	I.5.2, I.5.3, I.5.4
Huebner, Martin	Member of the Public	076	ML102320123	I.5.2, I.5.3
Hyatt, Larry	Member of the Public	077	ML102310563 ML102320123 ML102580055	I.5.3, I.5.18, I.5.25
Jaquet, Wendy	Idaho State Representative, District 25	078	ML102530080	I.5.1, I.5.5, I.5.13, I.5.16, I.5.18

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Jensen, Kristen	Eastern Idaho Economic Development Partners	079	ML102280511 ML102280389	I.5.2, I.5.3
Joelson, Olivia	Member of the Public	211	ML102630195	I.5.1, I.5.4
Johnson, Don	Member of the Public	080	ML102320123	I.5.19
Johnson, Lea	Member of the Public	081	ML102650572	I.5.1, I.5.4
Johnson, Naomi	Member of the Public	212	ML102630195	I.5.1, I.5.4
Johnston, Michael P.	Member of the Public	082	ML102390241	I.5.2
Jones, Darvel	Member of the Public	213	ML102630195	I.5.1, I.5.6
Jones, Diane	Member of the Public	083	ML102310563	I.5.1, I.5.3, I.5.4, I.5.5, I.5.14, I.5.18, I.5.22
Jones, Michael R.	Member of the Public	084	ML102580034	I.5.1
Jonkouski, David	Member of the Public	085	ML102600323	I.5.1
Jull, Paula	Member of the Public	086	ML102580049	I.5.4, I.5.5, I.5.14, I.5.18, I.5.25
Kasnicki, Dennis	Member of the Public	087	ML102390270	I.5.5, I.5.13, I.5.19, I.5.21, I.5.27
Kay, Jim	AREVA Enrichment Services LLC	228	ML103410510	I.5.3, I.5.29
Kidwell, Stan	Member of the Public	088	ML102580060	I.5.4, I.5.5, I.5.6, I.5.8, I.5.14, I.5.18, I.5.21, I.5.28
Kiefer, Sharon W.	Idaho Department of Fish and Game	089	ML102580074	I.5.8, I.5.14, I.5.27

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Kjellander, Paul	On behalf of Idaho Governor Butch Otter	090	ML102310563	I.5.2, I.5.4, I.5.19
King, Jacob	Member of the Public	214	ML102630195	I.5.1, I.5.6
Kull, Arthur	Kull Food Technologies LLC	091	ML102390247	I.5.5
Lagergren, Ginna and Ken	Members of the Public	092	ML102510649	I.5.13
Landry, Louis	Member of the Public	093	ML102650572	I.5.1, I.5.8
Lange, Michael	Member of the Public	094	ML102320123	I.5.2, I.5.3, I.5.11
Larsen, Verlyn	Member of the Public	215	ML102630195	I.5.1, I.5.4
Lee, Beau	Member of the Public	216	ML102630195	I.5.1, I.5.6
Leeuwrik, Linda	Member of the Public	095	ML102530078	I.5.4, I.5.5, I.5.6, I.5.8, I.5.14, I.5.18, I.5.25, I.5.28
Makhijani, Arjun	Institute for Energy and Environmental Research	096	ML102320123 ML102280389	I.5.4, I.5.6, I.5.7, I.5.18
Martin, Bryan	Member of the Public	097	ML102310563	I.5.25
Martin, Linda	Grow Idaho Falls	098	ML102310563 ML102390240	I.5.2, I.5.3, I.5.4, I.5.6, I.5.11, I.5.16, I.5.19
Martin, Linda	On behalf of the Eastern Idaho Economic Development Partners	194	ML102310563 ML102320123	I.5.2, I.5.3
Martin, Linda	On behalf of the Eastern Idaho Economic Development Association	196	ML102320123	I.5.2, I.5.3
Mathieu, Brent	Member of the Public	099	ML102650572	I.5.1, I.5.6

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Matson, Wendy	Member of the Public	100	ML102310563 ML102650572	I.5.1, I.5.4, I.5.6, I.5.12, I.5.13, I.5.18, I.5.21
May-Chang, Jody	Member of the Public	101	ML102650572	I.5.1, I.5.5
Maynard, R.D.	Member of the Public	102	ML102310563	I.5.3, I.5.11, I.5.13
McCall, Karen	Member of the Public	103	ML102580087	I.5.1, I.5.4, I.5.5, I.5.6, I.5.13, I.5.17, I.5.18, I.5.19
McCollum, Carolyn	Member of the Public	104	ML102460018	I.5.4, I.5.18
McConaughey, Eve	Member of the Public	105	ML102260323	I.5.1, I.5.3, I.5.5, I.5.13, I.5.16, I.5.18
McConaughey, Ted	Member of the Public	106	ML102310563	I.5.1, I.5.5, I.5.19
McKay, Jean	Member of the Public	107	ML102320123 ML102280389	I.5.1
Mckelvey, Jodie	Member of the Public	217	ML102630195	I.5.1, I.5.4
McMahon, John C.	Member of the Public	108	ML102580051	I.5.6
McVey, Eugene	Member of the Public	109	ML102650572	I.5.1, I.5.8
Medlin, John and Susan	Members of the Public	110	ML102390273	I.5.4, I.5.5, I.5.13, I.5.18
Meikle, Robert	Member of the Public	111	ML102310563	I.5.2, I.5.18
Menlove, Mark	Member of the Public	112	ML102580033	I.5.1, I.5.6
Miller, Ken	Member of the Public	113	ML102320123 ML102580037	I.5.1, I.5.4, I.5.5, I.5.23, I.5.25

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Minick, David	Member of the Public	218	ML102630195	I.5.1, I.5.6
Mitchell, Anne	Member of the Public	114	ML102600333	I.5.2
Miyaoka, Neil	Member of the Public	219	ML102630195	I.5.1, I.5.6
Molenaar, Nicholas	Member of the Public	115	ML102280511	I.5.3, I.5.4
Mondy, Richard	Member of the Public	116	ML102360687	I.5.2
Morgan, Richard	Member of the Public	117	ML102650572	I.5.1, I.5.5
Morris, Caroline	Member of the Public	118	ML102580069	I.5.1, I.5.4, I.5.5, I.5.8
Naftzger, Tim	Member of the Public	220	ML102630195	I.5.1, I.5.6
Neilson, Bob	Member of the Public	119	ML102310563	I.5.2
Nicholson, Frank	Member of the Public	120	ML102280511 ML102580048	I.5.1, I.5.3, I.5.4, I.5.5, I.5.8
Nordstrom, Jennifer	Member of the Public	121	ML102580039	I.5.1, I.5.8
O'Brien, Kathy	Member of the Public	122	ML102580086	I.5.1, I.5.4, I.5.5, I.5.8, I.5.13, I.5.14, I.5.18, I.5.21, I.5.25
Otter, Butch	Governor, State of Idaho	123	ML102310563 ML102320123 ML102600333	I.5.2, I.5.4, I.5.19
Packwood, Lane	Idaho Department of Commerce	124	ML102310563	I.5.3, I.5.19, I.5.25
Paquette, Holly	Member of the Public	125	ML102310563	I.5.1, I.5.18

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Pengilly, Susan	Idaho State Historical Society, State Historic Preservation Office	126	ML102150425	I.5.9
Perrington, Mike	Member of the Public	221	ML102630195	I.5.1, I.5.6
Pierce, Vanessa	Health Environment Alliance of Utah (HEAL Utah)	198	ML102600070	I.5.18
Plowman, Sheila	Member of the Public	127	ML102580059	I.5.1, I.5.4, I.5.8, I.5.21
Poyser, Bob	AREVA Enrichment Services, LLC	128	ML102310563	I.5.2, I.5.4, I.5.13, I.5.18, I.5.19, I.5.28
Preacher , Willie	The Shoshone-Bannock Tribes	129	ML102580061	I.5.9, I.5.16, I.5.21, I.5.22
Price, Park and Sharon	Members of the Public	130	ML102390269	I.5.3, I.5.4, I.5.28
Prisament, Morty	Member of the Public	131	ML102580091	I.5.3, I.5.4, I.5.5, I.5.6, I.5.7
Proksa, Margo and Dennis	Members of the Public	132	ML102320123 ML102280389	I.5.5
Provencher, Richard B.	Member of the Public	133	ML102390264	I.5.2, I.5.3, I.5.4, I.5.8, I.5.13, I.5.16, I.5.17, I.5.18, I.5.19
Quapp, William	Member of the Public	134	ML102320123	I.5.2
Radford, Dave	Bonneville County Commissioner	135	ML102320123	I.5.2, I.5.3, I.5.8, I.5.9, I.5.19
Raines, Hannah	Member of the Public	222	ML102630195	I.5.1, I.5.4
Rainey, Susan	Member of the Public	136	ML102600323	I.5.16, I.5.18
Reeves, Ralph	Member of the Public	137	ML102280389	I.5.2, I.5.19

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Reichgott, Christine	U.S. Environmental Protection Agency, Region 10	138	ML102580090	I.5.3, I.5.9, I.5.10, I.5.11, I.5.13, I.5.14, I.5.19, I.5.25, I.5.27
Revier, John	On behalf of U.S. Congressman Mike Simpson of Idaho	139	ML102310563	I.5.2, I.5.4
Reynolds, Wendy	U.S. Department of the Interior, Bureau of Land Management, Upper Snake Field Office	140	ML102390288	I.5.8, I.5.10, I.5.14, I.5.23, I.5.25
Richens, Mason	Member of the Public	223	ML102630195	I.5.1, I.5.6
Rickards, Peter	Member of the Public	141	ML102580078	I.5.3, I.5.17, I.5.21, I.5.24
Rindlisbacher, Blake	Idaho Transportation Department	142	ML102580050	I.5.3, I.5.16
Risch, James	U.S. Senator – Idaho	143	ML102320123 ML102600333	I.5.2, I.5.3, I.5.4, I.5.13
Rodgers, Sara	Member of the Public	144	ML102580085	I.5.1, I.5.5
Rolsen, A.	Member of the Public	224	ML102630195	I.5.1, I.5.4
Rydalch, Ann	National Foundation for Women Legislators	145	ML102320123 ML102280389	I.5.2, I.5.3, I.5.4, I.5.19
Sayer, Doug	Premier Technology	146	ML102310563	I.5.2, I.5.19
Schueler, Joe	Member of the Public	147	ML102310563 ML102280511 ML102390244	I.5.1, I.5.3, I.5.4, I.5.5, I.5.6, I.5.7, I.5.9, I.5.13, I.5.14, I.5.16, I.5.17, I.5.18, I.5.19, I.5.22, I.5.28

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Schuler, Eric	Member of the Public	148	ML102310563	I.5.1, I.5.4, I.5.5, I.5.7, I.5.18, I.5.21
Secrist, Wendi	Idaho Economic Development Association	149	ML102280389	I.5.2, I.5.3
Seevers, Katie	Member of the Public	150	ML102310563	I.5.1, I.5.4, I.5.12, I.5.13, I.5.18, I.5.19, I.5.25
Sellers, Beth	Member of the Public	151	ML102280389	I.5.2, I.5.3
Serr, Steven	Planning and Zoning Administrator, Bonneville County, Idaho	152	ML102310563 ML102320123	I.5.2, I.5.3, I.5.8, I.5.10, I.5.11, I.5.12, I.5.16, I.5.21
Shipley, Andrea	Member of the Public	153	ML102580047	I.5.1, I.5.4, I.5.5, I.5.8, I.5.9, I.5.10, I.5.13, I.5.14, I.5.16, I.5.18, I.5.23, I.5.25
Shipley, Andrea	On behalf of the Snake River Alliance	197	ML102320123	I.5.1, I.5.4, I.5.5, I.5.8, I.5.9, I.5.13, I.5.14, I.5.16, I.5.18, I.5.23, I.5.25
Shipley, Diana	Member of the Public	154	ML102580077	I.5.1, I.5.19, I.5.22
Shivly, Jerry	Member of the Public	155	ML102320123	I.5.2, I.5.19
Simison, Robert	On behalf of Mayor Tammy de Weerd, City of Meridian, Idaho	156	ML102310563	I.5.2, I.5.19
Simpson, Erik	Idaho State Representative, District 32	157	ML102310563 ML102320123	I.5.2, I.5.3, I.5.4, I.5.16, I.5.17, I.5.18, I.5.19, I.5.21, I.5.22
Simpson, Mike	U.S. Congressman, Idaho	158	ML102310563	I.5.2, I.5.4

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Skinner, Robert	Member of the Public	159	ML102320123	I.5.3
Smith, Jeff	Local 449, IBEW	160	ML102320123	I.5.2
Smith, Marisa	Member of the Public	161	ML102460017	I.5.1, I.5.4, I.5.6
Smith, Michael	Member of the Public	162	ML102390261	I.5.2
Smith-Putnam, Cindy	Grow Idaho Falls	163	ML102320123	I.5.2, I.5.3, I.5.4, I.5.19
Solomon, Timothy	Regional Development Alliance	164	ML102310563	I.5.19
Staker, Lee	Bonneville County Commissioner	165	ML102310563	I.5.19
Stears, Allen	Member of the Public	166	ML102390245	I.5.2
Stevenson, Andrew	Idaho Falls Mayor's Youth Advisory Council	167	ML102320123	I.5.2
Stewart, Lon	Member of the Public	168	ML102580062	I.5.1, I.5.4, I.5.5, I.5.6, I.5.13, I.5.17, I.5.18, I.5.19
Stewart, Margaret	Member of the Public	169	ML102320123	I.5.1, I.5.4, I.5.5, I.5.12, I.5.16, I.5.18, I.5.21
Stimpson, Lisa	Member of the Public	225	ML102630195	I.5.1, I.5.4
Strobel, David	Member of the Public	170	ML102390266	I.5.2
Tanner, John	Member of the Public	171	ML102320123	I.5.2, I.5.4, I.5.12, I.5.17, I.5.18
Taylor, Amy	On behalf of U.S. Senator Risch of Idaho	172	ML102320123	I.5.2, I.5.3, I.5.4, I.5.13
Taylor, David	Member of the Public	173	ML102390262	I.5.2, I.5.4

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Thomas, Christopher	Health Environment Alliance of Utah (HEAL Utah)	174	ML102600070	I.5.18
Thomas, Ellen	Member of the Public	175	ML102580058	I.5.1, I.5.4, I.5.5, I.5.6, I.5.8, I.5.14, I.5.18, I.5.25
Thompson, Jeff	Idaho House of Representatives	176	ML102320123 ML102280389	I.5.2, I.5.3, I.5.4, I.5.19
Thompson, Jeff	On behalf of Idaho Governor Butch Otter	195	ML102320123 ML102600333	I.5.2, I.5.4, I.5.19
Thomson, T.J.	City Council Member, City of Boise, Idaho	177	ML102580170	I.5.3, I.5.28
Toinga, Jessica	Member of the Public	226	ML102630195	I.5.1, I.5.6
Trane, Randy	Member of the Public	178	ML102390252	I.5.2, I.5.3, I.5.19
Turek, Jolie	Eastern Idaho Economic Development Partners	179	ML102280511 ML102280389	I.5.2, I.5.3
Turner, Kaye	Member of the Public	180	ML102580084	I.5.1, I.5.4, I.5.5, I.5.17, I.5.18, I.5.19
Turner, Roger	Member of the Public	181	ML102320123 ML102580075 ML102580080	I.5.1, I.5.3, I.5.4, I.5.5, I.5.6, I.5.7, I.5.13, I.5.16, I.5.17, I.5.18, I.5.19, I.5.21, I.5.25, I.5.28
Ursenbach, Brianna	Member of the Public	182	ML102310563	I.5.4, I.5.19, I.5.28
Vincent, James D.	Member of the Public	183	ML102320123 ML102280389	I.5.1, I.5.4, I.5.5, I.5.13, I.5.14, I.5.18, I.5.19

Table I-1 Draft EIS Commenter Identification and Comment Response Locations (Cont.)

Commenter Name	Affiliation	Commenter Number	Comment Document(s) ADAMS Accession Number(s)	Subsection(s) Containing Comments and Responses
Vincent, Kitty	Member of the Public	184	ML102390263 ML102390272	I.5.1, I.5.4, I.5.5, I.5.6, I.5.8, I.5.9, I.5.10, I.5.12, I.5.13, I.5.14, I.5.18, I.5.19, I.5.21, I.5.23, I.5.25
Virgin, Wade	Idaho Department of Labor	185	ML102320123	I.5.19
Voss, Joseph	Member of the Public	227	ML102630195	I.5.1, I.5.6
Walker, Lauren	Walker Land and Cattle Company	186	ML102320123	I.5.2
Weber, John	Member of the Public	187	ML102310563	I.5.1, I.5.4, I.5.18, I.5.19, I.5.22
Weber-Wells, Lana	Member of the Public	188	ML102430049	I.5.1, I.5.5
Weil, Josh	Member of the Public	189	ML102310563	I.5.19
Whaley, Dave	Idaho State AFL-CIO	190	ML102440327	I.5.19
Woodruff, Liz	Member of the Public	191	ML102320123 ML102580035	I.5.1, I.5.4, I.5.5, I.5.6, I.5.8, I.5.9, I.5.10, I.5.12, I.5.13, I.5.14, I.5.16, I.5.18, I.5.19, I.5.21, I.5.23, I.5.25
Woodruff, Liz	On behalf of the Snake River Alliance	193	ML102310563 ML102310570	I.5.1, I.5.4, I.5.5, I.5.6, I.5.8, I.5.9, I.5.10, I.5.14, I.5.17, I.5.18, I.5.21, I.5.25, I.5.28
Young, Lisa	Member of the Public	192	ML102310563	I.5.1, I.5.4, I.5.5, I.5.6, I.5.13, I.5.14, I.5.16, I.5.17, I.5.18, I.5.21, I.5.25

I.5 Public Comments on the Draft EIS and NRC Responses

Following are all of the comments received by the NRC on the Draft EIS and the NRC staff's responses to those comments. As discussed in Section I.3.3, the comments are arranged by topic in the 29 subsections below, and multiple comments that address a similar issue/topic have been grouped together for a common response. In cases where one or more commenters had identical comments, those comments are shown only once preceded by the commenter numbers and names of all the commenters who provided those identical comments. Also, please note that some comments contain more than one issue/topic as presented below because the comment text with respect to each issue cannot be readily separated from the other issues. Such comments are necessarily included under more than one topic so that all of the issues can be addressed in the NRC responses.

Note that comments taken from written comment documents (e.g., letters, emails) are reproduced below "as is"; i.e., those comments are reproduced exactly as they were provided, and the NRC staff has not attempted to correct spelling or grammatical errors in these comments. Also, due to possible transcription errors by the court reporters during the public comment meetings, the NRC regrets if the text of any oral comment does not exactly match what was said at a public meeting.

I.5.1 General Opposition to the Project

The comments addressed in this subsection are those that are limited to expressing opposition in some manner to the proposed EREF project. However, comments that contain general opposition statements and also include topics that are relevant to issues addressed within the scope of the EIS are not included in this subsection, but are instead included and addressed elsewhere in Section I.5, in the subsections relevant to the specific topics discussed.

Comment: The following comment expresses concern that AES has already signed contracts to sell the product of the proposed EREF when the proposed plant does not yet have an NRC license.

[015-04, Beatrice Brailsford] AREVA has said U.S. companies have already signed contracts for half its projected production. Those contracts raise another question, though.

I know the NRC has already heard concerns that it has a bias towards licensing. What about selling the product of a plant that doesn't even have a license yet? I'd say we've gone well beyond a learner's permit here.

Response: *AES has submitted a license application to the NRC for the construction, operation, and decommissioning of the proposed EREF, to produce enriched uranium for commercial nuclear reactors. As part of its business plan, AES may wish to ascertain that there is a consumer for its product. AES appears to have done so by contracting future services to be provided by the proposed EREF. These actions were taken by AES at the risk of not receiving a license from the NRC, and such risks are borne solely by AES. These actions have no bearing on the NRC's decision to grant or deny AES's license application.*

Comment: The following comment expresses concern about what resources provided by Idaho taxpayers will be used for the proposed EREF project.

[105-03, Eve McConaughey] I am concerned about what resources e.g. land/water/energy/raw materials will be used (provided by Idaho taxpayers).

Response: *AES could contract with Idaho State or local government agencies, or apply for resources from those agencies, to the extent permitted under Idaho law.*

Comment: The following comments deal with the current operating and construction trends for nuclear power plants in the U.S. and worldwide.

[015-02, Beatrice Brailsford] Eight years later, there are no more nuclear reactors operating in the world, but as of June, URENCO, a German company, is enriching uranium in New Mexico.

[015-12, Beatrice Brailsford] Furthermore, eight years after Mr. Magwood's letter*, there are no more nuclear reactors operating in the US or in the world, but as of June, Urenco, a German company, is enriching uranium in New Mexico, which the draft NRC only sporadically acknowledges.

* Note from NRC: This refers to a letter identified in comment 015-09 and archived in ADAMS under Accession Number ML022350130.

[180-09, Kay Turner] Is it true there are less reactors operating now than there were eight years ago?

Response: *Within the last 10 years, 32 new nuclear power plants have become operational in the world, 31 have shutdown, and construction began on 50 additional nuclear plants (IAEA, 2010a, 2010b). One of the new plants under construction is in the United States. In addition, as of December 2010, the NRC is actively reviewing 12 applications for a total of 20 nuclear reactor units. The number of operating nuclear power plants in the world has risen from 416 in 1990 to 435 in 2000 and 441 in 2010. The net electrical power generated by these facilities rose from 318,000 megawatts electric [MW(e)] in 1990 to 350,000 MW(e) in 2000 and 375,000 MW(e) in 2010 (IAEA, 2010a, 2010b).*

URENCO USA, the uranium enrichment facility in New Mexico (formerly known as the National Enrichment Facility [NEF]) that began initial operations in June 2010, is still under construction and will continue to increase production as its remaining cascade halls are completed. This facility is operated by Louisiana Energy Services LLC (LES), a U.S. Delaware limited liability company.

Comment: The following comments express general opposition to the proposed EREF project and request that the NRC deny the license application.

[014-04, William Blair] I urge decision makers to disapprove this and any other radioactive processing.

[008-08, Carol Bachelder] I am in favor of the no action alternative.

[017-02, Sally Briggs] I am Sally Briggs, an air breathing, water and milk drinking native of Idaho…raised during a time when nuclear fallout drills consisted of sheltering under our desks at school. Sometime later, grown with my own children, I received a postcard addressed to "Dear neighbor" asking "Where were you between 1944 and 1972?" Informing me that I may have been exposed to radioactive material released into the air, water, and soil by the Hanford Nuclear Facility. Much later I learned in "secret" experiments. I have since become aware that in its 45 year history 1million curies of iodine 131 have been released! SUCH HUBRIS! Do we think the scientists employed by Areva are smarter or have a greater moral sense than those at Hanford? LESS HUBRIS?

[019-03, George Buehler] I see this scheme as ill-considered, unnecessary, exploitive and wrong. I am categorically opposed to the Areva Uranium Enrichment Plant.

[046-01, Mr. and Mrs. David Dudley] Just say NO to AREVA'S URANIUM FACTORY~ NUREG 1945!

[050-01, Joanie Fauci] I would like it to be known that I support the No Action Alternative and wish for the NRC to adopt that alternative.

[057-01, Steven Garman] We do not need, do not want or will not tolerate an enrichment facility in Idaho. Please reconsider.

[068-05, Anne Hausrath] We believe the proposed facility is a bad idea. It is not necessary to meet Idaho's needs. It would pose a potential threat to the safety of our children, grandchildren, and future generations, and we strongly recommend you to adopt the "no action alternative."

[084-01, Michael Jones] The environmental impacts of nuclear waste will be an unwanted legacy. If you think the national debt will take forever to payoff, then you have no comprehension of the servitude that nuclear waste will have on our country and future countless generation. The enrichment facility is unnecessary for national defense, current domestic use. Before you increase the waste load get a solution established that is sound and long term.

[085-01, David Jonkouski] The horrors of Ballistic Uranium is not …[ILLEGIBLE TEXT]… to electric generation by the atom. It is not necessary. The inventor of alternating current Tesla said rightly "we are in a sea of energy." Wars are caused by artificial scarcity. If an intelligent person who can do the math of electromagnetic theory of Maxwell and Heaviside can see pos and neg vectors in quaternion calculus. This is FREE …[ILLEGIBLE TEXT]…energy beyond the trinomial of current easy to engineer math of Einstein, who knew that the universe was curved, but in a quaternion (4 part) math it is easy to see small spaces are curved also. This is the obvious proof of ambient energy. Free Science!

[103-01, Karen McCall] I am writing to express my opposition to Areva's gas centrifuge uranium enrichment plant proposed to be built in Eastern Idaho. There are many reasons why this plant is unnecessary:.. I am strongly opposed to Areva's proposal and want my comments to go on record.

[120-06, Frank Nicholson] This enrichment factory: …should not be licensed.

[127-03, Sheila Plowman] I oppose the building of the uranium enrichment plant…. Please Do Not approve the building of this dangerous plant.

[168-01, Lon Steward] Areva should not be allowed to build a uranium enrichment plant in Eastern Idaho…. From a business perspective, a financial perspective, world peace, energy independence, environmental, global warming, and common sense perspectives, the Areva enrichment plant in Eastern Idaho does not make sense and therefore the Nuclear Regulatory Commission should not license the plant.

[175-01, Ellen Thomas] I oppose the proposed new Areva uranium factory in Idaho, or anywhere else.

[181-09, Roger Turner] The State of Idaho should say no to this project and the NRC should revise the final EIS to a no action alternative.

[184-03, Kitty Vincent] Human Folly: While we spend billions of dollars searching for water in outer space on various planets, we are hard at work on Earth poisoning our own water supplies, not to mention the air as well. Not only does this enrichment plant appear to unnecessary, it seems to represent human folly at its best.

[193-01, Liz Woodruff, on behalf of the Snake River Alliance] And it's the proposition of the Snake River Alliance that the NRC should not license the AREVA facility. First, uranium enrichment should not occur in Idaho for use in power reactors, and secondly, the draft EIS is inadequate.

Response: *The NRC staff acknowledges these comments and appreciates the public participation. However, these comments are outside the scope of the EIS analysis because they do not directly relate to the content of the Draft EIS.*

Comment: The following comments note that there is no need to rush through the process of licensing the proposed EREF and to make sure that all risks have been addressed. Some of these comments also express opposition to the proposed EREF project.

[008-05, Carol Bachelder] I appreciate the fact that AREVA put in an application in 2008, and that was two years ago, and the Environmental Impact Statement was released two weeks ago, and here we're having a hearing on it. It does seem like it's on the fast track, and we'd like to put it on the slow track. I would like to derail it completely.

[017-01, Sally Briggs] I urge you, as regulators, to apply a healthy dose of skepticism to these plans. Do we really need domestic production? Have all the risks been addressed? Please demonstrate courage in protecting our children, grandchildren, and all those who follow.

[025-01, Hon. Sue Chew] So, you know, I'm looking at the issues that we're looking at in terms of your EIS, and I do want to make sure that we aren't fast-tracking anything, that there aren't any corners being cut, and that things aren't moving along too fast, because, really, just like in the practice of medicine, when you make a mistake like this, you can't undo it. This is about life.

[070-05, Virginia Hemingway] For these, and many other reasons, I adamantly am opposed to this plant being built and to the Idaho taxpayers' money paying for an off-ramp to nowhere, except sagebrush. These few facts prove that once again, Idaho's leaders, and the NRC, have shown they do not consider the long-term consequences of decisions made in haste, without appropriate research. As a fourth generation Idahoan, I do not need, nor do I want, this kind of danger in my state.

[148-01, Eric Schuler] Taken as a whole, the EIS suggests that this facility will have a relatively low impact on the environment. Of course several aspects of this, of the—have been overlooked in making this conclusion. For instance, as others have already noted, it does not consider the impact of the exempted preconstruction activities, the high risk of wildfires in the area, or the lack of an appropriate disposal pathway for depleted uranium. Accordingly, the true impact of this facility is certainly larger than the DEIS suggests.

[147-14, Joey Schueler] 10. Why is this plant being pushed through so quickly? The EIS is still in the assessment phase, yet many steps have already been taken that affect Idaho's budget. If this decision so critical, it should be carefully considered and brought to the Idaho public before money is expended on its behalf.

[191-03, Liz Woodruff] I don't think there's any reason to expedite any aspect of this process.

Response: *Consistent with the requirements of NEPA and the NRC's NEPA implementing regulations under 10 CFR Part 51, the NRC staff evaluated and compared the environmental impacts of the proposed action and its alternatives. The Draft EIS described the proposed action (Chapters 1 and 2), the purpose and need for the proposed action (Chapter 1), alternatives to the proposed action (Chapter 2), the potentially affected environment (Chapter 3), the environmental impacts of the proposed action and proposed mitigation (Chapters 4 and 5), the cumulative impacts of the proposed action (Chapter 4), and the benefits and costs of the proposed action (Chapter 7). The analysis contained in the Draft EIS fully considered the environmental impacts of the proposed action and alternatives. The NRC will not make a final decision on whether to grant a license for the proposed EREF until after the NRC's ASLBP conducts public hearings on the safety and environmental reviews. (The hearing process is discussed in Section I.4 of this appendix).*

Comment: The following comments request that the NRC take AREVA's reputation, foreign ownership, past and present business practices, and past and anticipated environmental and safety record into account when considering whether to license the proposed EREF. Some of these comments also express general opposition to the proposed EREF project.

[031-01, James Cooper] I am OPPOSED to the Areva project. As an Idaho taxpayer and voter I feel this state does NOT NEED a foreign company to build any facility on our soil - much less one which is subject to accidents and one whose profits go to another country.

[032-04, Cindy Cottrell] I'm against a foreign country making the profit from this plant and leaving the contamination in our Country. Not just the by-product of waste will we have to store, but Areva has a history of contamination in their own Country's waterways.

[037-01, Katherine Daly] The Areva uranium enrichment proposal is very disturbing to both of us. Please don't sell us down the road. Areva does not meet with the approval of many Idahoans who would like to preserve the natural integrity of our incredible state. PLEASE...just say no to Areva.

[048-03, Genevieve Emerson] I am concerned that Areva has no true vested interest in the overall health and well being of the land or the people of Idaho, other than economic gain, and this poses a direct threat to present and future generations of all life in this area.

[061-03, Nancy Greco] It amazes me that, in a state which argues against federal involvement in state affairs, even when that involvement benefits Idaho citizens, the same state would welcome and encourage a harmful company which is almost entirely funded by the French government. Please be very cautious in giving Areva the necessary pathway to this destructive plant.

[107-01, Jean McKay] But I ask you, the Nuclear Regulatory Commission, to include in your study of the potential environmental impacts the record of AREVA in France, and elsewhere. And to delay any exemption or approval until after such a study has been completed and revealed to the public.

You've already heard about situations that have occurred in France. The Nuclear Safety Authority of France, the ASN, cited a series of frauds and human negligence fraud, and ordered the closure of an AREVA subsidiary. Possible legal action was also being considered because of repeated leaks during 2007, 2008 in the site's waste water evacuation system.

In California, or in South Carolina, sorry, a mixed oxide fuel assembly was removed from the plant of Duke Energy/AREVA at Catawba facility because of potentially hazardous physical changes. In addition, AREVA's plans in the United States to build an evolutionary power reactor, an EPR, at various sites, including Idaho, have created controversy. In France, as of August 2008, the construction of an evolutionary power reactor by AREVA has been delayed because of technical and quality control problems. So, I urge you, the NRC, to include, to broaden your study, evaluate these reported problems.

[107-02, Jean McKay] I ask the Nuclear Regulatory Commission to include in the report of potential environmental impacts the record of Areva in France and elsewhere, and to delay any exemption or approval until after such a study has been completed and revealed to the public.

#1 In July 18, 2008, a Paris newspaper revealed: The Ecology Minister of France announced a 2nd leak in a subsidiary of Areva due to a broken pipe. The 1st leak occurred on July 7, 2008, and residents of the area were told not to drink the water, or to swim in, to irrigate crops with the waters of nearby rivers.

The Nuclear Safety Authority (ASN) of France cited a series of "frauds and human negligence" and ordered the closure of the Areva subsidiary. Possible legal action was being considered because of "repeated leaks" during 2007 in the site's waste water evacuation system.

#2 In South Carolina, reported August 2008, an experimental mixed-oxide fuel assembly was removed from the plant of Duke Energy/Areva Catawaba facility because of "potentially hazardous physical changes."

In addition, Areva's plans in the U.S. to build EPR (Evolutionary Power Reactors) at various sites including Idaho - have created controversy. In France, as of August 2008, the construction of these Evolutionary Power Reactors by Areva have been delayed by technical and quality-control problems.

Again, I urge the NRC to include a study and evaluation of these reported problems in its EIS, and to report them to the public before any exemption or approval is considered.

[118-05, Caroline Morris] Additionally, Areva's palm-greasing tactics to persuade officials to welcome the EREF, as the Mayor of Idaho City testified at the August Boise hearing, are pure bribery. Likely many other Idaho officials and citizens received other valuable favors from Areva, not publicly announced. Please refer to my letter to the editor published in the Idaho Stateman. (I am traveling and cannot access its late August or early September printing date.)

[120-04, Frank Nicholson] This enrichment factory:…

• Poses a risk to Idaho's natural resources and people. If something were to happen and when the plant is shutdown a foreign company does NOT have the incentive to do what is right. They can leave and we have no recourse. BP is a great example. Also, importing and exporting the nuclear fuel will not only put ourselves at risk but many others along the path.

[122-02, Kathy O'Brien] Areva also has a bad track record in France.

[147-09, Joey Schueler] 5. Areva's financial stability and history of ethics is unclear. Varied opinions range from sound to on the verge of bankrupt and no clear agreements have been made ensuring that they will do right by Idaho if this project fails (reference the BP oil spill for a comparative potential scenario).

[154-01, Diana Shipley] Before backing a project such as AREVA proposes we need to consider more than the jobs it would create. Before backing a project such as AREVA proposes we need to consider more that the wining and dining that is taking place. In this tough economy it would be easy to welcome AREVA when they are being so generous with catered trips and lots of flourish.

The truth of the matter is this:

AREVA dumps at least one million gallons of radioactive waste into the English Channel a year, contaminating water all the way up to the Arctic Circle. How are their environmental policies going to take shape in Idaho? Will they be thoughtful that they are located near the aquifer which provides drinking water to many Idahoans? I can't imagine they will give it a second thought.

They have contaminated towns all around an open pit mine in Niger. Are they worried about the people of those towns? How are they helping to recover the area back to an environmentally safe one?

Their track record seems to be less than stellar when it comes to environmental issues. They withheld information from the regulatory commission in France to secure a loan in their own backyard.

[169-01, Margaret Stewart] And aside from AREVA's greed, grim, and very, very devastating global environmental and human rights record around the world, particularly in Africa, I vehemently oppose the NRC licensing of this facility on grounds that the facility has not been proven necessary, a huge amount of dangerous radioactive waste that would be created has no disposal place, the nuclear reactors that the EIS says will need AREVA's product more than likely will never be built.

[168-04, Lon Stewart] Areva is processing and handling some of the most dangerous material on earth. Unfortunately they do not have an exemplary environmental or safety record that would be expected of a company handling such types of materials. Areva dumps radioactive waste into the English Channel and there have been a couple of accidents at their plants in the last few years while they were touting to be a safe company. Accidents will happen. Even if you think you have enough redundancy built into the system, mechanical things will fail and people will do stupid things no matter how much training and experience they have. The BP Gulf oil spill is a case in point. This does not sound good to me.

[181-07, Roger Turner] It would be opposed because the AREVA company has a poor environmental record, especially with respect to the radioactive waste handling. It would be opposed by Idahoans because the AREVA company is in poor financial shape, a condition that often results in shortcuts in worker safety, worker benefits, and environmental protection.… It would be opposed because the company is dependent on taxpayers for front-end costs, because of its own poor financial status.

[180-04, Kaye Turner] Is it true Areva pumps one million gallons of nuclear waste into the English Channel every year? Is it true Areva pumps ANY nuclear waste into the English Channel?

[184-02, Kitty Vincent] What matters is Areva's history of leaks and pollution overseas as well as the fact that this plant would sit atop this magnificent aquifer.

[183-03, James Vincent] I live downwind and downstream of the proposed AREVA plant, and I have concerns about my safety. As a reference, in July 2008, AREVA had two accidents in France. One was a burst pipe at a plant at the Romans-sur-Isere, southeastern France, an AREVA subsidiary. The pipe had been broken for several years. Jean-Pierre Gros of AREVA's Head of Combustion said between 120 and 750 grams of enriched uranium had leaked.

Another accident happened also July of 2008 at the Tricastin site near the historic southeast city of Avignon; 7,925 gallons of a liquid containing traces of unenriched uranium leaked from a factory run by AREVA subsidiary, SOCTRI. I can't pronounce it, S-O-C-T-R-I, spilling from a reservoir that overflowed. The leak flowed into the ground and into the two rivers, Gaffiere and Lauzon.

French authorities banned the consumption of well water and watering of crops, as well as swimming, fishing, and water sports. There's preliminary evidence of higher incidents of pancreatic cancer in women in the Tricastin area. France's Nuclear Safety Authority classified the Tricastin accident as one on a scale of zero to seven. However, there were 86 level one incidents in France in 2007, and 114 in 2006.

[183-10, James Vincent] I have a photograph from page 17 of public Areva document "Nunavut Mining Symposium Iqaluit April 2009 by Peter Wollenberg ARC" about one of their operations in Canada. Even though this is a color photograph, I printed this with a black and white printer. I would like to submit this to the commission. I believe the conclusions are obvious, if this is supposed to be a secure Areva facility for radioactive core storage. My 5 year old grandson could scale this six foot cyclone fence.

[187-02, John Weber] How can AREVA's statement, in section 9.2, about protecting people and the environment from radiation be taken seriously, knowing AREVA's dismal track record in Africa, and other parts of the world, for protecting people and the environment?

Response: *These comments raise issues that are outside the scope of the EIS. As discussed in Section 1.4.5 of this EIS, the reputation of the applicant is an issue that is not within the scope of the EIS. The proposed EREF would be fully subject to the NRC regulations for uranium enrichment facilities, and to other applicable Federal, State, and local laws and regulations. The NRC evaluates the submitted license application based on its own merits and performs an independent verification of the proposal put forth in the applicant's application. Further, pursuant to 10 CFR Part 70 and 10 CFR Part 2, respectively, the NRC will implement oversight (inspection) and enforcement programs during construction, operation, and decommissioning of the proposed EREF to assure safe functions and compliance with NRC requirements.*

Comment: The following comments raise the issue of AREVA's financial stability and/or the availability of funds to ensure that the proposed EREF site is cleaned up properly.

[008-04, Carol Bachelder] And they say, oh, well, AREVA will be, you know, totally responsible for the expenses. But this is based on projected earnings, like so many businesses do. You know, you plan to pay your loans out of how much money you make. There aren't any guarantees for this, are there? The economic times, and being what they are. I just don't see that even the promise of jobs is enough to sell me on the feasibility of this plant.

[028-02, David Coney] Because the risk is so high, I'm going to ask AREVA to front the money, prove it to us that you're sincere. Invest in Idaho. Back your play with money. If I go down to the bank, they're going to say, where's your money, buddy? I would ask AREVA to do it, and if I can do it with five bucks to get a loan, they can do it with 5 billion, or 5 trillion, if they're sincere about what they're bringing to the table. Now I would also ask them to prove to us that they can be the best steward, and invest in Idaho, before they ask anything of us.

[050-12, Joanie Fauci] The NRC and the license agreement, if it occurs, should have specific requirements for Areva, its owners, its stockholders, and the government under which it falls, with regards to financial responsibility. This should cover all expenses, above and beyond. It should cover all legal possibilities should the Areva corporation dissolve or go bankrupt before all waste is removed from the Idaho site.

[070-01, Virginia Hemingway] On to Areva, because I have such a limited amount of time, that company had 6.2 billion euros in net debt at the end of 2009, and as recently as June 4 of 2010, it has been downgraded by Standard & Poor's to a debt rating of BBB plus, due to its weakened profitability.

[078-01, Hon. Wendy Jaquet] As a member of the legislature at the time that the tax exemptions were being considered (and I voted "no") I had concerns about the financial viability of the company.

[083-05, Diane Jones] How can we expect the company to -- whose financial future is uncertain, to be able to guarantee that they will bear the cost of treating all that waste and disposing of all that waste, when the process for disposing of the waste is not even known? This seems highly reckless to me, and not a very sound economical calculation.

[106-02, Ted McConaughey] So, once again, I don't want to come down, either for or against the facility under consideration here, but I would like to say that the EIS itself ought to address the possibility of failure at all stages, and have backup plans for funding whatever kind of cleanup and disposal might be necessary, and that should be part of the environmental costs. I mean, this is a very big environmental issue, if one of these facilities fail, as many of our nuclear facilities have.

[147-09, Joey Schueler] 5. Areva's financial stability and history of ethics is unclear. Varied opinions range from sound to on the verge of bankrupt and no clear agreements have been made ensuring that they will do right by Idaho if this project fails (reference the BP oil spill for a comparative potential scenario).

[154-02, Diana Shipley] They are asking for loan guarantees from the United States government and I wonder who will be left to clean up the waste and pay the bills if they bail out? The answer is fairly obvious. We will be left holding the very unpleasant bag of troubles and if you haven't heard, AREVA is experiencing financial difficulties. We do not need to be the ones to bail them out even though they are promising jobs, and wining and dining Idahoans in an attempt to blind those Idahoans to the simple fact that they will not be doing us any favors in the long run by contaminating our desert and leaving our communities with one toxic bill to pay.

[180-03, Kaye Turner] Is it true this French company is being heavily subsidized by the French government and is otherwise in serious financial trouble? Is it true if the French and the U.S. governments stopped propping up Areva financially it would go under?

Response: *NRC regulations in 10 CFR Part 70 require license applicants to be financially qualified to safely construct, operate, and decommission their proposed facilities. These regulations apply to AES's application for the proposed EREF. However, the financial verification process is outside the scope of this EIS and is conducted by the NRC in conjunction with the safety review.*

Comment: The following comments express the concern that construction and operation of the proposed EREF may be too risky and dangerous. Some of these comments also express general opposition to the proposed EREF project.

[001-01, Reham Aarti] I think the risks are absolutely ridiculous, considering what the benefits are going to be. I know people are worried about jobs, and they want more jobs in Idaho, and everything. But I'm sorry, it's not worth it, it's not worth, you know, our children being in danger. I mean, accidents happen all the time. Fires happen all the time. It's not worth it, in the least bit,

and I know you guys do your job and everything's supposed to be really safe, but that doesn't mitigate, you know, human error and everything else.

[009-01, Steve Barclay; 013-01, Kit Blackburn; 018-01, Deb Brown; 021-01, Linda Cannarozzo; 029-01, Richard Conner; 035-01, Stephen Crowley; 055-01, Claudia Galaviz; 056-01, Mark Galaviz; 063-01, Martha Haga; 081-01, Lea Johnson; 093-01, Louis Landry; 099-01, Brent Mathieu; 100-06, Wendy Matson; 101-01, Jody May-Chang; 109-01, Eugene McVey; 117-01, Richard Morgan; 121-01, Jennifer Nordstrom; 161-01, Marisa Smith; 188-01, Lana Weber-Wells; 199-01, Dina Bond; 200-01, Sean Campbell; 201-01, Giovanna Campos; 202-01, Alison Duffin; 203-01, Danielle Dugge; 204-01, Susan Filkins; 205-01, Andrea Guerri; 206-01, Pamela Hanson; 207-01, Drew Harris; 208-01, Emily Harvey; 209-01, Courtney Hollar; 210-01, Tyler Hoovis; 211-01, Olivia Joelson; 212-01, Naomi Johnson; 213-01, Darvel Jones; 214-01, Jacob King; 215-01, Verlyn Larsen; 216-01, Beau Lee; 217-01, Jodie Mckelvey; 218-01, David Minick; 219-01, Neil Miyaoka; 220-01, Tim Naftzger; 221-01, Mike Perrington; 222-01, Hannah Raines; 223-01, Mason Richens; 224-01, A. Rolsen; 225-01, Lisa Stimpson; 226-01, Jessica Toinga; 227-01, Joseph Voss] This enrichment factory:

- Is unnecessary
- Poses a risk to Idaho's natural resources and people
- Should not be licensed

[022-01, Judy Carroll] I am strongly opposed to Areva's plan to build a plant here because I do not believe that the radioactive waste will be handled appropriately and taken out of Idaho. Areva is taking advantage of Idaho in the fact that the unemployed and poor need jobs. What they don't say is that Areva will also be bringing sickness and death to Idaho. We may seem like a simple people but we do know in this state how important clean water and land are to our way of life. Idahoans are the ones who are able to enjoy beautiful wilderness, rivers and wildlife. If Areva needs uranium enriched, let them enrich it in France!

[106-01, Ted McConaughey] And I think that the point of all this is that things aren't going very well. Our best-laid plans are "gang aft agley," I guess is the word, and because our record on completing our project, our nuclear projects, is rather poor, and we don't have a very good way of demonstrating that we actually can carry out these projects for the entire lifetime of the project, including the nuclear fuel, the waste reprocessing, or waste disposal, I think that to suggest that a 30 year lifetime of the plant is very optimistic, and that the nuclear fuel cycle itself is - we make all kinds of optimistic projections here, which are very hard to ensure.

[112-01, Mark Menlove] I am writing to express my strong concern with the draft Environmental Impact Statement for the Eagle Rock Enrichment Facility proposed in eastern Idaho (NUREG-1945 draft).

In my view the enrichment factory poses a risk to the people and natural resources of Idaho, is unnecessary, and should not be licensed.

[113-09, Ken Miller] So there is no reason for Idaho, of all places, to be sacrificed for a fuel production factory for a generation resource that Idaho and our region do not need.

[118-01, Caroline Morris] The EREF is unnecessary, presents risks to Idaho's natural resources and people, and should not be licensed. I oppose the EREF's licensing…. Please consider my concerns and adjust the draft EIS, or deny the license.

[120-04, Frank Nicholson] This enrichment factory:…

• Poses a risk to Idaho's natural resources and people. If something were to happen and when the plant is shutdown a foreign company does NOT have the incentive to do what is right. They can leave and we have no recourse. BP is a great example. Also, importing and exporting the nuclear fuel will not only put ourselves at risk but many others along the path.

[125-02, Holly Paquette] And so the main thing that I want to tell you is that most of the people who have come in here today, and have supported AREVA, and said that Idaho needs AREVA, have been talking about money, and that seems to be the underlying basis for why they're supporting AREVA. And having introduced myself and my background, I want to tell you -- sorry, I'm a little emotional about this -- no amount of money is worth risking the environment or the safety of the people of Idaho, and that includes the next generation of Idahoans.

[144-01, Sara Rodgers] This letter is in opposition to the licensing of the Eagle Rock Enrichment Facility and to suggest that the draft EIS for the EREF is inadequate. Current lives and many future lives are at risk and at stake in the licensing for one corporation. I urge you to not license the Eagle Rock Enrichment Facility nor adopt the draft EIS.

[150-09, Katie Seevers] The potentially devastating health, environmental, and economic effects to Idaho, that the licensing of the AREVA facility presents make me say that the rejection of the licensing of this facility is in the best interest of our state and its citizens.

[153-01, Andrea Shipley; 197-01, Andrea Shipley, on behalf of the Snake River Alliance] AREVA's proposed uranium enrichment factory will store radioactive waste above the sole source aquifer for nearly 300,000 people, impact sensitive species, support transport of radioactive materials into and out of Idaho, impact the Hell's Half Acre national monument, support destruction of the John Leopard Homestead, which has been recommended for the National Register of Historical Places, enjoy billions in state and federal largesse, and utilize farmland that is potentially protected by the federal government. The Alliance is here to say it's not worth the risk

[184-06, Kitty Vincent] The idea that this will boost the economy of Idaho is short sighted.

Affected could be the lives of the future citizens in Idaho and the West.

I strongly suggest that the Areva enrichment plant be denied a license. Idaho Falls needs to develop other avenues to enhance its economy, in ways that do not threaten the people who live there for hundreds of years to come as well as a major water source of the western United States.

[184-07, Kitty Vincent] Areva's proposed Eagle Rock Enrichment Facility (EREF) will store radioactive waste above the sole source aquifer for nearly 300,000 people; impact sensitive species; require the transport of radioactive materials; impair the Hell's Half Acre National

Monument; support destruction of the John Leopard homestead, which has been recommended for the National Register of Historic Places; devour billions of dollars in state and federal largess; and obliterate farmland that is potentially protected by the federal government. The Alliance is here to say it is not worth the risk.

[192-01, Lisa Young] As a member of the scientific community, and as a member and leader of many organizations on campus and in the community, I can say that this proposal is irrational, unnecessary, and a threat to the health, safety, environment, and tax dollars of all Idahoans.

[192-07, Lisa Young] Therefore, as a member of the scientific community, and as a member and leader of many organizations on campus and in the community, I can say that this proposal is irrational, unnecessary, and a threat to the health, safety, environment, and tax dollars of all Idahoans. I urge you to select the "no action" alternative when evaluating AREVA's license application.

Response: *The proposed EREF would be licensed only if the Commission finds that public health and safety and the environment would be adequately protected. In reviewing all of the comments received on the Draft EIS, the NRC staff has determined that no information has been provided in these comments that would change the findings and conclusions regarding environmental impacts in the Draft EIS. Safety issues are not within the scope of the EIS and are addressed in the NRC's SER (NRC, 2010b).*

I.5.2 General Support for the Project

The comments addressed in this subsection are those that are limited to expressing support in some manner for the proposed EREF project. However, comments that contain general support statements and also include topics that are relevant to issues addressed within the scope of the EIS are not included in this subsection, but are instead included and addressed elsewhere in Section I.5, in the subsections relevant to the specific topics discussed.

Comment: The following comment supports the construction of transmission lines.

[171-02, John Tanner] As far as transmission lines are concerned, if we couldn't build transmission lines because of environmental impacts, we certainly couldn't have wind farms, because they need transmission lines in spades.

Response: *The NRC appreciates this comment and the public participation.*

Comment: The following comments express general support for the proposed EREF project.

[005-01, Anonymous] I support the EIS.

[006-01, Anonymous] I am supportive of the AREVA project but would like to have heard more from the NRC on how waste from the process will be stored and ultimately disposed of.

[007-004, Arnold Ayers] And for those things, we ought to be considering, and building this facility as fast as we can build it.

[024-01, Jana Chalfant; 149-01, Wendi Secrist; 196-01, Linda Martin, on behalf of the Idaho Economic Development Association] The Idaho Economic Development Association is grateful for the opportunity to show our support for the AREVA Project. IEDA represents over seventy-five economic development professionals throughout the State. We have supported the AREVA project from its beginning during the site selection phase with the Department of Commerce, in several areas across the state.

We supported the legislation which positioned Idaho to ultimately become the site chosen for the project. This was healthy economic legislation which provided for earned benefits for performance, not only for the AREVA project, but *any* company that would present similar investments in Idaho.

[052-01, Rod Fuger] Idaho wants and needs this project.

[059-02, Lance Giles] Official comment - Support licensing of facility.

[058-01, Matt Gerber] We need this for the country. Areva is good for us all.

[065-03, Hon. Ida Hardcastle] I appreciate being able to voice the support of myself and the many residents, who I believe are the most pro-nuclear community in the country, that AREVA be issued a license to begin construction and move forward with this very important facility to this area as well as the entire nation.

[079-01, Kristen Jensen; 179-01, Jolie Turek; 194-01, Linda Martin, on behalf of the Eastern Idaho Economic Development Partners] On behalf of the Eastern Idaho Economic Development Partners (EIEDP) we wish to express support for the AREVA project. The EIEDP represents a 13-county area surrounding the Eagle Rock Enrichment plant location, which is in the effective immediate impact area for the project. We have issued previous letters of support for the project.

[090-01, Paul Kjellander, on behalf of Hon. Butch Otter; 123-01, Hon. Jeff Thompson, on behalf of Hon. Butch Otter] As such, the governor wants to state his support for the proposed AREVA facility, Eagle Rock, which will be built and operated outside of Idaho Falls.

In conclusion, the Governor would strongly encourage the Nuclear Regulatory Commission to move forward expeditiously in the review and granting of a license to AREVA so that this important facility can begin construction next year.

[137-05, Ralph Reeves] I urge that this uranium low enrichment plant be approved

[143-04, Hon. James Risch; 172-04, Amy Taylor, on behalf of Hon. James Risch] In closing, I support AREVA's application for the Eagle Rock Enrichment Facility, and recognize the enormous positive impact they will have for our country, state, and local citizens.

[145-05, Ann Rydalch] I encourage you to follow the preliminary recommendation that AREVA be issued a license to construct and operate the Eagle Rock Enrichment Facility here in Bonneville County, Idaho Falls, Idaho, formerly called Eagle Rock, Idaho

[158-01, Hon. Mike Simpson; 139-01, John Revier, on behalf of Hon. Mike Simpson] I'm writing today to express my strong support for AREVA's license application to construct and operate the Eagle Rock facility. I'm sorry I cannot join you at the public hearings in Idaho Falls and Boise, but I'd like to welcome the NRC to Idaho, and express my appreciation for the NRC's work on this important matter.

[160-01, Jeff Smith] We fully support the need and the purpose of this EIS. I represent some 600 members and their families. We not only feel this is good for Local 449, but Idaho, but for America and its future.

[167-02, Andrew Stevenson] Because of the effort made by both the NRC and AREVA, we would like to, as a Council, voice our approval of the Environmental Impact Statement in its current form, and urge the NRC to continue on to the next step in the process of getting this project a reality.

[166-01, Allen Stears] I am writing in regards to the Areva EIS. It is my opinion that enough safety procedures will be in place to protect the environment. Therefore I am in favor of granting of a permit.

[170-01, David Strobel] I support Areva building an Enrichment Plant west of Idaho Falls, ID. The benefit will far outweigh the risk.

[176-05, Hon. Jeff Thompson] I am pleased to give my support to AREVA, and agree with the NRC recommendation to issue a license to AREVA to construct and operate the Eagle Rock Enrichment Facility.

Response: *The NRC staff acknowledges these comments and appreciates the public participation. However, these comments are not within the scope of the EIS analysis because they do not relate to the content of the Draft EIS.*

Comment: The following comments express concern regarding possible misinformation that has been put forth by various parties about the proposed EREF project and about the nuclear power industry in general.

[076-02, Martin Huebner] If it's true, as we previously stated in Boise, that the Snake River Alliance now is a research organization, that implies that maybe the Snake River Alliance has dumped the precautionary principle, and now embraced the facts-based scientific principle. If that is not the case, I sincerely hope that Snake River Alliance objectively looks at the facts, and comes to the conclusion that most of us here already have, that safe, reliable, economical, carbon-free nuclear power must be, and will be a vital part of America's future.

[082-02, Michael Johnston] There are a couple of groups here in the area, Snake River Alliance and (?) Keep Yellowstone Nuclear Free, that try to misrepresent and distort the truth. I have seen where they represent a small but very vocal group and generally turn out larger groups of anti-nuclear people. I along with a lot of others here are normally very low key, quiet, supportive of the INL and nuclear power, and sorry to say do not go to these meetings. This morning I had breakfast with about 18 of these people and do not believe any of them will be at the meeting to show their support. I think they assume you will know the true facts regarding environmental and safety factors to discount what these antinuclear groups represent and/or distort. How can one believe with a INL workforce here there is not great support for the nuclear industry.

[157-11, Hon. Erik Simpson] Risk. At the Boise hearing, those opposed asked the NRC panel if they could guarantee there would be no mishaps at the Eagle Rock Enrichment Facility. I came to the conclusion that even if the NRC could ensure the public there would be no problems at the facility, those who are opposed to this project would still be opposed. After all, it's nuclear.

[173-01, David Taylor] …I am strongly in favor of the construction and maintenance of the Areva complex and hope the rest of the DOE INL site can be used for productive nuclear research and generating capacity.…

We cannot supplant the energy from fossil fuels to the electric grid without vast improvements to the grid itself and to generating capacity. Nuclear is the only viable alternative and the only one that is "eco friendly" to the environment. Fear mongers and professional detractors "Snake River Alliance" use disgraceful tactics and words in attempting to keep their little source of revenue alive.

We possess the technology (Gen IV reactors) and now need the common sense to use these resources to help sustain a vibrant economy and standard of living that we have all come to expect. The next generation will not have these opportunities if we squander and make feeble attempts to make nuclear energy production a reality now.

I support Areva and the ideas that surround using nuclear technology as a great national effort. It must be for national security and for economic security. We must have a federal government that will establish certain protocols and reactor templates that if complied with will move to a fast track for licensing and construction. From there the government must run interference against all the special interest that come to bear only for the reason of capital extraction. Thanks for allowing us to be part of this potentially wonderful venture that will not only bless the lives of those who live and work here but for the whole nation.

Response: *In the EIS, the NRC staff provides an objective analysis of the potential environmental impacts in all resource areas, based on NEPA and the NRC regulations for implementing NEPA in 10 CFR Part 51. The NRC staff has followed these requirements and has independently evaluated the information used for, and presented in, the EIS.*

Comment: The following comments support the development of the proposed EREF and point out that Idaho is the proper location for such a facility and that the proposed facility can be

operated safely, based on the technical capability and experience of the workforce in the project area and on local environmental and legal/regulatory factors. Some of these comments also express general support for the project.

[003-01, Philip Anderson] This is to express *support* for the proposed Eagle Rock Enrichment Facility near Idaho Falls, Idaho.

In addition, I want to draw your attention to the population demographics of eastern Idaho which show that one of the highest concentrations of scientists and engineers in the nation already live in this relatively lightly populated region. Therefore, public support of the project and its technology would be among the most positive in the nation.

Specifically, because a substantial fraction of this population has the educational and professional advantage of *understanding* nuclear technologies, organized opposition to the project should be less than in other regions. One would expect the superstitious fears of and opposition to "everything nuclear" to be less than in other regions, and any that might be expressed in eastern Idaho can be answered or explained locally.

[038-03, Brian Davidson] Eastern Idaho's long history with nuclear research and its current safety-minded workforce are a strong reason to support Areva's plant in our area. We have proved time and again that not only can we operate such technology safely, but we also have the commitment to ensure generated wastes are dealt with safely.

[043-01, Rocky Deschamps] I am going to speak just a little bit, and I won't take much time. I'm going to talk a little bit about, I spent six years on the Bingham County Planning and Zoning Commission, the last two years as chairman of that Commission, and there's one area here on the Environmental Impact Statement that I'd just like to maybe touch just a little bit of base on, and it talks about, it's anticipated the number of workers moving into the area during each phase of the proposed project they call them migration workers, that might have some impact on the schools, health care, law enforcement, availability, cost of public utilities, such as electric, water, sanitary, road, number of migrating workers expected during the construction and operations might impact the housing.

My time on the Bingham County Planning and Zoning, we encourage businesses because our schools are crying out, we need more students. We're actually declining in our number of youth in our schools. Our roads are very adequate. Our schools are adequate. We have an infrastructure here in southeast Idaho because we are so used to having INL, we have the colleges here that can train the workers. We have the high schools that are there that are ready to accept anything new that we might have in this area in the schools. We have multiple, multiple infrastructure in place because of the INL, and the experience we have with the INL out there.

Also, I've been involved with the supply side. We have contractors in this area that are so familiar with the requirements to build a facility like this, that it's just -- you don't find that in a lot of areas. We also have suppliers that are used to supplying the specifications, the ASTM specifications that are required on a nuclear facility to do that, so we are very able to take on a facility like this, and take care of it, and do what we need to do.

[065-02, Hon. Ida Hardcastle] I spend a large amount of time in the city among the residents and it is exciting to feel the enthusiasm most have for this project coming to Idaho Falls. Of course the main interest is the economic impact it will have on the area, in other words - jobs. Also the community supports the fact that there will be a very small environmental impact from this facility. We thank the NRC again for their efforts in this particular concern. We have a top notch workforce here which was recognized by AREVA in the beginning. The community as a whole supports energy being produced by nuclear power. We simply have to address our independence on foreign oil.

[094-03, Michael Lange] One of the things that they don't cover in NEPA is the biggest single issue of safety, of building any plant in this country, whether you like coal, or nuclear, whatever, and that's the quality of the people that build the plant. It's the skill level of the people that build the plant. It's the safety training of the people that build the plant. And I can say that in Idaho, the times I've worked here, and the people I worked with, you have very highly-trained people, very safe people, very professional people that work hard. And I can tell you from working in those facilities under those rules, and the NRC Commissioners would be the first to tell you, if you've ever worked in a hot mockup on a nuclear plant, you've got 3 R next to you about a few feet away, you better be doing it right.

[111-02, Robert Meikle] And Idaho Falls is one of the places that has 40 years of experience doing this sort of thing. And I've been there for 40 years. My first construction company put the seven big tanks in at CPP, at the Idaho Nuclear Engineering Laboratory, and I was still in business 40 years later, and we took those same tanks out.

[133-02, Richard Provencher] Relative to the potential environmental impacts, this is a perfect fit nuclear facility to locate in Idaho. … Overall, this appears to be a facility that affords much benefit to the country and Idaho Falls that far outweighs the low risk and low potential for environmental impact and I am fully supportive of NRC granting a license to construct and operate.

[135-04, Hon. Dave Radford] Being a political subdivision of the State of Idaho, Bonneville County adopted a comprehensive plan that included located nuclear growth west of -- on the western side of -- Bonneville County, so we think that will help expedite the process. We, as the commission, agree with the Environmental Impact Statement's conclusion.

Historically, I serve on the Heritage Commission. I think history is important, that homestead, I think, could be mitigated out there. Historically, Bonneville County, my predecessors at the County Commission, took very limited resources in terms of property tax dollars and invested them in improved roads to get out to the site 60 years ago. So, historically, we've been a nuclear-friendly county, and I believe that it will continue. And we applaud your work, we respect your work, and we hope for a great outcome for an expedited license for AREVA.

[151-03, Beth Sellers] The fact that Areva Enrichment *Services* selected Idaho Falls as the location to construct and operate this enrichment facility speaks to the comfort level this community has with all things nuclear. There are over 6 decades of nuclear energy R&D&D experience at the INL. Locating a commercial capability next door makes logical sense, as the synergy that will co-exist in the professional arena will be a natural outcome and provide benefit to all involved.

[152-01, Steven Serr] I am also responsible for code compliance conformance for building code, fire code, mechanical code, flood plain rules and regulations. And I have had an opportunity to work with NRC staff. They've been in my office asking questions as to what we figure impacts are, how we plan on addressing issues, if we have concerns on implementation of this project. We've worked extensively with AREVA, and their staff, to make sure everything that they are doing would be in compliance with NRC guidelines, with local rules and regulations, and they've made every attempt to make adjustments to their plan, to make sure that we have a safe facility.

[152-03, Steven Serr] As far as compliance with zoning rules and regulations, that area was designed specifically for this type of facility. It's not designed to have other uses out there that could be impacted by those uses.

[152-07, Steven Serr] One of the issues we were concerned, we talked specifically about, was the storage facilities on site, to make sure that those are contained. We feel that the plan that they have implemented for on-site retention containment, lined ponds, monitoring would adequately protect the community. As far as code enforcement officers, that one of my major charges, is any facility we have come in, that we do see that they are fully code compliant and protect the public health, safety, and welfare of the community.

[152-09, Steven Serr] I wanted to address the issue as to the suitability of this property for development of that site. Again, as the Commissioner mentioned earlier, this area has been zoned and designated for this type of use. It's been planned that it could accommodate this type of operation since 1960. So, it's been a long-designated piece of property, tract of land out there for this type of use.

I approach this as an enforcement site for any facility that's built in the county. Our concern in the county is making sure that things are built to code, built complaint, built safe, protect public health, safety, and welfare. My office, we are responsible for enforcement of the building code, the fire code, mechanical code, flood plain rules and regulations, and we have addressed most of these issues with AREVA. We've made modifications for some of their design issues on what they contemplate doing to try to mitigate, and make sure that the operation that they're proposing out there will be a safe compliant operation.

Response: *The NRC staff acknowledges these comments and appreciates the public participation. However, these comments are outside the scope of the EIS analysis because they do not relate to the content of the Draft EIS.*

Comment: The following comments express support for the proposed EREF and state that the operations at the EREF are expected to be safe and environmentally responsible because operations would be based on a proven technology. Some of these comments cite the safety of the nuclear industry as a whole.

[039-02, Kreg Davis] First. The project is environmentally responsible. It is tested. It is proven technology. I think most people agree that we need safe, clean, secure, and abundant base power, baseload power. This baseload power argument has not been discussed as much as I think it should be tonight.

My business is very grateful for the business we get from wind and solar, and would continue to hope those sectors expand, and at a rapid rate.

However, neither one of those provide baseload power. Nuclear can. In my opinion, AREVA's project complements these important energy goals. I also believe that serious thinkers on this issue agree -- nuclear power is the only technology able to deliver on all of these dimensions. I acknowledge that there are reasonable people who have safety concerns, but most of those I have spoken with, that oppose nuclear power, believe nuclear safety is possible. However, there are those that let anxieties rule. Their doubts lead to fight against any implementation of nuclear power. I personally believe that we are better to focus on growing a safe, clean, secure, and abundant nuclear industry.

[039-05, Kreg Davis] First, this project is environmentally responsible. It is tested. It is proven technology. I think most people agree that we need safe, clean, secure, and abundant base-load power. In my opinion, Areva's project complements these important energy goals. I also believe that serious thinkers on this issue agree nuclear power is the only technology able to deliver on all of these dimensions. I acknowledge that there are reasonable people who have safety concerns, but most of those I have spoken with that oppose nuclear power believe nuclear safety is possible. However, there are those that let anxieties rule. Their doubts lead to fight against any implementation of nuclear power. I personally believe that we are all better to focus on growing a safe, clean, secure and abundant nuclear industry.

[043-02, Rocky Deschamps] The last thing that I was -- I'll just touch base on, and I'll touch it very briefly, and that is, is that it's too bad that in this day and age that we treat nuclear power the way we do. And I've gone through the Environmental Impact Statement, I didn't see anything that touched on this. And the only figures that I have with it, on my note here, in 2006, I don't have it. In 2006, there was 46 miners killed in coal mining accidents. If that would happen in the nuclear industry, it would be shut down so fast, but coal is just left kind of as it is. So, I think that we need to look at that a little bit and say geez, where -- I think that 2006 is probably a pretty good year. If we looked at 2009, or 2008, it would even be worse, so I think we need to take in a little bit of perspective, and look at that.

[098-04, Linda Martin] As far as technical impacts, the centrifuge technology is proven and safe as based on other facilities across the world, and while there conceivably is a significant gap in the supply-demand equation for enriched uranium to provide our current and future green energy needs, we can address that with the EREF.

[098-11, Linda Martin] The company's use of centrifuge technology is a proven, safe method of enriching uranium. This technology is more energy efficient, more environmentally friendly and less expensive to operate than the other accepted uranium enrichment process called gaseous diffusion.

[116-01, Richard Mondy] I am in full support of the proposed Eagle Rock enrichment facility.

I submit that nuclear power is as safe, if not safer, than petroleum based power. Opponents to the facility neglect to admit the hazards of alternative sources, hazards such as the recent Gulf oil spill.

It is easy for those with other agendas to be opposed when they can take a narrow view and just 'cry wolf' without having to offer and substantiate a realistic alternative.

[123-02, Hon. Butch Otter; 090-02, Paul Kjellander, on behalf of Hon. Butch Otter; 195-02, Hon. Jeff Thompson, on behalf of Hon. Butch Otter] AREVA is proposing to build a state-of the-art, technologically-proven, modern facility to enrich uranium needed to operate the existing U.S. fleet of 104 power reactors. AREVA's plant will incorporate many unique features which have been developed over three decades of experience with centrifuge enrichment technology. AREVA's vast experience and use of the technology will result in minimizing and, where possible, eliminating any impacts on the surrounding environment and regional communities, but there will remain, however, many significant beneficial impacts.…

Safety, integrity, professionalism, and sustainability are demonstrated attributes that AREVA embraces in all of its projects and operations, and the Governor believes they'll bring no less to Idaho Falls. AREVA has been easy to work with, and they are as excited about coming to Idaho as we are to have them locate their facility here.

As we look across the country today, there are not many, if any, states or regions that can claim proposed major energy construction projects or facilities like the Eagle Rock Enrichment Facility. While large projects are usually accompanied by some environmental impacts, Governor Otter believes the end result of this facility will be very positive for Idaho and the country. Eagle Rock will provide much needed domestic production of enriched uranium for our existing U.S. nuclear power fleet, which will help enable U.S. utilities to move away from importing nearly 90 percent of this important fuel product.

[137-02, Ralph Reeves] 2. The nuclear industry has a great safety record. Then there is oil drilling, coal mining, etc.

[143-03, Hon. James Risch; 172-03, Amy Taylor, on behalf of Hon. James Risch] I also note the centrifuge technology is proven, reliable, and efficient. The process will use 50 times less electricity than a gaseous diffusion plant, and the amount of water used by the plant is less than the current irrigation appropriation.

[128-02, Bob Poyser] In addition, the Eagle Rock enrichment facility will provide safe and secure domestic enrichment services that American utilities need to generate carbon-free energy.

[163-04, Cindy Smith-Putnam] Over the past five years, approximately a million and a half Americans have died from smoking, automobile accidents, and alcohol-related incidents. Obesity has claimed another million and a half lives over the same time period. And according to the Institute of Medicine's landmark report titled, "To Err is Human," my own industry, health care, is estimated to be responsible for the annual death of nearly 100,000 people through medical errors. By contrast, according to the Director of the Carlsbad Environmental Monitoring and Research Center, in that same period of time, the past five years, the nuclear industry has produced zero deaths, and a relative danger index of 0.0.

Response: *The NRC staff acknowledges these comments and appreciates the public participation. However, these comments are outside the scope of the EIS analysis because they do not relate to the content of the Draft EIS.*

Comment: The following comments express support for the role of the proposed EREF as part of the nuclear fuel cycle and/or support for nuclear power in general.

[010-01, Jack Barraclough] So, when a project like this comes in my study of nuclear needs, it's just so obvious that this is what we need. You can look at all these things, and talk about the aquifer, but this is trivial compared to the needs of this country.

… and we don't need negativism, naysayers, we need positive support of this excellent project that would help the world, and help the country, and I strongly support this.

[033-01, Hon. Mike Crapo; 075-01, Leslie Huddleston, on behalf of Hon. Mike Crapo] Now, more than ever, it is critical to develop secure, economically feasible, and clean supplies of domestic energy. EREF will supply America's existing operation fleet of nuclear power reactors, and further augment the anticipated growth of new commercial nuclear power generation here in the U.S.

[034-01, Greg Crockett] While I understand this is not a debate on nuclear energy policy, the context in which decisions of this nature are made must be considered and cannot be ignored. Daily headlines demonstrate the devastating environmental consequences of our heavy dependence on petroleum fuels. Fires in Russia, floods in China and Pakistan, and oppressive heat currently being experienced within the continental United States remind us continuously of the ever-increasing consequences of climate change.

It is time for the U.S. to change directions in the interest of our energy future and our national interest. It is time for the United States to reassume a leadership role worldwide in nuclear energy. Our national security interests require that we have enrichment and fuel development capabilities within our borders. I support the Draft Environmental Impact Statement, which likewise recognizes those demands.

Demand for nuclear fuel is, and will dramatically increase in the future, and I think that's demonstrated by the number of pending NRC license applications. To suggest that the Eagle Rock Enrichment Facility's production is not or will not be necessary is pure folly. To meet our current demand for enriched uranium, much of it is imported, and we need robust domestic suppliers who can provide this service in an environmentally compatible manner.

We trust AREVA. We trust that the proposed Eagle Rock facility will provide this valuable service to our nation. I support the Draft Environmental Impact Statement, and recommend that it be accepted, and that the license process proceed.

[038-02, Brian Davidson] As we look to secure our nation's energy future, nuclear power has got to be a part of it. Having Areva's uranium enrichment capacity in Idaho and the United States will help nuclear power become an even more viable energy alternative.

[039-04 and 039-07, Kreg Davis] In the long run, this project will augment our base-load electrical needs. Nuclear energy is a significant part of the answer to our energy needs. I worked for Philips Semiconductors during the years when the semiconductor industry started moving jobs from the United States overseas. Countries with empty fields, cheap and abundant power, clean and plentiful water, an education program fully developed complete with a steady stream of graduates, and low taxes. These countries provided all this and an invitation to come.

If America and Idaho are going to compete in this world, we too need to provide clean water, quality education, and reasonable taxes. But we also need to provide energy — abundant power — predictable base-load energy. I personally believe that nuclear energy should be a significant part of that base. Areva's project helps us to achieve success. This project is good for our planet and it is good for our economy. Thank you for giving me this time.

[041-01, Hon. Tammy de Weerd; 156-01, Robert Simison, on behalf of Hon. Tammy de Weerd] I am speaking tonight on behalf of Mayor Tammy de Weerd of the City of Meridian, which is the third largest city in Idaho, located here in the Treasure Valley, in support of the purpose and need for the proposed Eagle Rock facility, as outlined in the EIS.

We believe that the proposed facility will help support our nation's nuclear power industry and emphasize the importance of having a reliable source of enriched uranium for national energy security, as is described in the EIS….

I think this could be a good partnership for the area. With that, I will go ahead and conclude my comments, and say, as a nation, we need a generation of safe nuclear energy power plants and we encourage you to move the EIS for the Eagle Rock facility forward, and know that it will directly and indirectly benefit thousands of Idahoans.

[042-01, John Deal] We believe the Eagle Rock Facility is an important and necessary addition to the fuel cycle in America and will depend on the Eagle Rock facility for fuel enrichment.

[051-02, Jackie Flowers] Something else this community is concerned about and cares about is energy. As this country grapples with visions for a sustainable energy future, and energy independence, we have to take action and stop the rhetoric. Nuclear energy provides 20 percent of the nation's electricity. We've already heard that tonight. Importantly, we've also heard it provides more than 69 percent of emission-free electricity that keep the lights on in this country. Let me stress, base load emission-free energy. With less than 15 percent of the nuclear fuel supply necessary for the existing nuclear energy fleet coming from a single source inside this country's border, we have an energy security problem that I believe rallies that of our dependence on foreign oil. And this is an important step towards building that independence.

Nuclear energy is ready now to be a central part of a balanced common-sense approach to clean energy diversity. I agree with the NRC staff's statement that this facility will contribute to the attainment of national energy security policy objectives by providing an additional reliable and economical domestic source of fuel for these important nuclear energy facilities.

[064-01, Hon. Tom Hally] I support the facility as it is part of a long term solution to our energy needs. A nation we have failed to come up with a comprehensive energy policy. We all seem to agree that we need to down size coal. In my opinion nuclear Is part of the solution and I feel is

green. We need to move forward. Idaho Falls supports the facility and as a member of the Idaho Falls city council I support the facility.

[065-02, Hon. Ida Hardcastle] The community as a whole supports energy being produced by nuclear power. We simply have to address our independence on foreign oil.

[067-03, Mike Hart] With respect to the need, I, looking at global warming, I know there are obviously impacts of nuclear energy, but the reality is, seven generations from now I think they won't be worrying as much about depleted uranium as they will be about depleted glaciers, depleted ice caps, and nuclear energy has a significant benefit. It's not without its warts, it's not without its impacts, but there is "no free lunch" when it comes to energy.

You can conserve, but we do use energy. It is used globally, whether this is a French company, whether it's used locally, or nationally, the reality is its carbon-free, and that carbon-free resource is something that is very precious, and until we have alternative technologies that can produce significant usable quantities of electricity, nuclear is a very positive step in between now and a carbon-free future.

[067-06, Mike Hart] Also, they took exception with the cause and need for action. I think there's most definitely a need for this, because there's a need for carbon-free energy. Throughout the world, I think we've seen that global warming is a significant problem that we need to be paying attention to, and there's also a demand for growth in nuclear energy. There's a couple of facts I want to point out why we need nuclear energy, why we need this particular enrichment plant.

Carbon dioxide reflects, or absorbs, infrared energy that does not go back out to space. It makes the planet warmer. That's simply a fact. Carbon dioxide is a greenhouse gas. Levels of carbon dioxide have gone from 288 parts per million in 1850 to 369 parts per million in the year 2000. It doesn't matter where it comes from. That is a greenhouse gas that is increasing in concentration. But I'll give you a hint as to where it's coming from: fossil energy. In 1990s, we annually contribute 6.3 gigatons of carbon dioxide into the atmosphere through fossil combustion. That's annual, 6.3 gigatons. The concern about 300,000 metric tons, 300,000 tons of total waste versus 6.3 gigatons in a single year, I view the problem with carbon as much more significant than the problem with depleted uranium.

So, what is a gigaton? Why is that a concern? Well, 2.3 gigatons is one part per million of carbon dioxide in the atmosphere. So, every year we are steadily increasing carbon dioxide. So, yes, global warming is occurring. Yes, it's our fault. Yes, carbon puts more of that in the atmosphere, and I think nuclear energy is a stopgap that will – is worth pursuing. So, yes, there is a need.

Energy demands are increasing worldwide. Currently, the population of the planet is about 4.5 billion. By 2050, that will double, and people are not less energy consumptive. Populations like China and India used to be in the Third World. They have bought the second world, and they've placed a firm down payment on the first one. So, energy consumption will go up as the population goes up, so even if nuclear energy just holds its own at 15 percent, there will be a need for more nuclear plants, and that means there will be a need for more enriched uranium.

[072-01, Stephen Herring] Good evening, my name is Steve Herring. I am a nuclear engineer and have lived here in Idaho since earning my doctorate 31 years ago. During that time I have seen the NRC carefully exercise its duty in protecting the public health through their diligent review of proposed facilities. I would like to speak in favor of the AREVA license application for the Eagle Rock Enrichment Facility.

This facility will be an important part of the nuclear fuel cycle and a key step in providing for future electricity. In building this facility, AREVA will replace 60-year old technology for uranium enrichment with new gas centrifuge technology that is more proliferation resistance, cleaner and a factor of twenty to fifty times more efficient.

The 104 reactors in the US provide about 20% of total US electricity and 69% of the emission-free electricity. However, today, the US has only one operating gas centrifuge plant and the last gaseous diffusion plants are being decommissioned. The one gas centrifuge plant which began operation in New Mexico in June 2010, will be capable of producing 3 *MSWU/yr,* about 25% of the US need for enrichment. So the US is dependent on imported enrichment for 75% of its commercial fuel needs.

We have seen the construction of many wind turbines in the hills east of Idaho Falls and through the west in the last five years. I applaud the contribution that these turbines can make, though I have yet to see any comparable contribution in Jackson or Sun Valley. But it is important to remember that turbines in the best wind sites have capacity factors of only 30-35%. The nuclear reactors fueled by means of the Eagle Rock Enrichment Facility will provide power with a capacity factor above 90%, that is, they provide more than 90% of their maximum capacity when averaged 24-7, year around. The US needs reliable, sustainable energy for decades to come, and not just when the wind is blowing.

Thank you for the opportunity to comment.

[082-01, Michael Johnston] I would like to submit my support for the proposed AREVA Enrichment Service's proposed gas centrifuge uranium enrichment plant to be built in Eagle Rock, Idaho, report number, "NUREG- 1945 draft."

We need nuclear power and the facilities to support them. I feel this facility will be a safe asset to the overall program. I started working at the Idaho National Laboratory (INL) in 1976 and retired in 2000, I always felt safe there. One of my biggest complaints was the general US population was never provided with enough truthful educational information to know how safe Nuclear Power was and what a good source of safe power it was. I know just a little about the planning, review process, and construction overview that goes into building nuclear facilities after working at the INL and am supportive of this project.

[098-13, Linda Martin] Conceivably there is a significant gap in the supply/demand equation for enriched uranium to provide for our current and future green energy needs. The uncertainty of the future supply of energy could evolve into a national security issue. The Eagle Rock Enrichment Facility would be a principal supplier for this valuable and needed material.

[111-01, Robert Meikle] The issue of risk is the risk of what we don't do if we don't adopt nuclear. What are our options if we don't adopt nuclear? And so if we don't do nuclear, ten

years from now we'll still be doing coal. And what are the risks of coal, if we're doing coal ten years--as opposed to doing nuclear?

And so I think you have to weigh the risks. You have to weigh them, carefully, and you have to look at all of the science, and you have to look at all of the economics. But I don't think economics should be the driver here.

Boone Pickens made one other really great point, and I've lived in Wyoming the last few years. I understand Wyoming's economy, with coal and natural gas. But we need to go to natural gas, and if we don't go to natural gas, we're going to be in trouble.

It's going to take all of these things. But Mr. Davis brought out what I think is the most important point that's been made in this entire hearing, and that is we have to have a baseload. We have to have a baseload that's reliable.

I was in the ski business in 1976-77, and in that year, we did not see one storm come through from September clear through till January, and in that year wind wasn't going to do it, solar wasn't going to do it for Idaho, nor was hydro. And so we've got -- we've got to look at the "big picture" with our energy policy, and I think you're doing the right thing, although I totally agree, there are risks. But the risks, when you look at the risks and weigh them against the rewards, and our other alternatives, then we've got to move in this direction.

[114-01, Anne Mitchell] Thank you for granting Areva a license to help create a clean, efficient energy source so direly needed in this country. They, of course, are a proven entity with a sterling history for safety, economy in their enrichment facilities. Our country needs this forward thinking element of clean energy and nuclear energy (so long over-looked by this country) is direly needed. I strongly appreciate the NRC's approval of Areva's license and embrace this not only for Idaho Falls, but also for my country which I love.

[119-01, Bob Neilson] One of the things that's very important in this country to be looking at in these days and ages is carbon management, and because of carbon management and the issues associated with it, I'm a strong supporter of renewable energy, including biomass, geothermal, hydropower, solar and wind.

However, for the same reason, I'm also a supporter of nuclear energy. And because I'm a supporter of nuclear energy, if you're going to have nuclear energy you have to have enrichment plants. There's no way around that.

Now we've all talked about environmental impacts. It's an interesting, a little fact, that if you talk about life cycle analysis for a variety of energy sources, and I'm talking about from the time that you're talking about mining, through transportation, through conversion, through manufacturing, through operation, through decommissioning. That if you look at nuclear energy in terms of carbon management, it produces the same, or less, carbon dioxide on a life cycle basis than wind energy does.

Now that doesn't say that nuclear is better or worse, or wind is better or worse. What it does say, though, is that no matter what kind of energy generation technology you're talking about, there are impacts, impacts to all of them, and those impacts need to be carefully considered, so

that we, as the citizens of Idaho, can make the decisions that are important to our livelihoods and the state.

Now nuclear energy produces about 20 percent of the electrical energy in this country today. I would maintain that because nuclear is one of the few sources that's baseload compared to renewable energy for which most renewable energy is not baseload, we need to have nuclear energy, and if we need to have nuclear energy we need to have enrichment, and I'm afraid that, unfortunately, it's an important source among all the others. There's no "silver bullet." We need a mix. Nuclear is a part of that mix.

[123-04, Hon. Butch Otter; 090-04, Paul Kjellander, on behalf of Hon. Butch Otter; 195-04, Hon. Jeff Thompson, on behalf of Hon. Butch Otter] Third, Eagle Rock will help rebuild the nation's nuclear infrastructure, and enhance energy security for all those who depend on nuclear power for their health and welfare right here from Idaho.

[128-01, Bob Poyser] We welcome this opportunity to provide factual information about our project to Boise and the surrounding communities. Assuming we are granted a license next year, those in Boise, who make the trip to Idaho Falls by way of Highway 20, will see the beginning of an important step towards our nation's energy independence, the development of a significant investment in Idaho, and construction of an American facility which will provide jobs to American workers, and strength to the local economy.

[133-01, Richard Provencher] I fully support the NRC's proposed preferred alternative to build a uranium enrichment plant west of Idaho Falls, Idaho. The facility being pursued by AREVA will provide an additional reliable and economical domestic source of low enriched uranium to be used in commercial nuclear power plants. Having more capability for enrichment in this country helps reduce the risk related to importation of this type of material from foreign sources. The AREVA facilities planned capacity can provide 40% of the current and planned demand for enriched uranium. AREVA's business plan fits well within the country's plan to reduce dependency on foreign oil, improve the climate, and make nuclear energy a larger contributor to the domestic energy supply. This creates a clear mandate for the capability which is critically important to beginning the review of environmental impacts related to its operation.

[134-01, William Quapp] First of all, I commend the staff's preliminary conclusions, and hope that they retain those conclusions on the favorable benefit cost assessment. My only disagreement with the NRC's impact statements may be one of semantics. I believe that the risks or impacts identified shouldn't be attributed to low and moderate, but the word should be trivial. I believe those impacts are trivial compared to the impacts associated with a societal continued importation of foreign oil. I believe, furthermore, that nuclear power can provide the indigenous energy supply while employing Americans in the USA. And, in fact, I believe there is no bigger impact than sending our soldiers to support energy policy in countries of foreign, or the Middle East. So, I support the Draft EIS conclusions for the reasons that have been stated therein, but for many more societal benefits, as I see it, in use of safe and sensible use of nuclear power**.**

[135-03, Hon. Dave Radford] And, to me, when we develop nuclear in this country, and yet we only arrive at 20 percent of our power, with French getting 80 percent of their power from nuclear, and we have an opportunity to learn some things about getting this energy on the grid,

so I'm optimistic that it can eventually translate to more electricity, cheaper power, a better quality of life.

[143-01, Hon. James Risch; 172-01, Amy Taylor, on behalf of Hon. James Risch] As a U.S. Senator from Idaho, I have the privilege of serving as the Ranking Member of the Subcommittee on Energy. From that position, I have seen firsthand the efforts this country is making to formulate a forward-looking energy policy. Supporting nuclear power, and its associated technologies, such as enrichment, is one way to make our country more energy secure.

Years of broken energy policy have led us to become dependent on foreign sources of energy. We've also lost our competitive edge in the nuclear field, a field where the United States and Idaho once led. This community knows what it takes to regain that competitive edge, and once again place Idaho and this nation at the pinnacle of the nuclear industry.

There is a growing recognition that nuclear power is the most viable option to meet the clean energy demands of the future. Demand for enriched uranium is increasing in the United States and across the world to fuel clean nuclear power. This proposed facility will allow that need to be met from domestic sources, while providing a much needed economic boost to the entire region.

[146-01, Doug Sayer] You know, what happens to my grandson happens to me. We're both Idahoans. But more importantly, we're both Americans. And we have to have that baseload energy. And until we have an alternative, nuclear is the answer. Decisions I made about my grandson's future are important. I realize that the decisions that we make, and the projects that we undertake are going to be his legacy to deal with….

We encourage you to pursue this license and approve it, so that we can get back to work and build these nuclear projects like our country needs them.

[151-01, Beth Sellers] The purpose of the facility has been made clear in the draft EIS. It is in the best interest of the citizens of the United States that we continue to support and increase the percentage of electricity generated by commercial nuclear power. It is a proven mission-free source of electricity. Furthermore, its increased use will enhance our national energy security. The sooner we become self-sufficient in fulfilling our energy needs, the more secure our nation will remain in these turbulent times.

[152-08, Steven Serr] And my planning hat side. We are encouraging development and expansion. As mentioned, we are promoting alternate energy resource facilities. We have 160 megawatts of wind power under construction at this time. For promoting the nuclear side with this, we've been promoting the nuclear research on the INL site, and we're also currently producing, or hope to be producing a cogeneration facility with a four county region, with a cogeneration facility for waste burning that also generates electricity.

So we are promoting all sources of energy. we feel this is also a safe one, that meets the needs of the community, meets our rules and regulations.

[155-01, Jerry Shivly] First of all, it was going to help our nation, because we need the nuclear energy.

[163-02, Cindy Smith-Putnam] The bigger picture is this project's significance to our regional and national energy future, and it is the national energy future that fundamentally and absolutely requires a significant reset from the status quo.

Currently, under the E in Energy, Grow Idaho Falls has taken an active role in supporting the development and expansion of green renewable sources of energy. We can, we should, we have, and we will continue to support the diversification of the energy portfolio of our region and nation, to include harnessing the power of wind, water, heat, and light, to reduce the harmful effects to the environment of carbon emitting sources, and to promote our national security by becoming less reliant on foreign oil.

Increasing renewables, promoting conservation, decreasing use of fossil fuels, all very important, we can, and we should do all of those things. And, yet, even taken together, none of that is enough, not nearly enough to meet our growing energy demands. Nuclear energy stands alone as the best way to produce the energy we need, while at the same time minimizing harmful environmental and geopolitical consequences. It gives us the opportunity to turn away from the practices of the past toward a more stable and sustainable energy future.

Therefore, just as we need to be independent of unstable and unpredictable sources of oil, we also need to be independent of unstable and unpredictable sources of enriched uranium. Simply put, the Eagle Rock Enrichment Facility beautifully addresses that need.

[173-01, David Taylor] …I am strongly in favor of the construction and maintenance of the Areva complex and hope the rest of the DOE INL site can be used for productive nuclear research and generating capacity.…

We cannot supplant the energy from fossil fuels to the electric grid without vast improvements to the grid itself and to generating capacity. Nuclear is the only viable alternative and the only one that is "eco friendly" to the environment. Fear mongers and professional detractors "Snake River Alliance" use disgraceful tactics and words in attempting to keep their little source of revenue alive.

We possess the technology (Gen IV reactors) and now need the common sense to use these resources to help sustain a vibrant economy and standard of living that we have all come to expect. The next generation will not have these opportunities if we squander and make feeble attempts to make nuclear energy production a reality now.

I support Areva and the ideas that surround using nuclear technology as a great national effort. It must be for national security and for economic security. We must have a federal government that will establish certain protocols and reactor templates that if complied with will move to a fast track for licensing and construction. From there the government must run interference against all the special interest that come to bear only for the reason of capital extraction. Thanks for allowing us to be part of this potentially wonderful venture that will not only bless the lives of those who live and work here but for the whole nation.

[176-02, Hon. Jeff Thompson] As an eastern Idahoan and Representative, I'm excited to hear that we are looking for sustainable energy solutions for our future, such as those provided by AREVA. The demand for electricity is becoming greater, and with this demand we're beginning to see prices soar. Nuclear energy offers a solution to our need for reliable energy sources now and in the future.

[178-02, Randy Trane] This is a project that will serve two purposes. It will allow nuclear power to serve the world and it will help the economy in the Eastern Idaho area with much needed employment. I have several friends who are experts in the nuclear power industry and they are telling me that this project will not have any negative impact on the environment in this area.

[186-01, Lauren Walker] We are supportive of the nuclear industry. Though we are, ourselves, not employed by the industry, we feel that the experience that we've had is absolutely compatible with the things that we do in our industry.

We're supportive of bringing back manufacturing to the United States. We've become a service-oriented country. We need to start manufacturing for ourselves. Our dependence on foreign energy has taught us by sad experience that it's time to bring our independence home. It's a win for Idaho; it's a win for the United States of America.

Response: *The NRC staff acknowledges these comments and appreciates the public participation. However, these comments are outside the scope of the EIS analysis because they do not relate to the content of the Draft EIS.*

Comment: The following comments express confidence in AES's capabilities and/or in the proposed EREF.

[023-01, Rebecca Casper] I am pleased as a community member with AREVA's arrival in our community. They began giving back almost immediately upon their arrival, and corporate citizenship like that is nothing to be taken lightly. To me, it's a sign of responsible management and conscientious management, but that's just an observation.

[033-02, Hon. Mike Crapo; 075-02, Leslie Huddleston, on behalf of Hon. Mike Crapo] I am confident EREF will meet the strong environmental and safety standards enforced by the NRC, and other federal, state, and local entities.

[034-04, Greg Crockett] We trust AREVA.

[053-02, Hon. Jared Fuhriman] You know, it was just a year ago, March, that I had the opportunity, along with two high school teachers and 20 high school students, to travel back to Tricastin, France, and there we were able to go through the George Besse Plant, which the Eagle Rock facility is modeled after. And I've got to tell you, it was very impressive as we were on the site, be able to witness the production of that.

I had a chance to talk to elected officials there, as well as citizens of Tricastin, and they're very proud of the George Besse plant, and they're with AREVA, that they're their neighbor, and also the partnership in energy.

One of the things that I noted when I was back there. All the plants were built right next to cities. And we had the opportunity to talk to many of the citizens, and there was absolutely no residual problems, that they could ever detect. I had the opportunity to meet with many AREVA executives and staff, both in France and the United States, and I have total confidence that the Eagle Rock enrichment facility will be operated safely and efficiently.

[053-03, Hon. Jared Fuhriman] As Mayor of Idaho Falls, and as members of the City Council, we're elected to represent the best interests that our city has to the best of our ability, so when a proposed project like AREVA comes along, it's imperative that we do everything we can to exercise our due diligence in ferreting out the project, itself, and making sure that it's the best fit for our city and our communities.

It is my opinion that we have tried to turn over every stone possible, as we looked into AREVA, and if it would be a benefit to our community. We have met with several mayors in eastern Idaho, and received their endorsement on this project. Myself, along with several other community leaders have personally met with representatives from AREVA numerous times, not only here in Idaho Falls, but at the headquarters in Bethesda, Maryland, in addition to a personal visit to Paris, France to the corporate office just to seek direction and information from them.

One of the best pieces of evidence that I've obtained through my personal research regarding the potential environmental impacts was when I, along with 24 other members of our community, 20 of those being youth in our community, traveled back to Pierrelatte, France, population of 13,000. Pierrelatte is next door to the Tricastin Georges Besse plant, which has been operational for several years. I had the opportunity to personally visit with many of the city and the community leaders, as well as speaking with many of the citizens, themselves, in regards to the Tricastin plant, and if there was any residual issues that they have seen as a result of having lived right next door to that plant.

I was able to see firsthand AREVA's sustainable development philosophy of protecting the environment. Through this visit, I found no evidence of any negative environmental impact on their community. What I saw, instead, was a vibrant and beautiful city and community.

[098-12, Linda Martin] In its application, AREVA has proven itself to be technically capable of addressing and satisfying any NRC criteria or requirements, as well as addressing any waste issues per DOE and NRC guidelines, which may be necessary for the full and successful operation of this plant.

[114-01, Anne Mitchell] Thank you for granting Areva a license to help create a clean, efficient energy source so direly needed in this country. They, of course, are a proven entity with a sterling history for safety, economy in their enrichment facilities. Our country needs this forward thinking element of clean energy and nuclear energy (so long over-looked by this country) is direly needed. I strongly appreciate the NRC's approval of Areva's license and embrace this not only for Idaho Falls, but also for my country which I love.

[123-02, Hon. Butch Otter; 090-02, Paul Kjellander, on behalf of Hon. Butch Otter; 195-02, Hon. Jeff Thompson, on behalf of Hon. Butch Otter] AREVA is proposing to build a state-of the-art, technologically-proven, modern facility to enrich uranium needed to operate the existing

U.S. fleet of 104 power reactors. AREVA's plant will incorporate many unique features which have been developed over three decades of experience with centrifuge enrichment technology. AREVA's vast experience and use of the technology will result in minimizing and, where possible, eliminating any impacts on the surrounding environment and regional communities, but there will remain, however, many significant beneficial impacts….

Safety, integrity, professionalism, and sustainability are demonstrated attributes that AREVA embraces in all of its projects and operations, and the Governor believes they'll bring no less to Idaho Falls. AREVA has been easy to work with, and they are as excited about coming to Idaho as we are to have them locate their facility here.

As we look across the country today, there are not many, if any, states or regions that can claim proposed major energy construction projects or facilities like the Eagle Rock Enrichment Facility. While large projects are usually accompanied by some environmental impacts, Governor Otter believes the end result of this facility will be very positive for Idaho and the country. Eagle Rock will provide much needed domestic production of enriched uranium for our existing U.S. nuclear power fleet, which will help enable U.S. utilities to move away from importing nearly 90 percent of this important fuel product.

[135-01, Hon. Dave Radford] The people I've met at AREVA have been wonderful. They already have 7,000 employees in the United States, so we're real comfortable with their way of doing business here in eastern Idaho.

[145-03, Ann Rydalch] Our country is open to legal immigrants that come here for the American dream. Our country is open to legal foreign companies that want to do business in the United States. AREVA is a very experienced and credible company that wants to do business in the U.S.

[157-12, Hon. Erik Simpson] I have great trust in those who have proposed this facility, and have considered a multitude of emergency situations, and have a plan for mitigation. With that, I am in support of the Draft EIS, and encourage the NRC to grant the license.

[158-03, Hon. Mike Simpson; 139-03, John Revier, on behalf of Hon. Mike Simpson] Areva has a strong record of corporate safety and achievement, and the technology that Eagle Rock will use have been well-proven in the United Kingdom, mainland Europe, and now in the United States. I have the utmost confidence in the quality, safety, and security of their facilities.

[162-01, Michael Smith] It is my opinion that AREVA should in fact be granted the license and permit to build the uranium enrichment facility located near Idaho Falls. I am a local citizen both born and raised in Idaho, I as most Idahoans care a great deal about the environment and the quality of life here in this area. I believe AREVA has gone beyond required measures to ensure the process used in the proposed facility will protect the environment and the citizens of this state.

While there are still clean up measures on going at the INL we as a nation and the organizations working in the nuclear industry have learned a great deal in how to safely manage the relatively small amounts of waste generated. I fully support the NRC for its decision to allow the construction and operation of the new Eagle Rock Enrichment Facility.

I also applaud AREVA for their decision to trust Idaho and its citizens enough to desire joining our neighborhood.

[167-01, Andrew Stevenson] We weren't without our concerns originally on this project. As Erica mentioned, the facility is obviously going to have a significant impact on our community, and we were concerned that some of these impacts could, potentially, be negative, and so we wanted to find out more about that. But in March of 2009, AREVA took us to go see the Georges Besse II facility in France, which is, essentially, the same thing they would be building here, and while we were there, Erica actually raised some of those concerns.

She touched briefly on the myriad recreational activities that are available here, just because of the pristine condition of our countryside, and our desire to see those areas preserved. There was also some concern about pollution, particularly in the water supply due to accidental pollution, but when we raised those questions, AREVA showed us some of the measures that they'd implemented to prevent such spillage and pollution. And we have to say, we were extremely impressed with it, even in cases of flood and earthquake, and crazy natural disasters that are never going to happen. It was extremely unlikely that any waste was going to be spilled into the surrounding area. An even greater reassurance came when we visited with residents of Pierrelatte, a French town in the area around the Tricastin site. They all live relatively normal lives, and there were no real noticeable effects from having that site on their borders. Most of them actually said that they felt that having the site there improved their general lifestyles, so we were very comforted by that. Also notable is the fact that the Tricastin site sits right on a river, and yet in all the time that that facility has been there, there have really never been any major issues with water contamination there, and that also eased our mind.

Response: *The NRC staff acknowledges these comments and appreciates the public participation. However, these comments are outside the scope of the EIS analysis because they do not relate to the content of the Draft EIS.*

I.5.3 NEPA Process

Comment: The following comment requests that the PowerPoint presentations and speaker's notes from the public meetings be made public on the NRC's website.

[115-01, Nicholas Molenaar] Could the Power Point presentations be made public on your Web site? Also speaker's notes please.

Response: *The NRC staff's PowerPoint presentations from the August 9 and August 12, 2010, public meetings in Boise and Idaho Falls, Idaho, respectively, can be found on the NRC's public website for the proposed EREF project, at http://www.nrc.gov/materials/fuel-cycle-fac/arevanc.html#3 (click on "Meeting Slides" links). The PowerPoint presentation given by Liz Woodruff of the Snake River Alliance during the August 9, 2010, public meeting in Boise, Idaho, can also be found on the NRC's website for the proposed EREF project, at http://www.nrc.gov/materials/fuel-cycle-fac/arevanc.html#3 (click on "Meeting Transcript and Other Meeting Information" link, and then on the "Slides from Public Meeting Between the Nuclear Regulatory Commission and the Snake River Alliance" link).*

There are no speakers' notes available from the two public meetings. However, the statements of all of the speakers at these meetings can be found in the meeting transcripts, which are available on the NRC's website at http://www.nrc.gov/materials/fuel-cycle-fac/arevanc.html#3 (click on "Meeting Transcript and Other Meeting Information" link).

Comment: The following comment expresses concern that copies of the Draft EIS and supporting documents were difficult to access and that inadequate numbers of hard copies of these documents were made available to the public.

[131-02, Morty Prisament] Availability and Access to Documents: A related issue involves availability and access to the copies of the EIS and the above-referenced technical supporting documents. Distribution of the EIS and supporting documents has been extremely limited, thereby limiting opportunities for comment. Adequate numbers of hard copy documents should be provided to libraries, local government, and interested organizations in order to facilitate the broadest public review opportunities. This is a project of statewide significance and, therefore, multiple copies of the DEIS and all supporting documents should be, at minimum, made available through the Boise Main Library, given that Boise is the State Capitol. I do acknowledge that NRC did ultimately decide to hold a DEIS hearing in Boise. However, given that this was a late decision by NRC, I was unable to re-schedule and was out of the country at the time.

Response: *Pursuant to the NRC's regulations under 10 CFR 51.74, on July 21, 2010, the NRC staff published a Notice of Availability (NOA) for the Draft EIS in the Federal Register (75 FR 42466), announcing the issuance of the Draft EIS for public comment, in accordance with 10 CFR 51.73, 51.74, and 51.117. Among other information, the NOA contained information on how to access the Draft EIS and other documents related to the proposed EREF project. Documents were made available in hard copy at the NRC's Public Document Room in Rockville, Maryland, and at the Idaho Falls Public Library, 457 West Broadway, Idaho Falls, Idaho 83402. The Idaho Falls Public Library maintains an information repository on the environmental review for the proposed EREF project. Documents were also made available electronically through the NRC's public website, the NRC's Agencywide Documents Access and Management System (ADAMS), and the Federal Rulemaking website. Information on how to access each of these venues was provided in the NOA. Additionally, pursuant to 10 CFR 51.74, the NRC distributed the Draft EIS to approximately 135 individuals including Federal, Tribal, State, and local government officials and other interested parties (including members of the general public). Furthermore, references cited in the Draft EIS were publicly available through the NRC's ADAMS website (http://www.nrc.gov/reading-rm/adams/web-based.html) and/or through other publicly accessible venues such as the Internet, Federal, State and local government agencies and their websites, and public libraries.*

Comment: The following comment maintains that the NEPA process should be restarted due to significant changes in the proposed Federal action.

[131-06, Morty Prisament] Scoping: NEPA provides for a public scoping process in order to facilitate public and agency identification of issues to be analyzed in the DEIS. Public Scoping meetings, also required by NEPA, provides opportunities to comments on the issues to be studied in the DEIS. NEPA also stipulates that if the proposed federal action undergoes

significant changes, the scoping process needs to be re-started. Major changes to the proposed action have occurred, not the least of which has been doubling the capacity of the centrifuges. Therefore, the NEPA process should be re-started, beginning with a new Scoping Process, in order to afford adequate opportunities for comment and properly focus the DEIR analysis.

Considering the extent and depth of my concerns, and those of others, the NEPA process does not provide for NRC to simply address comments in a Final EIS. NEPA calls, instead, for re-noticing and re-release of a revised EIS and, where needed, supporting documents. Also called for is a formally revised project (preferred action) description and initiation of a new Scoping Process.

Response: *As noted in Section 1.4.2 of the EIS, the NRC staff's announcement of the Notice of Intent (NOI) to prepare the EIS, which initiated the NEPA process, was published in the* Federal Register *on May 4, 2009 (74 FR 20508). Publication of this NOI was purposely delayed by the NRC because AES notified the NRC of its intent to double the enrichment capacity of the proposed EREF. The NOI was published after the modified license application was received by the NRC from AES on April 23, 2009 (AES, 2009a), for the current proposed capacity of 6.6 million separative work units (SWUs) per year. The NOI established a 45-day scoping period and announced a public scoping meeting that was held in Idaho Falls on June 4, 2009. No significant changes in the scope of the EIS have occurred since that time which would necessitate re-scoping the EIS.*

Comment: The following comment expresses concern that the commenter's scoping comments were not addressed in the Draft EIS.

[141-01, Peter Rickards] The Eagle Rock Draft EIS appears incomplete, not addressing the technical scoping issues I submitted. I do see the actual issues listed as received, on pages 88 & 89 of 234 in the appendix section, but no actual answers were given.

Response: *Responses to individual scoping comments were not prepared. Those comments relevant to the scope of the EIS were considered in the preparation of the EIS as discussed in Section 1.4.2 of the EIS.*

Comment: The following comment questions the analysis of impacts in the Draft EIS.

[181-02, Roger Turner] And what is the science and environmental research behind the endorsement of the AREVA project? Well, science and environmental risks are being downplayed on this proposed project, because of job creation, and economic development.

Response: *The NRC staff believes that it has provided an objective analysis in the EIS for all resource areas, based on the requirements of NEPA and the NRC regulations for implementing NEPA in 10 CFR Part 51. In the case of job creation and economic development, the socioeconomic impacts, beneficial and adverse, were found to be SMALL as presented in Section 4.2.12 of the EIS. The NRC staff does not believe that such a finding downplays the potential adverse impacts found in other resource areas with SMALL-to-MODERATE or MODERATE impacts.*

Comment: The following comment maintains that the Draft EIS fails to follow NEPA guidelines with respect to a number of issues.

[181-22, Roger Turner] In summary the EIS fails to follow NEPA guidelines with respect to evaluation of the need, evaluation of temporary storage risks, evaluation of treatment facilities for depleted uranium. The EIS fails to follow up with a realistic evaluation of the proliferation risks, and to advance alternatives to the dangerous centrifuge system and its risks to violating the NPT treaty. The EIS must evaluate the risks of handling, moving and storing Uranium compounds at Areva, in the context of historical accidents with the casks, spills and releases of the material, the actual toxicity of the uranium and the associated indirect and cumulative risks to the environment, as required by NEPA.

Response: *As stated in Section 1.1 of the EIS, the NRC has specific regulations under 10 CFR Part 51 to implement the requirements of NEPA. The NRC staff has followed the requirements of NEPA and the NRC regulations to independently evaluate all information used in the EIS. The need for the proposed EREF is discussed in Section 1.3 of the EIS. Potential impacts and risks from handling uranium compounds in various forms and the temporary storage of depleted uranium are discussed in Sections 4.2.10 and 4.2.11. Potential impacts from disposal of the depleted uranium are also discussed in Section 4.2.11. Potential impacts and risks from transportation of uranium feed material and waste are addressed in Section 4.2.9. Additional evaluation regarding proliferation risks is not within the scope of the EIS for reasons discussed in Section I.5.6 of this appendix. Alternatives to the gas centrifuge technology are identified and evaluated in Section 2.3.3. Accidental and intentional releases are considered in Sections 4.2.15 and 4.2.18. The toxicity of uranium compounds is discussed in Section 3.11.3 and 4.2.15. Potential cumulative impacts and risks to the environment are covered in Section 4.3.*

Comment: The following comments suggest that the NRC's approach is one of advocacy and pre-determination.

[120-01, Frank Nicholson] Very superficial – Did not address critical issues. As with city councils, your minds have already been made up.

[131-01, Morty Prisament] Independent Analysis: The overall tone of the document is one of advocacy, which makes one question the objectivity of the document's conclusions. The document relies upon a number of technical documents. What were these documents precisely? Were these documents subjected to any type of independent peer review? Lacking such review, the objectivity of these documents would, likewise, be in question. Specifically, these documents relate to engineering studies, system safety and emergency response (including failure analysis and redundancy procedures), human health and ecological health risk assessments and associated probalistic risk assumptions, benefit-cost analysis, socioeconomic impact analysis, and groundwater quality impact-related studies. The discussion of these issues is extremely limited given the scale of the action and associated risks.

Response: *The NRC is a regulatory agency charged with protecting public health and safety and the environment. The NRC's mission does not include advocacy of nuclear technologies. The NRC staff believes that it used the best technical documentation available to support all*

aspects of the environmental review. The documents used are identified and cited as references in the EIS.

Comment: The following comments express concern regarding the level of detail provided in the Draft EIS, such as information and analyses regarding impacts from construction, operation, and decommissioning of the proposed EREF.

[027-05, Sara Cohn] The ICL has reviewed the draft (EIS) for the Eagle Rock Enrichment facility and is concerned that construction and operation of the facility will pollute Idaho's natural resources and compromise public health. The EIS does not provide the level of detail that would allow ICL to assess environmental and public health impacts associated with the proposed project. Additionally, under Section 102 of the National Environmental Policy Act, federal agencies are directed to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. Section 102 also requires federal agencies to lend appropriate support to initiatives and programs designed to anticipate and prevent a decline in the quality of the public health and the environment. ICL believes the draft EIS does not accomplish either of these requirements. More detailed analysis must be provided in the final EIS and the not yet released Safety Report to allow the public and interested parties the opportunity to evaluate the project and to ensure that no adverse impacts occur that pollute Idaho's clean water and clean air, or endanger public health.

[105-06, Eve McConaughey] My most serious concerns were around the EIS and why no details were given for impacts of construction, operation, or decommissioning of the proposed EREF.

[120-01, Frank Nicholson] Very superficial – Did not address critical issues. As with city councils, your minds have already been made up.

Response: *Section 4.2 of the EIS presents detailed information and analyses regarding the impacts on human health and the environment from construction, operation, and decommissioning of the proposed EREF project. Chapter 2* describes and compares the proposed action and alternatives to the proposed action. *The NRC staff believes that sufficient attention has been given to the level of detail of the information and analyses to ensure that the NRC's obligations under NEPA and the NRC's NEPA-implementing regulations under 10 CFR Part 51 have been met.*

Comment: The following comments indicate that the NRC needs improvement on its implementation of public outreach.

[059-01, Lance Giles] No ads regarding meeting. Just articles or opinion pieces in local paper. Information about meeting difficult to find. No actual EIS comment form.

[105-01, Eve McConaughey] I was not satisfied that the public received correct or true information or that the public had full opportunity to express their concerns because of the timing of the hearing and lack of information as presented by the officials. Presentation of the

EIS was very inadequate. It was completed only last month (July 2010). There was little opportunity given for questioning prior to testimony…. Also there was too much early time in the hearing allotted to elected and other officials out of the Boise area.

[131-07, Morty Prisament] Also of note that NRC outreach has been "lackluster" at best.

[147-04, Joey Schueler] I am in opposition to the Eagle Rock Uranium enrichment plant being put in Idaho Falls, Idaho! Although I understand the positive incentive arguments for the proposed plant, the arguments against the plant far outweigh the rather short term positive benefits. I think careful consideration should be given to each of the fifteen points I listed below when deciding whether to take this action. I also doubt many Idahoans know about this action and should be brought to a larger table of discussion.

Response: *Public participation is an essential part of the NRC's environmental review process under NEPA. Section I.2 of this appendix discusses the process for public participation during the NRC staff's development of the EIS for the proposed EREF. As indicated in Section I.2, the NRC conducted an open, public EIS development process consistent with NEPA and the NRC's NEPA implementing regulations under 10 CFR Part 51.*

Written comments on the Draft EIS could be submitted in many forms, including postal mail, emails, and uploads to the Federal rulemaking website, as well as written comments provided to the NRC staff at the two public comment meetings. No EIS comment form was needed, although the NRC staff did provide NRC Public Meeting Feedback forms at the public meetings, which could be used, and were used by many of the meeting participants, to provide written comments.

The NRC staff provided accurate information to the public at the two public meetings. This information was commensurate with the time available for the NRC's presentation and the need to present information that could be understood by all meeting attendees. All members of the public and government officials who registered to speak at the meetings were given an equal opportunity to speak. Due to the very large numbers of registered speakers at the two meetings, most of the meeting time was allotted to receiving public comments. Question and answer sessions were also limited by the large number of meeting attendees and speakers, but NRC staff were available prior to and after the meetings to discuss the Draft EIS with, and respond to questions from, members of the public.

Comment: The following comments relate to attendance and speakers/commenters at the NRC public comment meetings for the Draft EIS.

[068-06, Anne Hausrath] I very much appreciate having a public meeting in Boise. This proposed project would have a profound impact on Boise and all of Idaho.

I am concerned that it appears people from Idaho Falls who testified in Boise might be given time in Idaho Falls as well at that public meeting. If that was the case I do not appreciate them being given preference and allowed to testify first in Boise.

One opportunity to testify is great – thank you!

[083-01, Diane Jones] If I might, I'd like, respectfully, to make a comment on procedure. I'd just like to say, if you're going to have a hearing in Idaho Falls and a hearing in Boise, I think it's appropriate for people from Idaho Falls to testify there and not be able to testify twice in both hearings. There's a lot of us from Boise who really appreciate being able to testify but, you know, they have their hearing. There's one here for us.

[098-06, Linda Martin; 098-15, Linda Martin] Stakeholders that reside in the immediate vicinity of the facility are the appropriate people to comment on these reviews. As residents, voters, and taxpayers, we locally represent the immediate concerns for impacts to our community.

[178-01, Randy Trane] Thank you for the opportunity to comment on the proposed Areva project in the Idaho Falls, Idaho area. I hope common sense will prevail with this decision. It seems as though the minority in this country rules the masses. The Snake River Alliance and similar type people and groups have one objective in mind. That is to slow or stop progress at any costs. Of course they are against any drilling of gas, oil or coal and they are against nuclear power. I suppose they feel like solar and wind will take care of the world…. Please do not allow this small minority group to override the wishes of this area and with needed nuclear power worldwide.

Response: *Public meetings held by the NRC, such as the two public comment meetings the NRC staff held on the Draft EIS for the proposed EREF project, are open to all members of the public, and all persons who register to speak at such meetings are given an equal opportunity to speak.*

Comment: The following comments caution the NRC to provide a careful, thorough, and credible analysis in the EIS, and to consider all public comments provided.

[067-04, Mike Hart] I would urge the NRC to review their testimony for the legitimate concerns, but also pay attention to the procedural trip wires, because an EIS is an important legal document. It has to be done well, otherwise the proposal gets caught up in court. So, please do your job, listen, and pay attention to the procedural trip wires.…

I think the NRC has done a good job with the EIS, but I think they also need to make sure it's procedurally tight, so we don't spend a lot of time in court, so that this EIS moves through quickly, but that means they have to do a thorough and excellent job, and I would encourage them to review all opposition comments, adhere to the letter of the law, follow the procedure, and give us an EIS that we can proceed forward with the license.

[077-01, Larry Hyatt] I'd like to speak briefly to the issue of credibility and accuracy of information. I've observed, personally, for over years, basically the life of the Snake River Alliance, and have been a member of that group for many years, that time and time again, when they have taken positions based on concerns, research, and positions of information to implement, and suggestions and requests, that over and over and over again, they have been correct. And that says a heart full of information for me. Therefore, I sincerely request that you evaluate, to the deepest level you possibly can, all of the accurate, sincere information, that our Snake River Alliance has compiled and presents to you.

[098-07, Linda Martin] We appreciate the time and expertise, and patience, at this point, the NRC has devoted to the licensing and permitting process. We hope that your studies and deliberations will continue to rely on scientific fact, and technology for a timely and positive outcome for our community and Idaho.

[145-02, Ann Rydalch] I urge the NRC to continue to listen to scientific facts, and to disregard untruthful or scare tactic statements, statements such as DOE is giving $2 billion loan guarantee, a misleading statement, because no money exchanges hands. DOE is not giving AREVA the 2 billion dollars. However, by it being included in the Loan Guarantee Program, AREVA and other companies in that program will be able to possibly receive lower interest rates. It's like the Good Housekeeping Seal of Approval. Or another scare statement that building this will cause further degradation of the habitat for sage grouse. The truth is, the NRC preliminary conclusion, as described in Chapter Four, which I have read, the environmental impacts of preconstruction and the proposed actions would mostly be small.

[159-02, Robert Skinner] My caution to the NRC is to take all comments and evaluate them based on their technical merit.

[177-02, Hon. T.J. Thomson] Also, please adequately plan, at the front-end, for any environmental impacts and long-term effects to the area and dedicate the time necessary to realistically prepare for any unforeseen consequences, both financial and otherwise.

Response: *As stated in Section 1.1 of the EIS, the NRC has specifically formulated regulations under 10 CFR Part 51 to implement the requirements of NEPA. In preparing this EIS, the NRC staff has followed the requirements to independently evaluate and verify all information used in the EIS. In addition, as demonstrated in Section I.5 of this appendix, the NRC staff has reviewed and considered all comments provided on the Draft EIS in preparing the Final EIS.*

Comment: The following comments express appreciation for, and approval of, the NRC's efforts with regard to the Draft EIS and licensing process for the proposed EREF.

[034-05, Greg Crockett] As citizens of the communities closest to the facility, we feel there are certain potential environmental impacts that needed to be addressed in the EIS. We want to thank NRC and its staff for the amount of work that went into the research and evaluation of this Draft EIS along with the Safety Analysis Report.

Last June at the EIS scoping meeting held in Idaho Falls, we asked you to consider the following potential impacts. (1) land use, (2) transportation, (3) geology and soils, (4) water issues, (5) ecological issues, (6) air quality, (7) historic and cultural issues, (8) socioeconomic, (9) public and occupational health, (10) noise, and (11) waste management.

We understand and support the NRC's primary role in the protection of public health and safety and as neighbors of the Eagle Rock Enrichment Facility we thank you for your dedication and expertise.

[002-01, Lane Allgood] Last June, at the EIS scoping meeting held in Idaho Falls, we asked you to consider the following impacts. Land use, transportation, geology and soils, water issues, air quality, historic and cultural issues, social, economic, public and occupational health, noise, and waste management. All of those potential impacts were addressed in the EIS and we appreciate that.

As citizens of the communities closest to the facility, these potential impacts are very important to us. We want to thank you for the obvious amount of work that went into the research and evaluation of this draft EIS, along with the safety analysis report, and after reviewing this draft, we understand why the licensing process takes so long.

[024-02, Jana Chalfant; 149-02, Wendi Secrist; 196-02, Linda Martin, on behalf of the Idaho Economic Development Partners] We appreciate the NRCs use of scientific expertise to guide the decisions for issuance of the license and permit for the Eagle Rock Enrichment Facility. We feel that the NRC procedures for the licensing process have been very satisfactory, and thank you for your thoroughness.

[026-04, Rob Chiles] Over the last few years, the business community and members of the Chamber of Commerce have shown support for this important economic development project. We are here again tonight to commend you for a job well done. We are confident in your analysis, and agree with your recommendation to grant AREVA the license.

[033-03, Hon. Mike Crapo; 075-03, Leslie Huddleston, on behalf of Hon. Mike Crapo] The staff of the NRC have consulted with Tribal, federal, state, and local entities. They have considered the comments released in the environmental review received during the public scoping process. They have thoroughly reviewed the report revisions, and supplementary information submitted b AES. I have confidence in the NRC to analyze potential impacts of construction, operation, and decommissioning of this proposed facility.

I strongly support the NRC's preliminary recommendation that AREVA Enrichment Services be issued a license to construct and operate the Eagle Rock Enrichment Facility.

[042-03, John Deal] We commend the process completed thus far and appreciate that the NRC's only role is that of protecting public health and safety.

Hyperion Power, as a member of the Idaho community, and future neighbors of the Eagle Rock Enrichment Facility, thank you for your dedication.

[051-01, Jackie Flowers] I want to thank you, the NRC staff, for your due diligence as you evaluated the AREVA license application for the Eagle Rock Enrichment Facility, and your commitment in safeguarding that process.

This facility is proposed to be located in our collective backyard. Your work has resulted in identifying and evaluating potential environmental impacts that our community is concerned about, important topics like water resources, air quality, waste management that could impact our day-to-day lives, and our quality of life. You have also completed important work related to safety analysis report, another topic of community concern. I appreciate the NRC's commitment

to its primary role, protecting public health and safety, as you have contemplated the application before you.

As Idahoans look to welcoming new industry in eastern Idaho, we want to know that we are doing so, while maintaining the clean, safe, and healthy environment we currently enjoy. We look to you, the NRC staff, the experts, to conduct a thorough analysis. You have completed this Draft EIS investigating areas of concern as expressed by the community, and we look forward to welcoming AREVA to eastern Idaho.

[065-01, Hon. Ida Hardcastle] My name is Ida Hardcastle, I currently serve as the President of the Idaho Falls City Council, a position I have held for 17 years. My husband and I came to Idaho Falls 45 years ago for him to accept a position with the nuclear industry as an engineer. Obviously we are very much in favor of this project. In addition we appreciate the efforts of the NRC Staff as you have worked through this licensing applications and the detail to safety for the Eagle Rock Enrichment Facility. Obviously the Draft EIS and the Safety Analysis Report have taken a large amount of time and it appears that you have addressed appropriately the potential impacts identified at the June EIS scoping meeting in Idaho Falls. We thank you for your thoroughness.

[053-01, Hon. Jared Fuhriman] I also want to congratulate, and thank the NRC for a very thorough draft EIS, and safety analysis report. It's obvious that a great deal of work has gone into this production. I understand, acutely understand better, the great work and the effort that it takes, and as mayor, I appreciate the detail in your research, and the potential impacts that it has on this project and our communities.

Please be assured that before we decided to support this project, we did a great deal of research ourselves, to ensure that this type of facility was appropriate for our community.

While I'm not a nuclear expert, many Idaho Falls residents are, and we have the luxury to receive counsel from them when we have questions involving nuclear and environmental issues.

I also agree, recognize the expertise of the NRC team that is working on this licensing application, and I thank you for the time that you've given to us as we've traveled back to Washington, D.C. and have met with you. We truly appreciate that. Your courtesy and frankness has helped our community better understand the licensing process.

[053-04, Hon. Jared Fuhriman] I once again want to go on record one more time stating that I'm personally satisfied with the thoroughness and the efforts that NRC has made to this point in time regarding the EIS, and endorse that AREVA should be licensed to construct the Eagle Rock Enrichment Facility.

[079-03, Kristen Jensen; 179-03, Jolie Turek; 194-02, Linda Martin, on behalf of Eastern Idaho Economic Development Partners] We feel that the NRC procedures for the licensing process have been very satisfactory, and thank you for your thoroughness.

[094-04, Michael Lange] So, AREVA, notwithstanding, I don't know AREVA. I've never worked for AREVA, but I trust the NRC. And being -- during my time in government -- being what most people in Montana would consider me a right-wing Republican, was also the president of a labor union, I can tell you that I have confidence in a few government agencies to regulate properly. One of them is the NRC, so we can be thankful that we have an agency that is that concerned about safety, about mockups, about making sure that it's done right the first time. So, that's real kudos for the Commission. I would extend that to you from personal experience.

[098-07, Linda Martin] We appreciate the time and expertise, and patience, at this point, the NRC has devoted to the licensing and permitting process. We hope that your studies and deliberations will continue to rely on scientific fact, and technology for a timely and positive outcome for our community and Idaho.

[094-01, Michael Lange] I have a unique perspective. In 2002, I was elected to the Montana State legislature. I served there for six consecutive years, before going on to lose the United States Senate race in Montana. And the last four of those years, I served as the House Majority Leader, so I'm well aware of the particulars of a NEPA review. I have thoroughly read this EIS, and it is very professionally written. It is very accurately done. It does, in fact, comply with NEPA requirements, and I commend the NRC for that effort.

[133-09, Richard Provencher] From an operational safety standpoint, the Nuclear Regulatory Commission is involved in reviewing the license application and will ultimately ensure that operations are being conducted safely, that proper safety controls are in place, and that possible safety events have been evaluated with response plans in place. As an independent licensing agent, it is comforting to know the NRC will review this facility as a third party to ensure the protection of the public and environment.

[135-04, Hon. Dave Radford] And we applaud your work, we respect your work, and we hope for a great outcome for an expedited license for AREVA.

[138-01, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] We note with appreciation that the DEIS addresses many of the issues we raised during the project scoping period in June 2009, including analysis of cumulative impacts and climate·change effects. Also, we commend NRC staff for working with a variety of stakeholders and considering public comments in the NEPA analysis for the project. The DEIS document includes a good description of resources within the project area, analysis of anticipated environmental impacts from the project, mitigation measures to offset the impacts, and monitoring programs for potential radiological and non-radiological releases from the facility to the environment and measures to be taken to prevent such releases and ensure protection of environmental resources and human health in case an accidental release occurred.

[143-02, Hon. James Risch; 172-02, Amy Taylor, on behalf of Hon. James Risch] I am confident that the Nuclear Regulatory Commission will address the safety and environmental impacts from this proposed facility.

[176-01, Hon. Jeff Thompson] Thank you all for attending tonight, and for listening to everyone's concerns and questions. It is obvious you have taken time to address many of our concerns in the Safety Analysis Report. We appreciate the commitment to protecting the public's health and safety.

Response: *The NRC acknowledges these comments and appreciates the public participation.*

Comment: The following comments express approval of the Draft EIS and state that the Draft EIS addresses the appropriate concerns.

[011-01, Donald Baxter] I am in complete agreement with the comment previously submitted by another supporter of the Eagle Rock Facility. "I support the NRC assessments regarding the potential impacts named in the draft EIS, and agree with the findings that the impacts are small to moderate. We also find them more than acceptable when viewed in relation to the positive benefits this project will bring, which are not small to moderate, but instead massive and transformative. Finally, we agree with your preliminary conclusions that this project deserves to move forward."

[026-01, Rob Chiles] After careful review with a number of scientific environmental and socio economic experts, we strongly feel that the Draft EIS has covered all of our concerns. We are convinced the NRC has done a thorough job in analyzing all the aspects of this project, and agree the results are complete and accurate.

[034-06, Gregg Crockett] Following review of the Draft EIS, we concur that the following potential impacts were evaluated and scored correctly under the Council on Environmental Quality's significance levels:

- Land Use: Small
- Transportation: Small to Moderate
- Geology and Soils: Small
- Water Resources: Small
- Ecological Issues: Small to Moderate
- Air Quality: Small to Large (We do understand that during construction dust from heavy equipment working on the proposed site will generate dust from land grading operations that would result in a large but temporary condition. We live in eastern Idaho with its wind and agricultural activity. We don't believe dust will be a significant problem.)
- Historic and Cultural Issues: Small to Moderate
- Public and Occupational Health: Small
- Noise: Small
- Waste Management: Small

…In closing we agree with the NRC staff recommendation that due to insignificant environment impacts of the EREF, AREVA should be issued a license to construct and operate the facility

[042-02, John Deal] After reviewing the Draft EIS scoping on community impact we concur that the impacts were scored correctly and reflect a conservative and measured approach to the study.

[051-03, Jackie Flowers] I support the NRC staff recommendation that due to small environmental impacts from the Eagle Rock Enrichment Facility, AREVA should be issued a license to construct and operate the facility.

[060-01, Ericka Gianotto] Now with the release of the Environmental Impact Statement for the public comment, our concerns about the impact on the surrounding area and whether this facility would affect the pristine condition of Idaho's countryside, have been allayed.

While we know the facility will affect the surrounding area, we believe these impacts will be small and have been or will be mitigated.

[065-01 and 065-02, Hon. Ida Hardcastle] My name is Ida Hardcastle, I currently serve as the President of the Idaho Falls City Council, a position I have held for 17 years. My husband and I came to Idaho Falls 45 years ago for him to accept a position with the nuclear industry as an engineer. Obviously we are very much in favor of this project. In addition we appreciate the efforts of the NRC Staff as you have worked through this licensing applications and the detail to safety for the Eagle Rock Enrichment Facility. Obviously the Draft EIS and the Safety Analysis Report have taken a large amount of time and it appears that you have addressed appropriately the potential impacts identified at the June EIS scoping meeting in Idaho Falls. We thank you for your thoroughness.

I spend a large amount of time in the city among the residents and it is exciting to feel the enthusiasm most have for this project coming to Idaho Falls. Of course the main interest is the economic impact it will have on the area, in other words - jobs. Also the community supports the fact that there will be a very small environmental impact from this facility. We thank the NRC again for their efforts in this particular concern. We have a top notch workforce here which was recognized by AREVA in the beginning. The community as a whole supports energy being produced by nuclear power. We simply have to address our independence on foreign oil.

[067-05, Mike Hart] One of the concerns was that there's project clearing going on before the impact statement is done. NEPA requires you're not supposed to have an irrevocable commitment of resources. I don't believe the site clearing counts as that, so as a result, I think the project can continue forward without violating that NEPA precept.

[069-01, Scott Hawk] I support the NRC assessments regarding the hazards and potential impacts addressed in the draft EIS I agree with the findings that the impacts are acceptable to manage safely. I look forward to the massive and transformative positive benefits this project will bring to Eastern Idaho. Finally, I agree with your preliminary conclusions that this project deserves to move forward

[073-01, Mark Holzmer] I wholeheartedly support the NRC assessments regarding the potential impacts named in the draft EIS. You concluded that the environmental impacts are small to moderate, and I personally believe that your conclusions easily bound the

environmental impacts and may indeed be much lower. These impact findings are more than acceptable, especially considering the positive benefits this project will bring to southeast Idaho.

Finally, I agree with your preliminary conclusions that this project deserves to move forward.

[076-01, Martin Huebner] I want to address my personal and informed opinion on the adequacy of the Draft Environmental Statement for AREVA's proposed Eagle Rock facility. I reviewed the EIS, and I find no errors or omissions in it. It is a well-crafted and complete document, which should be accepted and approved, as is. The impact statement has been criticized unnecessarily and repeatedly by the Snake River Alliance, who I have been dealing with since it was founded years ago.

[079-02, Kristen Jensen; 179-02, Jolie Turek; 194-02, Linda Martin, on behalf of Eastern Idaho Economic Development Partners] We feel confident that the NRC and AREVA have addressed all necessary safety and environmental concerns in the draft EIS. We urge the NRC to stay on scope and utilize scientific expertise to guide their decisions for issuance of the license and permit for the EREF plant.

[228-07, Jim Kay] Our comments on the DEIS are only editorial. As we have indicated previously, we believe the DEIS was well prepared and adequately supports the proposed action to issue a license.

[102-03, R.D. Maynard] I applaud the NRC on your very thorough work on this licensing application and appreciate the detail of research that went into the EIS.

I would suggest that anyone with concerns about environmental issues associated with this project spend some time reading the environmental impacts, mitigation, environmental measures, and monitoring programs, and summary of environmental consequences section of the EIS.

I strongly support this as a citizen of the State of Idaho.

[124-01, Lane Packwood] We've also reviewed the EIS, and from a technical point of view, we find it is adequate, and we encourage you to proceed to the next step, licensing.

[130-01, Park and Sharon Price] We support the NRC assessments regarding the potential impacts named in the draft EIS and agree with the findings that the impacts are small to moderate. The need for an enrichment facility as proposed by AREVA is long overdue. The importance of increasing the production of power by nuclear generation is vital to the United States.

[135-04, Hon. Dave Radford] We, as the commission, agree with the Environmental Impact Statement's conclusion.

[142-01, Blake Rindlisbacher, on behalf of the Idaho Transportation Department] Thank you for your early and close consultation with the Idaho Transportation Department in the development of this environmental impact statement. We believe the statement as expressed in this draft is accurate with regards to our state highway system and the impacts this project will

have on it. The mitigation you cite for those impacts are indeed appropriate and we encourage the NRC to make ride sharing and shifts staggered from those of the Idaho National Laboratory a part of the operating license for AREVA Enrichment Services. We will continue to discuss with them the terms and conditions of their access to US-20, but specific operation behavior that may reduce risk is beyond our authority to require.

[145-01, Ann Rydalch] We thank the NRC for the staff's preliminary conclusion that the Eagle Rock Enrichment Facility would have mostly small impacts on the local environment and that AREVA should be issued a license to construct and operate the facility. I encourage you to follow the preliminary recommendation that AREVA be issued a license to construct and operate the Eagle Rock Enrichment Facility here in Bonneville County, Idaho Falls, Idaho, formerly called Eagle Rock, Idaho.

[151-02, Beth Sellers] The draft EIS covered a wide range of impacts. They are the standard impacts that are seen with any major construction activity. The areas of most concern to me include water resources, ecological and cultural resources, waste management, and the transportation impacts to those of us in Idaho Falls. The NRC analysis was comprehensive and the impacts were noted to be small in the majority of the impacts analyzed. For those environmental impacts noted to be in the moderate to large range, the mitigations detailed by the applicant were deemed acceptable.

I support the NRC staff recommendation that due to small environmental impacts from the Eagle Rock Enrichment Facility, Areva should be issued a license to construct and operate the facility.

[152-02, Steven Serr] I've had an opportunity to read your draft EIS. I agree with most of the issues that you've stated in there as far as compliance, with what we feel are important within the jurisdictions for enforcement.

[157-05, Hon. Erik Simpson] In conclusion, I want to state that I strongly support the AREVA project, and feel the draft EIS is very adequate and considers the environmental factors associated with the facility. I believe AREVA will be a positive addition to the State of Idaho, and an integral part of our nation's development of energy independence.

[159-01, Robert Skinner] I have carefully read the Draft EIS, all of it I have not read totally, because it is huge. You're going to put the guys that sell sleeping pills out of business, I'm sure, but I would like to commend the crafters of this document for their hard work and diligence. I find it to be thorough, and lacking in no respect technically. I am here to address the technical aspects of the EIS.…

I believe AREVA should be issued a license to construct and operate the Eagle Rock Enrichment Facility at the earliest opportunity.

[163-03, Smith-Putnam, Cindy] As your EIS shows, and like in all human endeavors, the project is not wholly devoid of impact. The air quality issue is an impact; yet, we are mindful that land and dust issues are a normal part of any major construction, and will be temporary and brief in duration. Risks and impacts are an inherent part of life on this planet. They cannot be

avoided, but they can be anticipated, and evaluated, weighed and measured in comparison to their relative reward and benefits.

What is important to maintain, as Rocky said, is a sense of perspective when evaluating those risks and impacts. And that is what the opponents of this license approval fail to do when they engage in hyperbole and misdirection bringing more heat to the subject than light….

We support the Preliminary NRC assessments regarding the potential impacts named in the Draft EIS, and we agree with the findings that the impacts are small to moderate. We also find them more than acceptable when viewed in relation to the positive benefits this project will bring, which are neither small nor moderate, but, instead massive, and transformative.

Finally, we agree with your preliminary conclusions that this project deserves to move forward. We hope you will continue to rely on scientific fact in making these decisions, and not be swayed by emotion or opinion, and we urge you to grant the license for the AREVA project in a timely manner. Thank you for considering our perspective.

Response: *The NRC acknowledges these comments and appreciates the public participation.*

I.5.4 Purpose and Need

Comment: The following comment questions the need for the proposed EREF with regard to U.S. national energy security.

[015-09, Beatrice Brailsford] The basis for and discussion of the second "need" - domestic supplies of enriched uranium for national energy security - is beyond puzzling. Setting aside the fact that the enriched uranium market is an international market, the key word in the current rationale is "domestic." The "national energy security policy objective" Areva's plant is supposed to meet was enunciated in a letter from Assistant Secretary William Magwood at the Department of Energy (DOE) to the Nuclear Regulatory Commission eight years ago. The focus of the letter was not that the US needed a foreign company to build a plant here, but rather that an American company should have a stake in US enrichment capacity. The US Enrichment Corporation has been granted a license - though not a federal loan guarantee - to build a plant, which would seem to more directly meet the policy objective enunciated in the letter. If the NRC is pointing to a "policy objective," that objective must have been articulated more recently and with a "higher profile" than a single letter from an Assistant Secretary provides.

Response: *While the enriched uranium market may be an international one, the addition of domestic uranium enrichment capacity, as would be provided by the proposed EREF, would help fulfill the need for U.S. domestic energy security, as discussed in Section 1.3 of the EIS. As discussed in Section 1.6 of the EIS, AES is a Delaware limited liability corporation that was formed solely to provide uranium enrichment services for commercial nuclear power plants. As discussed in Section 1.3.2 of the EIS, one of the needs for the proposed EREF is increased domestic uranium enrichment for enhanced energy security. The DOE letter (DOE, 2002) referenced in the comment is one reflection of that need, and it also references the concurrence of the U.S. Department of State on the matter.*

Comment: The following comment questions the adequacy of the economic justification for the proposed EREF.

[068-04, Anne Hausrath] My husband and I raised our children in Idaho. We are very much concerned about the current economic climate for their generation, and we believe there's a responsibility of all of us to provide for that. I don't believe that this plant is adequate -- that the economic is adequate justification for that.

Response: *As discussed in Section 1.3 of the EIS, the need for domestic enriched uranium services is one of the reasons why the proposed EREF is needed. The potential beneficial economic impacts are just one of the outcomes that result from the range of analyses over multiple resource areas considered in the EIS.*

Comment: The following comment questions the credibility of statements in the Draft EIS that the proposed EREF will aid the United States in achieving energy independence and/or more national security.

[147-17, Joey Schueler] 13. The notion that this plant will aid the United States in achieving energy independence and/or more national security is a myth. The United States does not control all steps in the Nuclear Power generation process. As a result, every other step that we can produce is dependent upon other nations and what they can contribute. Removing one step in the process would curtail or stop our nuclear energy system.

Response: *The addition of domestic uranium enrichment capacity, as would be provided by the proposed EREF, would help fulfill the need for U.S. domestic energy independence and security, as discussed in Section 1.3 of the EIS. As noted in the comment, other steps are required so as not to curtail or halt nuclear energy in the United States, but those aspects are outside the scope of this EIS because they do not relate to the environmental review of the proposed EREF project.*

Comment: The following comment questions the need for an AES uranium enrichment plant in the U.S. when a similar plant AES is constructing in France could instead be expanded.

[168-07, Lon Stewart] If Areva is currently building a similar plant in France, economy of scale would make more sense to expand that plant rather than building another plant in the western United States.

Response: *As discussed in Section 1.3.1 of the EIS, the proposed action, which is to construct, operate, and decommission a uranium enrichment plant near Idaho Falls in Bonneville County, Idaho, is intended to satisfy the need for an additional reliable and economical domestic source of uranium enrichment services. Expanding AES's plant in France would not satisfy that need.*

Comment: The following comment questions the premise in the Draft EIS regarding the need to lessen the U.S. dependence on enriched uranium from foreign sources.

[193-11, Liz Woodruff, on behalf of the Snake River Alliance] And when our country gets crude oil from overseas and refines it here, does that lessen our dependence? So these are questions we need to ask about the premise set up in the EIS.

Response: *The proposed action is intended to satisfy the need for an additional reliable and economical domestic source of uranium enrichment services. While the proposed action would not entirely remove dependence on foreign sources, it would partially address that dependence.*

Comment: The following comments question the premise in the Draft EIS that a reliable source of enriched uranium is needed.

[191-07, Liz Woodruff] The draft EIS fails to establish that the current approach to supplying enriched uranium is unreliable. There is uranium enrichment in the US, enriched uranium has always been an international market, the raw material comes from foreign sources, and this system has adequately provided fuel for US reactors for decades.

[193-10, Liz Woodruff, on behalf of the Snake River Alliance] And I'd just like to pause here, to check in on this theory of theirs, that there is this need for reliability. Have we ever shut down a reactor because the fuel source was unreliable, in this country? It seems like it's been working pretty well so far.

Response: *The proposed action is intended to satisfy the need for an additional reliable and economical domestic source of uranium enrichment services to help ensure that no U.S. reactors would have to be shut down in time of crisis because of lack of fuel. Past experience may not be predictive of whether such a crisis will occur in the future. The current domestic enrichment services are not sufficient to support U.S. demand if needed. As discussed in Section 1.3.1 of the EIS, the current capacity falls short and is heavily dependent on the aging Paducah Gaseous Diffusion Plant, which is not economical and expected to cease operations in the near future due to the high cost of maintenance.*

Comment: The following comments suggest that demand in the U.S. for enriched uranium will go down as the currently operating reactors are decommissioned.

[181-10, Roger Turner] 1. The purpose and need analyses needs up-dated in EIS. The following conditions, in combination, eliminate the need for this project: (a) recent finds of large amounts of natural gas in the U.S. is reducing interest in nuclear power and rendering nuclear power uneconomical in comparison; (b) the cost of solar and wind power are coming down resulting in a larger role for these power sources and; (c) with the reduction of nuclear power plants in the U.S. domestic uranium enrichment plants will be able to supply the nuclear power industry with ample supplies of U-235, without the need for this proposed, expensive, AREVA plant. The aforementioned points are detailed below:

(A) Recent finds of large amounts of natural gas fields in the U.S. reducing the interest and momentum by power companies in developing nuclear power. New finds of domestic natural gas has resulted in a switch in interest from coal and nuclear to gas for power supplies. A recent MIT study, that is more up-to-date than the study referenced in the draft EIS, reveals a

likely economically realistic switch to natural gas for the United States power supplies. This study, by a group of 30 MIT faculty members, researchers and graduate students reflects the more accurate conditions for power plant construction in the United States for the next 40 years. The study shows a baseline global estimate of recoverable gas resources reaching some 16,200 trillion cubic feet (Tcf), enough to last over 160 years at current global consumption rates. (The Future of Natural Gas -- Study finds significant potential to displace coal, reducing greenhouse gas emissions, MIT, June 2010) In addition the study reports the following trend:

"Natural-gas consumption will increase dramatically and will largely displace coal in the power generation sector by 2050 (the time horizon of the study) under a modeling scenario where, through carbon emissions pricing, industrialized nations reduce CO_2 emissions by 50 percent by 2050, and large emerging economies, e.g. China, India and Brazil reduce CO_2 emissions by 50 percent by 2070. This assumes incremental reductions in the current price structures of the alternatives, including renewables, nuclear and carbon capture and sequestration."

According to U.S. Energy Information Administration Annual Energy Outlook 2010, domestic and Canadian gas supply will increase, at least to 2035.

Shale gas provides largest source of growth in U.S. natural gas supply

The increase in U.S. natural gas production from 2008 to 2035 in the AEO-2010 Reference case results primarily from continued growth in production of shale gas, recent discoveries in deep waters offshore, and, to a lesser extent, stranded natural gas brought to market after construction of the Alaska natural gas pipeline is completed in 2023. Shale gas and coalbed methane make up 34 percent of total U.S. production in 2035, doubling their 17-percent share in 2008. Shale gas is the largest contributor to the growth in production, while production from coalbed methane deposits remains relatively stable from 2008 to 2035.

(B) The cost of solar power is lower than nuclear power, resulting in a larger role for these power sources. The New York Times reports the following article:

Solar power costs have been declining, the costs of nuclear power have been rising inexorably over the past eight years, said Mark Cooper, senior fellow for economic analysis at Vermont Law School's Institute for Energy and Environment. Estimates of construction costs — about $3 billion per reactor in 2002 — have been regularly revised upward to an average of about $10 billion per reactor, and the estimates are likely to keep rising, said Mr. Cooper, an analyst specializing in tracking nuclear power costs. (New York Times; Special Report: Energy and Environment, Nuclear Energy Loses Cost Advantage, July 26, 2010)

(C) Switch to other power sources means no need for Areva. Given the above two examples of a switch to other power sources than nuclear, the existing plans for enrichment will be adequate to supply the U.S. nuclear industry. The Les Urenco company has plans to produce up to 6 million SWU; while the USEC produces 10.5 Million SWUs.

Also, in 2008, an amended agreement allows Russia to export increasing amounts LEU available to nuclear power companies to the United States, starting with 442,000 pounds in 2011 and up to 13.7 Million pounds in 2020.

While it is true that some nuclear plants may expand their existing power plant, such as Watts Bar 2 (TVA), there will be nowhere near the number of new units predicted by the NRC's Energy Assessment Administration Report (EIA 2009a) and nowhere near the need for SWUs referenced in the draft EIS for AREVA; and because of many nuclear plants are decommissioning -- there will be less and less need for enriched uranium. Many of the firms that initially consider nuclear construction are bound by State requirements that they be 'prudent investors'. Therefore, many initial applicants to NRC are dropping out completely, or keeping them on hold.

Consequently, the EIS should carefully review current studies and assessments that show a general swing to natural gas, solar and wind. Unfortunately the NRC fails to take a hard look at this purported need. A nuclear power plant hasn't been built in the United States in two decades. The EIS needs to provide economic comparisons of nuclear vs. Solar and Natural Gas. More and more companies are dropping their nuclear power applications to NRC, and therefore the need for this plant is not justified, given the existing and soon to open facilities in the U.S. to provide sources of enriched uranium.

[187-06, John Weber] I recommend the "no action alternative" for the following reasons. With many of the current US reactors nearing the end of the design life expectancy and very few, if any, new reactors likely to be build due to economics, a case has not been made for a need for this plant.

Response: *As discussed in Sections 1.3.1 and 1.3.2 of the EIS, the need for the proposed EREF is based on both the projected increase in the number of U.S. commercial nuclear reactors and the current inadequate capacity for domestic enriched uranium production. Section 1.3.1 has been revised to note that most current U.S. reactors that have come, or are coming, to the end of their original 40-year license are undergoing a license renewal process for an additional 20 years of operation. Therefore, as discussed in Section 1.3.1, a net increase in U.S. reactors is expected, and the proposed EREF would help supply the additional enriched uranium required for their operation, as well as ensure that U.S. capacity for enriched uranium production would remain commensurate with U.S. demand.*

Comment: The following comments suggest that the correlation between future energy demand and the corresponding future demand for low enriched uranium is speculative.

[113-01, Ken Miller] The Draft EIS in Section 1.3.1 suggests that "as future demand for electricity increases, the need for low enriched uranium to fuel nuclear power plants is also expected to increase," and they're citing the Energy Information Administration's Annual Energy Outlook in 2009. In fact, the correlation between future energy demand and the corresponding future demand for low enriched uranium today is speculative, at best.

[113-07, Ken Miller] The Draft EIS in Section 1.3.1 suggests that, "As future demand for electricity increases, the need for Low Enriched Uranium to fuel nuclear power plants is also expected to increase." In fact, any correlation between future electricity demand and a corresponding future demand for Low Enriched Uranium is speculative at best. The Department of Energy does not put the nation's future electricity eggs in the nuclear basket. Far from it: It envisions a much more diverse energy portfolio that is more reliant than ever on energy efficiency and conservation and other truly renewable baseload energy resources.

Response: *The quote in these comments from Section 1.3.1 of the Draft EIS does not include the reference, immediately following the quote in the EIS text, that was given to U.S. Department of Energy's (DOE) Energy Information Administration's (EIA) "Annual Energy Outlook 2009 With Projections to 2030." In that reference, the EIA of the U.S. Department of Energy (DOE) estimates the increasing need for nuclear power (and therefore, enriched uranium) based on an increasing need for electricity, taking into account increases from other sources of electric power and conservation measures.*

Comment: The following comments note that the proposed EREF would use a more economical and environmentally friendly uranium enrichment process.

[098-11, Linda Martin] The company's use of centrifuge technology is a proven, safe method of enriching uranium. This technology is more energy efficient, more environmentally friendly and less expensive to operate than the other accepted uranium enrichment process called gaseous diffusion.

[143-03, Hon. James Risch; 172-03, Amy Taylor, on behalf of Hon. James Risch] …I also note the centrifuge technology is proven, reliable, and efficient. The process will use 50 times less electricity than a gaseous diffusion plant, and the amount of water used by the plant is less than the current irrigation appropriation.

Response: *As stated in Section 1.3.1 of the EIS, the proposed action is intended to satisfy the need for an additional economical domestic source of enriched uranium.*

Comment: The following comments support the national security goal of sufficient domestic enrichment capability.

[034-02, Greg Crockett] It is time for the U.S. to change directions in the interest of our energy future and our national interest. It is time for the United States to reassume a leadership role worldwide in nuclear energy. Our national security interests require that we have enrichment and fuel development capabilities within our borders. I support the Draft Environmental Impact Statement, which likewise recognizes those demands.

[051-02, Jackie Flowers] Something else this community is concerned about and cares about is energy. As this country grapples with visions for a sustainable energy future, and energy independence, we have to take action and stop the rhetoric. Nuclear energy provides 20 percent of the nation's electricity. We've already heard that tonight. Importantly, we've also heard it provides more than 69 percent of emission-free electricity that keep the lights on in this country. Let me stress, base load emission-free energy. With less than 15 percent of the nuclear fuel supply necessary for the existing nuclear energy fleet coming from a single source inside this country's border, we have an energy security problem that I believe rallies that of our dependence on foreign oil. And this is an important step towards building that independence.

Nuclear energy is ready now to be a central part of a balanced common-sense approach to clean energy diversity. I agree with the NRC staff's statement that this facility will contribute to

the attainment of national energy security policy objectives by providing an additional reliable and economical domestic source of fuel for these important nuclear energy facilities.

[123-04, Hon. Butch Otter; 090-04, Paul Kjellander, on behalf of Hon. Butch Otter; 195-04, Hon. Jeff Thompson, on behalf of Hon. Butch Otter] Third, Eagle Rock will help rebuild the nation's nuclear infrastructure, and enhance energy security for all those who depend on nuclear power for their health and welfare right here from Idaho

[128-09, Bob Poyser] AREVA is really excited to be a part of Idaho's business community, and we look forward to continuing our work with the state, and the people of Southeastern Idaho. We plan to build and operate a safe environmentally sustainable world class facility that is important to America's energy security, important to our American utility customers, and important to the advancement of Idaho's continued leadership in nuclear programs. Thank you very much.

[133-01, Richard Provencher] I fully support the NRC's proposed preferred alternative to build a uranium enrichment plant west of Idaho Falls, Idaho. The facility being pursued by AREVA will provide an additional reliable and economical domestic source of low enriched uranium to be used in commercial nuclear power plants. Having more capability for enrichment in this country helps reduce the risk related to importation of this type of material from foreign sources. The AREVA facilities planned capacity can provide 40% of the current and planned demand for enriched uranium. AREVA's business plan fits well within the country's plan to reduce dependency on foreign oil, improve the climate, and make nuclear energy a larger contributor to the domestic energy supply. This creates a clear mandate for the capability which is critically important to beginning the review of environmental impacts related to its operation.

[158-02, Hon. Mike Simpson; 139-02, John Revier, on behalf of Hon. Mike Simpson] It is more important than ever, that our nation take the steps needed to end our dependence on foreign sources of energy and become energy independent. Currently, the United States imports nearly 90 percent of the uranium enrichment services it uses. The Eagle Rock facility will provide a stable domestic supply of enriched uranium for existing and planned commercial nuclear reactors, and it will serve an important part of an overall domestic energy strategy.

[163-02, Cindy Smith-Putnam] The bigger picture is this project's significance to our regional and national energy future, and it is the national energy future that fundamentally and absolutely requires a significant reset from the status quo.

Currently, under the E in Energy, Grow Idaho Falls has taken an active role in supporting the development and expansion of green renewable sources of energy. We can, we should, we have, and we will continue to support the diversification of the energy portfolio of our region and nation, to include harnessing the power of wind, water, heat, and light, to reduce the harmful effects to the environment of carbon emitting sources, and to promote our national security by becoming less reliant on foreign oil.

Increasing renewables, promoting conservation, decreasing use of fossil fuels, all very important, we can, and we should do all of those things. And, yet, even taken together, none of that is enough, not nearly enough to meet our growing energy demands. Nuclear energy stands alone as the best way to produce the energy we need, while at the same time minimizing

harmful environmental and geopolitical consequences. It gives us the opportunity to turn away from the practices of the past toward a more stable and sustainable energy future.

Therefore, just as we need to be independent of unstable and unpredictable sources of oil, we also need to be independent of unstable and unpredictable sources of enriched uranium. Simply put, the Eagle Rock Enrichment Facility beautifully addresses that need.

[171-03, John Tanner] It is a fact that we import well more than half of the enriched uranium that we presently need, not that some future reactors might need, but that we presently need.

Furthermore, we would like to shut down the one remaining gas diffusion enrichment plant in Paducah, Kentucky, because the gaseous diffusion is so much more inefficient than gas centrifuge technology. In fact, I think they use about 10 times as much electricity for a given amount of separation as a gas centrifuge plant does.

Now, okay, we could import enriched uranium, but then not only the profits go abroad, but the jobs, as well. I don't think that's what we want to do.

[173-01, David Taylor] …I am strongly in favor of the construction and maintenance of the Areva complex and hope the rest of the DOE INL site can be used for productive nuclear research and generating capacity.…

We cannot supplant the energy from fossil fuels to the electric grid without vast improvements to the grid itself and to generating capacity. Nuclear is the only viable alternative and the only one that is "eco friendly" to the environment. Fear mongers and professional detractors "Snake River Alliance" use disgraceful tactics and words in attempting to keep their little source of revenue alive.

We possess the technology (Gen IV reactors) and now need the common sense to use these resources to help sustain a vibrant economy and standard of living that we have all come to expect. The next generation will not have these opportunities if we squander and make feeble attempts to make nuclear energy production a reality now.

I support Areva and the ideas that surround using nuclear technology as a great national effort. It must be for national security and for economic security. We must have a federal government that will establish certain protocols and reactor templates that if complied with will move to a fast track for licensing and construction. From there the government must run interference against all the special interest that come to bear only for the reason of capital extraction. Thanks for allowing us to be part of this potentially wonderful venture that will not only bless the lives of those who live and work here but for the whole nation.

Response: *As stated in Section 1.3.1 of the EIS, the proposed action is intended to satisfy the need for an additional economical domestic source of enriched uranium.*

Comment: The following comments suggest that the proposed EREF is needed to address the potential short-fall in enriched uranium supply with a safe, proven, and efficient uranium enrichment process.

[033-01, Hon. Mike Crapo; 075-01, Leslie Huddleston, on behalf of Hon. Mike Crapo] Now, more than ever, it is critical to develop secure, economically feasible, and clean supplies of domestic energy. EREF will supply America's existing operation fleet of nuclear power reactors, and further augment the anticipated growth of new commercial nuclear power generation here in the U.S.

[034-03, Greg Crockett] Demand for nuclear fuel is, and will dramatically increase in the future, and I think that's demonstrated by the number of pending NRC license applications. To suggest that the Eagle Rock Enrichment Facility's production is not or will not be necessary is pure folly. To meet our current demand for enriched uranium, much of it is imported, and we need robust domestic suppliers who can provide this service in an environmentally compatible manner.

[067-06, Mike Hart] Also, they took exception with the cause and need for action. I think there's most definitely a need for this, because there's a need for carbon-free energy. Throughout the world, I think we've seen that global warming is a significant problem that we need to be paying attention to, and there's also a demand for growth in nuclear energy. There's a couple of facts I want to point out why we need nuclear energy, why we need this particular enrichment plant.

Carbon dioxide reflects, or absorbs, infrared energy that does not go back out to space. It makes the planet warmer. That's simply a fact. Carbon dioxide is a greenhouse gas. Levels of carbon dioxide have gone from 288 parts per million in 1850 to 369 parts per million in the year 2000. It doesn't matter where it comes from. That is a greenhouse gas that is increasing in concentration. But I'll give you a hint as to where it's coming from: fossil energy. In 1990s, we annually contribute 6.3 gigatons of carbon dioxide into the atmosphere through fossil combustion. That's annual, 6.3 gigatons. The concern about 300,000 metric tons, 300,000 tons of total waste versus 6.3 gigatons in a single year, I view the problem with carbon as much more significant than the problem with depleted uranium.

So, what is a gigaton? Why is that a concern? Well, 2.3 gigatons is one part per million of carbon dioxide in the atmosphere. So, every year we are steadily increasing carbon dioxide. So, yes, global warming is occurring. Yes, it's our fault. Yes, carbon puts more of that in the atmosphere, and I think nuclear energy is a stopgap that will – is worth pursuing. So, yes, there is a need.

Energy demands are increasing worldwide. Currently, the population of the planet is about 4.5 billion. By 2050, that will double, and people are not less energy consumptive. Populations like China and India used to be in the Third World. They have bought the second world, and they've placed a firm down payment on the first one. So, energy consumption will go up as the population goes up, so even if nuclear energy just holds its own at 15 percent, there will be a need for more nuclear plants, and that means there will be a need for more enriched uranium.

[072-01, Stephen Herring] I'd like to speak in favor of the AREVA license application for the Eagle Rock Enrichment Facility, and particularly on the need for that facility.

This facility would be an important part of the nuclear fuel cycle, and a key step in providing for future electricity. In building this facility, AREVA will replace 60-year old technology for uranium enrichment, that is, the gaseous diffusion process, with the new gas centrifuge technology,

which is more proliferation-resistant, cleaner, and a factor of 20 to 50 times more energy efficient.

The 104 reactors in the United States provide, as you've heard earlier this evening, about 20 percent of the total U.S. electricity, and about 70 percent of the carbon-free electricity. However, today the U.S. has only one operating gas centrifuge plant, and the last gaseous diffusion plant is in the process of being decommissioned. The one gas centrifuge plant in New Mexico began operation in June 2010, and will be capable of producing 3 million separative work units per year, which is about 25 percent of the U.S. need for enrichment. So, the U.S. is importing, from one place or another, the enrichment needed for 75 percent of our nuclear electricity.

We have seen the construction of many wind turbines in the hills east of Idaho Falls in the last five years, and throughout the west. I applaud the contribution that these turbines can make, though I have seen very little contribution from Jackson or Sun Valley, but it is important to remember that these turbines, even at the best wind sites, have capacity factors of only 30 to 35 percent. A nuclear reactor's fuel by means of the Eagle Rock Enrichment Facility will provide power with a capacity factor of above 90 percent; that is, they will produce 90 percent of their maximum power for an average, year-round, 24/7. The U.S. needs reliable, sustainable energy for the decades to come, and not just when the winds blow.

[098-04, Linda Martin] As far as technical impacts, the centrifuge technology is proven and safe as based on other facilities across the world, and while there conceivably is a significant gap in the supply-demand equation for enriched uranium to provide our current and future green energy needs, we can address that with the EREF.

[098-13, Linda Martin] Conceivably there is a significant gap in the supply/demand equation for enriched uranium to provide for our current and future green energy needs. The uncertainty of the future supply of energy could evolve into a national security issue. The Eagle Rock Enrichment Facility would be a principal supplier for this valuable and needed material.

[123-02, Hon. Butch Otter; 090-02, Paul Kjellander, on behalf of Hon. Butch Otter; 195-02, Hon. Jeff Thompson, on behalf of Hon. Butch Otter] AREVA is proposing to build a state-of the-art, technologically-proven, modern facility to enrich uranium needed to operate the existing U.S. fleet of 104 power reactors. AREVA's plant will incorporate many unique features which have been developed over three decades of experience with centrifuge enrichment technology. AREVA's vast experience and use of the technology will result in minimizing and, where possible, eliminating any impacts on the surrounding environment and regional communities, but there will remain, however, many significant beneficial impacts.…

Safety, integrity, professionalism, and sustainability are demonstrated attributes that AREVA embraces in all of its projects and operations, and the Governor believes they'll bring no less to Idaho Falls. AREVA has been easy to work with, and they are as excited about coming to Idaho as we are to have them locate their facility here.

As we look across the country today, there are not many, if any, states or regions that can claim proposed major energy construction projects or facilities like the Eagle Rock Enrichment Facility. While large projects are usually accompanied by some environmental impacts, Governor Otter believes the end result of this facility will be very positive for Idaho and the

country. Eagle Rock will provide much needed domestic production of enriched uranium for our existing U.S. nuclear power fleet, which will help enable U.S. utilities to move away from importing nearly 90 percent of this important fuel product.

[128-03, Bob Poyser] This is a project that AREVA's American utility customers have embraced, as demonstrated by their willingness to already contract, in advance, for more than half of the production capacity of this facility.

All of the natural uranium that will arrive at the Eagle Rock facility under these contracts belong to American utilities, and is destined for use in American reactors.

I would quickly like to address just a few of key aspects of the EIS, and the Eagle Rock facility.

Let me start by saying that a clear and definite need, today, in the United States, for enrichment services exists. Today, more than half of the enriched material for America's current nuclear plant plants is imported from Russia. Another one third is imported from other nations, and Eagle Rock and Idaho will help significantly reduce America's dependence on these foreign sources of supply.

Nevertheless, when Eagle Rock comes online, America will need to import enrichment services just to fulfill the need for the current existing fleet of 104 reactors.

[130-01, Park and Sharon Price] We support the NRC assessments regarding the potential impacts named in the draft EIS and agree with the findings that the impacts are small to moderate. The need for an enrichment facility as proposed by AREVA is long overdue. The importance of increasing the production of power by nuclear generation is vital to the United States.

[143-01, Hon. James Risch; 172-01, Amy Taylor, on behalf of Hon. James Risch] As a U.S. Senator from Idaho, I have the privilege of serving as the Ranking Member of the Subcommittee on Energy. From that position, I have seen firsthand the efforts this country is making to formulate a forward-looking energy policy. Supporting nuclear power, and its associated technologies, such as enrichment, is one way to make our country more energy secure.

Years of broken energy policy have led us to become dependent on foreign sources of energy. We've also lost our competitive edge in the nuclear field a field where the United States and Idaho once led. This community knows what it takes to regain that competitive edge, and once again place Idaho and this nation at the pinnacle of the nuclear industry.

There is a growing recognition that nuclear power is the most viable option to meet the clean energy demands of the future. Demand for enriched uranium is increasing in the United States and across the world to fuel clean nuclear power. This proposed facility will allow that need to be met from domestic sources, while providing a much needed economic boost to the entire region.

[145-04, Ann Rydalch] As you know, nuclear power currently supplies about 20 percent of the nation's electricity, and surveys show over 70 percent of the public throughout the nation support nuclear energy. We have one company that is currently the sole U.S. supplier of low-

enriched uranium for nuclear fuel in the U.S., although there are some being built that may provide enrichment services in the future. However, that still leaves an extremely high percent of low-enriched uranium that is being imported from foreign suppliers, imposing reliability risks for the nuclear fuel supply to U.S. nuclear power plants.

National energy policy emphasizes the importance of having a reliable domestic source of enriched uranium for national energy security. The production of enriched uranium at the Eagle Rock Enrichment Facility would be equivalent to about 40 percent of the current and projected demand for enrichment services within the U.S. Thus, still a high percent of current and projected demand for enrichment services that's left to fulfill.

[157-10, Hon. Erik Simpson] Need for an enrichment facility. At the Boise hearing that I attended on Monday, those opposed to this project said there is no need for additional uranium enrichment. They quoted a so-called expert from the Vermont School of Law who said, "The nuclear renaissance is dying."

Now, at my count, currently there are 468 nuclear power plants planned around the world, including 26, give or take, in the United States. This does not sound like a dying renaissance to me. It is important the United States to continue to be a world leader in nuclear power development and research. The Eagle Rock Enrichment Facility and the Idaho National Laboratory will help continue this nuclear renaissance.

[176-04, Hon. Jeff Thompson] Additionally, the Eagle Rock plant will enrich uranium for use as fuel for the nuclear reactors, which today accounts for 20 percent of U.S. electricity.

Response: *As stated in Section 1.3.1 of the EIS, the proposed action is intended to satisfy the need for an additional economical domestic source of enriched uranium.*

Comment: The following comments question the location of the proposed EREF in Idaho because nuclear power is not needed in Idaho.

[015-13, Beatrice Brailsford] There is, of course, another aspect to "purpose and need," and that's the local rationale: why is this project proposed for this location. Here, too, the draft EIS comes up short. We are told that nuclear reactors that would theoretically be supplied in part by EREF are needed because of our need for non-coal "baseload" or "firm" generation resources. In fact, nuclear power is not being considered at all as a baseload resource here in Idaho. Our region's Sixth Power Plan, developed by the Northwest Power and Conservation Council and vetted by utilities and energy officials in Idaho and throughout our region, projects that we will meet 85 percent of our new electric load growth over the next 20 years through energy efficiency, with the balance coming primarily from renewable generation, mostly from wind. Our region's Power Plan does not anticipate any new large supply-side generation resources, including nuclear.

[025-04, Hon. Sue Chew] And, you know, we've heard that the energy that would be developed through this particular mechanism doesn't benefit our state. I'd like for us to reflect on that.

[032-01, Cindy Cottrell] I am writing about my deep concerns of the proposal to open Areva uranium enrichment plant in Idaho. This would be a big mistake. Of all the States in the United States this should be the last State ever considered to take on such a plant. First of all, Idaho is one of the few States who doesn't need nuclear power. We have all kinds of options for alternative energy. A State like Rhode Island may need to consider such options but Idaho should never be accepting energy that creates waste when there are other options. We have thermal resources to tap, wind power, dams, and some solar. I'm sure more are options too since we live in a large State with a variety of resources.

[113-08, Ken Miller] We are told that nuclear reactors that would theoretically be supplied in part by EREF are needed because of our need for non-coal "baseload" or "firm" generation resources. In fact, nuclear is not being considered at all as a baseload resource - here in Idaho and at regulated electric utilities, at least. Our region's Sixth Power Plan, developed by the highly regarded Northwest Power and Conservation Council and vetted by utilities and energy officials in Idaho and throughout our region, projects that we will meet 85 percent of our new electric load growth over the next 20 years through energy efficiency, with the balance coming primarily from renewable generation, mostly from wind. Our region's Power Plan does not anticipate any new large supply-side generation resources, including nuclear.

Response: *The location of the proposed EREF was not chosen by AES based on the need for nuclear power in Idaho. The determination of the proposed EREF location is based on the criteria identified in Section 2.3.1 of the EIS, which include factors related to geology, hydrology, weather, required resources, available workforce, and local acceptance. The NRC reviewed AES's site selection criteria and selection process as part of its environmental review.*

Comment: The following comments indicate that the justification for domestically enriched uranium is unsupported.

[015-23, Beatrice Brailsford] In conclusion, since the only justification for the facility is an asserted but unsupported need for domestically produced enriched uranium, which the EREF does not in any case provide, a true "no action" alternative - without any preconstruction activities - should be chosen.

[153-14, Andrea Shipley; 161-03, Marisa Smith; 197-16, Andrea Shipley, on behalf of the Snake River Alliance] In conclusion, since the only justification for the facility is an asserted but unsupported need for domestically produced enriched uranium, which the EREF does not in any case provide, a no action alternative should be chosen.

[100-05, Wendy Matson] So therefore, I feel, very strongly, that since the only justification for the facility is an asserted by unsupported need for domestically-produced enriched uranium, which EREF does not, in any case provide. I vote for a no action alternative.

[110-01, John and Susan Medlin] As the Snake River Alliance presentation pointed out, there is no current need for this facility, no compelling evidence that a nuclear renaissance is coming (or inevitable), no rationale for a French company building a nuclear facility in Idaho that purports to promote US energy security while importing inputs and exporting outputs, no provision for the deteriorating and dangerous waste that will haunt us for decades or maybe

forever, no concern for yet another threat to the Snake River aquifer, the lifeblood of Idaho agriculture.

So how can the NRC conclude that building this facility is vital, and that the most problematic outcome to be evaluated is construction dust?

[131-03, Morty Prisament] Need for Action: The DEIS has not established a "need" for this action, as required under NEPA. Need is required to be discussed in specific, quantitative, terms and within the scope of global production and markets. there exists a competitive global market to provide enriched uranium. Russia (CIS) has been one of the leading suppliers of enriched U2. If there is a national security rationale for building such facilities in the U.S., the EIS needs to discuss and document such an assertion. Moreover, the document needs to explore the reasons why the supply of enriched U2 from nuclear weapons decommissioning could not meet projected demand for enriched U2.

[148-02, Eric Schuler] But there's a bigger issue here. Before we can ask whether the impact will be small or devastating, we need to ask why we're making an impact at all. This question is paramount, but the draft EIS failed to provide a convincing answer. The EIS claims that the EREF needs to be build to improve national security. For this to be a legitimate need, however, the U.S.'s supply of enriched uranium would have to be unreliable currently. This is not the case.

The U.S.'s enriched uranium sources are reliable partners and the U.S. even seems to tacitly acknowledge this fact, when it states that some of the enriched uranium will be exported to foreign countries. Even so, it is useful to evaluate the sources more fully, just to understand just how unnecessary this facility is.

Now we've heard earlier that 90 percent of our enriched uranium is imported, and about half of that is from Russia, and we've also heard that uranium enrichment is a necessary technology because we need nuclear power to deal with global warming.

However, strictly speaking, that's not true, as a great example of that is the megatons to megawatts program that we operate with Russia. This is an agreement between Russia and the U.S. where by Russian nuclear warheads are downblended to make fuel grade uranium, and thus, since we have an abundant supply of warheads, is a very bountiful source of this enrichment – or of enriched uranium. Moreover, this program diminishes the threat of proliferation and prevents the environmental degradation associated with continued mining.

In other words, it's beneficial in many ways, and it's been existing for several years and there is no reason to expect that it would not be renewed in the future.

The other enriched uranium sources are also reliable. Although much of the enriched uranium is, indeed, imported, this fact alone does not indicate instability. We live in an age of globalization and there is no international market for enriched uranium. Credit counseling with a comparative advantage in the production of enriched uranium, whether because they have highly-accessible reserves, low-cost labor in Africa, or other factors, will specialize in producing enriched uranium while the U.S. focuses its resources in other areas, like agriculture.

Our reliance on this marked is not a sign of weakness or vulnerability, but a sign of efficiency. Energy independence is an outdated idea, is one that is not based on security or patriotism, but of ignorance.

The current system works, and has worked for several years. The entire project that we are discussing here tonight is predicated on the assertion that it will provide national energy security with respect to enriched uranium.

The fact of the matter is that this security already exists and the EREF facility is not necessary, and if the benefits stated in this proposal do not exist, no amount of environmental impact is tolerable, and this facility cannot be licensed.

[182-01, Brianna Ursenbach] The EIS states the facility is necessary for U.S. energy security; however, this argument is based on the unstated and unproven premise that the U.S. must have domestic sources for all of its nuclear fuel needs.

[184-22, Kitty Vincent] In conclusion, since the only justification for the facility is an asserted but unsupported need for domestically produced enriched uranium, which EREF does not in any case provide, a “no action” alternative should be chosen.

[191-04, Liz Woodruff] After reviewing the draft EIS in full, I believe it inadequately addressed may critical issues and must be revised to integrate the following concerns. Most importantly, the entire premise of the draft EIS, that there is a need for domestically supplied enriched uranium, is deeply flawed, fully hypothetical, repeatedly contradicted and disproven in the draft EIS itself, and an unacceptable warrant for the licensing of this facility. The NRC must either find legitimate warrants for taking the proposed action that actually outweigh the environmental and public health risks associated with this facility, or they must choose the “no action alternative” and not license the proposed EREF.

[191-19, Liz Woodruff] Alternatives
• Since the only justification for the facility is an asserted but unsupported need for domestically produced enriched uranium, which the EREF does not in any case provide, a “no action” alternative should be chosen.

[193-06, Liz Woodruff, on behalf of the Snake River Alliance] First, the purpose and need for this facility is not proven in the draft Environmental Impact Statement, for either current or new reactors. It’s inadequately proven. It remains to be a hypothesis.

Response: *National energy policy issues are not within the scope of the EIS for the proposed EREF. The proposed action is intended to satisfy the need for an additional reliable and economical domestic source of enriched uranium.*

Comment: The following comments assert that there is no need for the proposed EREF because an adequate supply of enriched uranium is and will be available, and that construction and operation of the proposed facility would only result in an excess supply of domestically enriched uranium.

[009-02, Steve Barclay; 021-02, Linda Cannarozzo; 081-02, Lea Johnson; 161-02, Marisa Smith; 202-02, Alison Duffin; 205-02, Andrea Guerri; 206-02, Pamela Hanson; 209-02, Courtney Hollar; 210-02, Tyler Hoovis; 211-02, Olivia Joelson; 212-02, Naomi Johnson; 215-02, Verlyn Larsen; 217-02, Jodie Mckelvey; 222-02, Hannah Raines; 224-02, A. Rolsen; 225-02, Lisa Stimpson] The draft EIS makes an unproven assertion that there is a need for domestically produced enriched uranium. However, this claim was never proven and often contradicted in the draft. 1) The nuclear renaissance is too expensive and faces enormous delays; 2) the current US fleet of reactors has operated with an adequate supply of fuel for decades; 3) the draft EIS asserts that the licensing of this facility would create a supply of enriched uranium in excess of the need.

[015-01, Beatrice Brailsford] According to the current Draft EIS, the purpose of AREVA's enrichment factory is to meet two needs, for enriched uranium to fulfill electricity generation requirements, and for domestic supplies of enriched uranium for national energy security. That first need, enriched uranium for electricity generation is undeniably true, as long as the majority of nuclear reactors use low enriched uranium fuel, but the Draft EIS does not even attempt to make the case that that need is not already being met.

Furthermore, the draft clearly acknowledges that even if the nuclear renaissance occurs as advertised, already planned new enrichment would exceed U.S. demand by about the same amount as AREVA's factory might produce.

[015-08, Beatrice Brailsford] One of the most important parts on an EIS is the examination of the purpose and need for the proposed action. According to the current draft EIS, the purpose of Areva's Eagle Rock Enrichment Factory is to meet two needs: 1) The need for enriched uranium to fulfill electricity generation requirements; and 2) the need for domestic supplies of enriched uranium for national energy security.

That first "need" - enriched uranium for electricity generation - is undeniably true as long as the majority of nuclear reactors use low-enriched uranium fuel. But the draft EIS does not even attempt to make the case that that need is not already being met. It must do so. The draft does, however, state "Based on the projected need for LEU by existing reactors and proposed new reactors, with the target capacity of 6.6 million SWUs per year for the proposed EREF, the total enrichment capacity in the United States would exceed the projected demand (approximately 16 million SWUs per year) by about 6 million SWUs per year if all of the enrichment facilities were constructed and operated at their rated capacities" (Draft EIS, 1-6). Thus, even if the "nuclear renaissance" occurs as advertised, which is not at all certain, already planned new enrichment would exceed US demand by about the same amount as Areva's factory is slated to supply.

[030-05, Kerry Cooke] Lack of need: The world already has redundancy in provision of enriched uranium for nuclear plants. With additional enrichment facilities already approved or under construction, the Areva facility would far exceed any expected need for more enriched uranium, in the US and elsewhere. The idea that a new wave of nuclear reactors will demand increased enriched uranium is based on unsubstantiated and wishful prognoses by the nuclear industry. As is playing out every day in the financial market, financiers are shying away from this industry that is risky at all levels: cost, market need, and remuneration, to name three. This plant should be denied until and unless there is solid proof that there is a need.

[068-01, Anne Hausrath] I do not believe that we have been provided with sufficient evidence of a need for domestically-produced uranium, enriched uranium.

[071-03, David Hensel] I think that, I don't mean to be unkind, but I don't think you did a very good job of looking at a very good market analysis. And here I'm going to quote from the Nuclear Engineering International, November 2009. And I'm assuming these guys aren't appearing for Greenpeace. I mean, I don't necessarily read this magazine, but if I could quote once again, they talk about "enrichment requirements for the world's growing fleet of nuclear power plants are expected to expand significantly. Current enrichment capacity on a worldwide basis is just sufficient to meet those requirements." And this is what I want to highlight, "but the potential pace of enrichment capacity expansion is expected to outstrip the growth requirements." So, we use this language of we want to be energy independent. I mean, and that's sort of -- I mean, it's a meaningless term.

[086-02, Paula Jull] A new US plant to enrich uranium for electricity production is not needed. Current supplies are clearly adequate, and already operating or planned new enrichment capacity would exceed US demand by about the same amount as Areva's plant might produce.

[088-02, Stan Kidwell] Current supplies of enriched uranium are more than adequate, and already operating or planned new enrichment capacity would exceed US demand by about the same amount as Areva's plant might produce, even if a nuclear renaissance occurs.

[095-02, Linda Leeuwrik] • There is no need for a new US plant to enrich uranium for electricity production. Current supplies are clearly adequate.

[096-05, Arjun Makhijani] …but I can tell you, simple calculation that the treaty that the U.S. and Russia have signed, if that enriched uranium on both sides is used, plus LES, plus Portsmouth, plus a couple of years of operation of Paducah before it is shut down will provide far more enrichment services than the entire lifetime, so what might happen here is, for the entire U.S. reactor fleet, so you may be building a plant here that may wind up only exporting enriched uranium, if there is a market.

[103-02, Karen McCall] "The potential pace of enrichment capacity expansion is expected to out-strip the growth requirements." Nuclear engineering International , November 2009

[113-06, Ken Miller] First and foremost and as to the need for this facility, I do not believe Areva's application contains a sound justification for this facility. Not only is there an adequate existing supply of enriched uranium to meet current and expected needs of the U.S. domestic nuclear reactor fleet, that capacity would exceed demand roughly by the amount of enriched uranium EREF would produce.

[118-04, Caroline Morris] The draft EIS too asserts without proof a greater need for domestically produced enriched uranium, Yet the document then contradicts the claim by these factors showing no need for the EREF: 1) the enormous expense and delays of the US nuclear renaissance, 2) decades of adequate fuel supply for currently operating the US reactors, and 3) creating an excess supply of enriched uranium by the licensing this proposed facility. Since the only justification given for EREF, the asserted, unsupported need for more domestically produced enriched uranium, is fallacious, a "no action" alternative should be chosen.

[120-03, Frank Nicholson] This enrichment factory: • Is unnecessary. We were told it was for national consumption but as there is not that much demand, the finished product will be sent overseas no matter what they promise.

[122-03, Kathy O'Brien] I understand that there is no need for a new US plant to enrich uranium for electricity production. Current supplies are adequate, so it seems that this plant may be useless as well as dangerous.

[168-08, Lon Stewart] Nuclear engineering periodicals are claiming the world has plenty of enrichment capacity.

[175-03, Ellen Thomas] There is no need for a new US plant to enrich uranium for electricity production. Current supplies are clearly adequate, and as we develop healthy solar, wind, tidal and other truly clean energy systems, there is no need for new nuclear power plants.

[180-11, Kaye Turner] Is it possible we may not need this enriched uranium Areva wants to produce?

[183-06 and 183-14, James Vincent] In conclusion, the EIS (4-136) states the French company, AREVA's enriched product will be shipped overseas as is their profits. I do not see how this proposed project will make my country have any more domestic control over our needs for enriched fuel. The EIS specifies that the numbers of license requests for new enriched uranium, EIS 1-6, are in excess of the need for the new enriched uranium. Given the potential for accidents is considerable, I would urge the Nuclear Regulatory Commission to deny this permit at this time. I would also like to thank the Commission for hearing my testimony.

[191-07, Liz Woodruff] The draft EIS fails to establish that the current approach to supplying enriched uranium is unreliable. There is uranium enrichment in the US, enriched uranium has always been an international market, the raw material comes from foreign sources, and this system has adequately provided fuel for US reactors for decades.

[191-09, Liz Woodruff] The EIS specifies that the numbers of license requests for new enrichment facilities in the US are in excess of the need for new enriched uranium (draft EIS, 1-6). The EIS does not adequately prove that the Areva facility is necessary.

[193-08, Liz Woodruff, on behalf of the Snake River Alliance] Third, there's currently enough enriched uranium for domestic use, and AREVA is a French company and gets it uranium supply from the international market. So how does this facility give us a more reliable source of domestically-produced uranium, enriched uranium?

[193-14, Liz Woodruff, on behalf of the Snake River Alliance] The NRC acknowledges that the licensing if this facility is in excess of the need by 6 million SWUs.

[192-06, Lisa Young] Perhaps if this facility was necessary and urgent, these risks could be ignored. But it's clear that we do not need this facility. The current system and sources for enriched uranium have provided adequate fuel for reactors for decades, and with a total of three enrichment facilities expected in the U.S. in the nature future, one already in operation and two that are being constructed right now, the need for more enriched uranium is nonexistent.

This enriched uranium will be shipped overseas, leaving the dangerous waste in Idaho for at least 30 years and potentially much longer. There's no need to take these risks at this time and the EIS unfairly represents these risks.

Producing this waste is irresponsible and my sense is this facility is irresponsible. Thanks.

[192-12, Lisa Young] Perhaps if this facility was necessary and urgent, these risks could be ignored or set aside, but it is clear that we do not need this facility: the current system and sources for enriched uranium have provided adequate fuel for reactors for decades, and with a total of 3 enrichment facilities expected in the U.S. in the near future (1 already in operation, 2 being constructed), the "need" for more enriched uranium is non-existent. This enriched uranium would be shipped overseas, leaving this dangerous waste in Idaho for at least 30 years, and potentially much longer. No, there is no need to take these risks at this time, and the EIS unfairly represents these risks. Producing this waste is irresponsible and my sense is this facility is irresponsible.

Response: *As pointed out in Section 1.3.1 of the EIS, the need for the proposed EREF includes the need for domestically produced enriched uranium. The only currently operating uranium enrichment facilities in the United States are the Paducah Gaseous Diffusion Plant (PGDP) and URENCO USA (formerly known as the NEF). The operation of the PGDP is expected to cease in the near future due to costs associated with maintaining an aging facility and the inefficiency of the gaseous diffusion process compared to newer technologies such as uranium enrichment using centrifuges. The URENCO USA facility is currently under construction, but started initial operations in June 2010; it is expected to reach a capacity of 1.6 million SWUs per year in August 2011 (about half of its full capacity of approximately 3 million SWUs per year, as currently licensed by the NRC). Full licensed capacity would not be reached until sometime later. An expansion to 5.9 million SWU per year is being considered by URENCO USA, but an application for the expansion has not yet been submitted to the NRC. As discussed in Section 1.3.1, of the other potential domestic sources of enriched uranium, the American Centrifuge Plant (ACP) is not yet in operation and the GE-Hitachi Global Laser Enrichment LLC (GLE) Facility is not yet licensed.*

The decrease in an inadequate supply of enriched uranium for domestic reactors, due to the eventual shutdown of the PGDP and the end of the Megatons to Megawatts Program, together with increased domestic and global demand, emphasize the need for more domestic capacity. As noted in Section 1.3.1, the NRC is currently processing license applications for more than 20 nuclear plants. The availability of foreign enriched uranium is expected to become more competitive with the global expansion of nuclear power. Within the last 10 years, 32 nuclear plants have become operational, with 60 additional nuclear plants currently under construction (IAEA 2010) including one in the United States.

Comment: The following comments assert that it is not clear that new nuclear reactors will be constructed in the United States, thereby increasing the domestic need for enriched uranium.

[009-02, Steve Barclay; 021-02, Linda Cannarozzo; 081-02, Lea Johnson; 161-02, Marisa Smith; 202-02, Alison Duffin; 205-02, Andrea Guerri; 206-02, Pamela Hanson; 209-02, Courtney Hollar; 210-02, Tyler Hoovis; 211-02, Olivia Joelson; 212-02, Naomi Johnson;

215-02, Verlyn Larsen; 217-02, Jodie Mckelvey; 222-02, Hannah Raines; 224-02, A. Rolsen; 225-02, Lisa Stimpson] The draft EIS makes an unproven assertion that there is a need for domestically produced enriched uranium. However, this claim is never proven and often contradicted in the draft. 1) The nuclear renaissance is too expensive and faces enormous delays; 2) the current US fleet of reactors have operated with an adequate supply of fuel for decades 3) the draft EIS asserts that the licensing of this facility would create a supply of enriched uranium in excess of the need.

[030-05, Kerry Cooke] Lack of need: The world already has redundancy in provision of enriched uranium for nuclear plants. With additional enrichment facilities already approved or under construction, the Areva facility would far exceed any expected need for more enriched uranium, in the US and elsewhere. The idea that a new wave of nuclear reactors will demand increased enriched uranium is based on unsubstantiated and wishful prognoses by the nuclear industry. As is playing out every day in the financial market, financiers are shying away from this industry that is risky at all levels: cost, market need, and remuneration, to name three. This plant should be denied until and unless there is solid proof that there is a need.

[110-01, John and Susan Medlin] As the Snake River Alliance presentation pointed out, there is no current need for this facility, no compelling evidence that a nuclear renaissance is coming (or inevitable), no rationale for a French company building a nuclear facility in Idaho that purports to promote US energy security while importing inputs and exporting outputs, no provision for the deteriorating and dangerous waste that will haunt us for decades or maybe forever, no concern for yet another threat to the Snake River aquifer, the lifeblood of Idaho agriculture.

So how can the NRC conclude that building this facility is vital, and that the most problematic outcome to be evaluated is construction dust?

[118-04, Caroline Morris] The draft EIS too asserts without proof a greater need for domestically produced enriched uranium, Yet the document then contradicts the claim by these factors showing no need for the EREF: 1) the enormous expense and delays of the US nuclear renaissance,…

[131-04, Morty Prisament] Finally, the document's projected demand for U2 is based upon certain scenarios regarding future nuclear energy power plants. This scenario needs to be defined in far greater detail and, further, the document needs to present alternative scenarios in recognition of that alternative public policy decisions, domestically and globally, are equally likely. A multitude of factors can influence these projections, including economics of nuclear power as compared to alternatives, resolution of nuclear waste storage issues, liability issues, system safety issues, proliferations concerns, and governments' ability and willingness to provide funding (i.e.; loan guarantees, subsidies, excess liability coverage, etc.) to support nuclear energy development.

[153-05, Andrea Shipley; 197-05, Andrea Shipley, on behalf of the Snake River Alliance] Not to mention that the EIS claims that the need for AREVA's enriched uranium will be spurred by the building of a fleet of reactors. Economic costs, delays, and safety issues all indicate that this supposed renaissance is not only improbable, but unlikely.

[169-01, Margaret Stewart] And aside from AREVA's greed, grim, and very, very devastating global environmental and human rights record around the world, particularly in Africa, I vehemently oppose the NRC licensing of this facility on grounds that the facility has not been proven necessary, a huge amount of dangerous radioactive waste that would be created has no disposal place, the nuclear reactors that the EIS says will need AREVA's product more than likely will never be built.

[169-03, Margaret Stewart] This Draft EIS appears to be based on the unproven assumption that there will be a large number of nuclear reactors built needing AREVA's product. Given that we all live in a globally threatened economic world, where scarce monies are ever-shrinking, there are ever-present reactor construction delays, safety questions unanswered, and spiraling out of control costs, these assumptions seem dubious, at best.

[181-04, Roger Turner] So, this brings to mind the other error in this EIS in assuming a need for enrichment based on new nuclear power plants in the United States. Unfortunately, the NRC fails to take a hard look at this purported need. A nuclear power plant hasn't been built in the United States for two decades. The fact is, most states and power companies don't want nuclear power plants with their high cost, especially the high cost of spent fuel storage and cleanup. Especially considering that there's no permanent repository. The emphasis may be for less nuclear, given the problems with waste, and the fact the higher cost that these states and power companies must endure, because there isn't a permanent repository.

The final EIS should more carefully evaluate and revise the projected need for this plant. The fact is, there's not general support in the U.S. for new nuclear power plants to the extent that warrants this project, and other sources of enriched uranium meets our needs….

[187-06, John Weber] I recommend the "no action alternative" for the following reasons. With many of the current US reactors nearing the end of the design life expectancy and very few, if any, new reactors likely to be build due to economics, a case has not been made for a need for this plant.

[191-11, Liz Woodruff] The EIS claims that the need fulfilled by the Areva facility will be spurred by the building of a new fleet of reactors. Economic costs, delays, and safety issues all indicate that this supposed resurgence is not only improbable, but unlikely.

[193-09, Liz Woodruff, on behalf of the Snake River Alliance] And finally, the draft EIS claims the need for AREVA's enriched uranium will be spurred by the building of a new fleet of reactors. But economic cost delays and safety issues all indicate the supposed renaissance is unlikely.… And we would argue that this is not in fact a renaissance. That the very premise of the EIS is incorrect. We're actually set up for a collapse of the nuclear power industry.

Response: *As discussed in Section 1.3.1 of the EIS, the NRC expects to license the next generation of nuclear power plants using 10 CFR Part 52. Part 52 governs the issuance of standard design certifications (DCs), early site permits (ESPs), and combined licenses (COLs) for nuclear power plants. The NRC staff is engaged in numerous ongoing interactions with vendors and utilities regarding prospective new reactor applications and licensing activities. Based on these interactions, the NRC staff has received a significant number of new reactor COL applications (COLAs) since 2007. As of December 2010, the NRC is actively reviewing*

12 COLAs for a total of 20 nuclear reactor units. The NRC has suspended 6 COLA reviews due to changes in applicants' business strategies or the timing of their construction plans. One of the suspended COLAs was converted by the applicant to an ESP application. Assuming regulatory requirements are met, the NRC expects to issue two COLs by the end of 2011.

The NRC has three DC applications and two DC amendment applications currently under review. As of December 2010, one DC application and one DC amendment are in rulemaking. The NRC has received two Advanced Boiling Water Reactor (ABWR) DC renewal requests in calendar year 2010 and expects to receive one new DC application by fiscal year 2012.

Comment: The following comments assert that foreign ownership of the proposed EREF and other U.S. enrichment facilities does not fulfill the need for a domestic supply of enriched uranium.

[015-02, Beatrice Brailsford] The National Energy Security Policy objective AREVA's plant is supposed to meet was enunciated in a 2002 letter from the DOE to the NRC. The focus of that letter was not that the U.S. needed a foreign company to build a plant here, but rather that an American company should have a stake in U.S. enrichment capacity. Eight years later, there are no more nuclear reactors operating in the world, but as of June, URENCO, a German company, is enriching uranium in New Mexico. The NRC's efforts to ignore that plant in the Draft EIS are painful to watch.

At any rate, let's go back to the need for domestic supplies of enriched uranium. The key word here is "domestic." AREVA is owned by the French government.

[015-10, Beatrice Brailsford] At any rate, Areva is owned by the French government.

[031-01, James Cooper] I am OPPOSED to the Areva project. As an Idaho taxpayer and voter I feel this state does NOT NEED a foreign company to build any facility on our soil - much less one which is subject to accidents and one whose profits go to another country.

[088-04, Stan Kidwell] French-owned Areva's plant will not increase US energy security by providing a "domestic" source of enriched uranium.

[095-04, Linda Leeuwrik; 127-01, Sheila Plowman] Areva's plant would not increase US energy security by providing a "domestic" source of enriched uranium. Areva is owned by the French government.

[110-01, John and Susan Medlin] As the Snake River Alliance presentation pointed out, there is no current need for this facility, no compelling evidence that a nuclear renaissance is coming (or inevitable), no rationale for a French company building a nuclear facility in Idaho that purports to promote US energy security while importing inputs and exporting outputs, no provision for the deteriorating and dangerous waste that will haunt us for decades or maybe forever, no concern for yet another threat to the Snake River aquifer, the lifeblood of Idaho agriculture.

So how can the NRC conclude that building this facility is vital, and that the most problematic outcome to be evaluated is construction dust?

[115-02, Nicholas Molenaar] Why isn't there a United States Corporation capable and willing to build this type of enrichment facility?

[150-07, Katie Seevers] The company who is creating this facility is French, and its production of enriched uranium in the United States does not result in domestic control of that product as addressed in the draft EIS, section 2-17.

[153-03 and 153-04, Andrea Shipley; 191-10, Liz Woodruff; 197-04, Andrea Shipley, on behalf of the Snake River Alliance] The EIS clearly states that Areva's product will be shipped overseas, therefore nullifying the project's effects on domestic uses of enriched uranium. Because Areva is a French company, its production of enriched uranium in the U.S. does not actually result in domestic control of that product (draft EIS, 2-17).

[175-06, Ellen Thomas] Areva's plant would not increase US energy security or nonproliferation by providing a "domestic" source of enriched uranium. Areva is owned by the French government.

[183-06 and 183-14, James Vincent] In conclusion, the (EIS 4-136) states the French company, AREVA's enriched product will be shipped overseas as is their profits. I do not see how this proposed project will make my country have any more domestic control over our needs for enriched fuel. The EIS specifies that the numbers of license requests for new enriched uranium, EIS 1-6, are in excess of the need for the new enriched uranium. Given the potential for accidents is considerable, I would urge the Nuclear Regulatory Commission to deny this permit at this time. I would also like to thank the Commission for hearing my testimony.

[187-07, John Weber] A plan owned by a foreign company will do nothing to protect US national security.

[193-08, Liz Woodruff, on behalf of the Snake River Alliance] Third, there's currently enough enriched uranium for domestic use, and AREVA is a French company and gets it uranium supply from the international market. So how does this facility give us a more reliable source of domestically-produced uranium, enriched uranium?

[193-13, Liz Woodruff, on behalf of the Snake River Alliance] So the uranium, which is what we need the reliable supply of, is coming from international markets. Why does building a facility by a French government-owned company in the US increase the reliability of that supply, if it's coming internationally?

[192-18, Lisa Young] Indeed, I hope that it is recognized that, while the proposal for this facility is based on the sole premise that a domestic uranium enrichment facility is needed to increase our national energy security, it will not increase our national energy security to have a foreign company enrich foreign chemicals, reap foreign profits, and sell the product to other foreign nations, as the AREVA proposal promises to do.

Response: *As discussed in Section 1.6 of the EIS, AES is a Delaware limited liability corporation that was formed solely to provide uranium enrichment services for commercial*

nuclear power plants. The investigation of any foreign relationship to determine whether it is inimical to the common defense and security of the United States is beyond the scope of this EIS and was addressed as part of the NRC's SER (NRC, 2010b).

Comment: The following comments suggest that the need for domestic production of enriched uranium is not being met because the uranium feed material would be coming from a foreign source.

[083-02, Diane Jones] I believe that the EIS really needs to address the obvious contradiction between the assertion that enrichment uranium is needed for the US energy independence, and the stated fact that the uranium itself may be imported and the product of enrichment may be exported.

[095-03 and 095-04, Linda Leeuwrik; 127-01, Sheila Plowman] Areva's plant would not increase US energy security by providing a "domestic" source of enriched uranium. Areva is owned by the French government. The raw material for the plant would be imported and some portion of its product would be exported.

[153-02, Andrea Shipley; 197-02, Andrea Shipley, on behalf of the Snake River Alliance] The purpose and the need for this facility fails to be addressed in the EIS. There is already uranium enrichment in the U.S., and the raw material comes from a foreign source. Since the uranium that will be enriched by Areva will come from foreign sources, the licensing of this facility does not create increased domestic control of reliable supplies of enriched uranium, Draft EIS, 2-6

[182-02, Brianna Ursenbach] The EIS states the facility is necessary to US energy security; however, this argument is based on the unstated and unproven premise that the U.S. must have domestic sources for all of its nuclear fuel needs.

For the sake of argument, let us accept this dubious notion, and assume all parts of the fuel cycle must be available in the U.S., to have a reliable and secure supply. From there it follows that we would need to source all of our raw uranium domestically as well.

Yet the EIS acknowledges that the U.S. will continue to import yellow cake from foreign countries. If we cannot get all the raw material, then we cannot convert it to UF6 and domestic enrichment facilities become irrelevant.

In many ways, this energy security argument is analogous to saying that we would be insulated from OPEC, and oil supply fluctuations, if only we were to find all or our oil in the U.S. Clearly, both of these ideas are absurd.

Now one may argue that we simply need to resume uranium mining at home to solve this conundrum. But while it is true that U.S. does have extensive uranium reserves, the legacy of destruction and contamination left by past mining efforts make resurgence very improbable.

Indeed, as one example, the Navaho Nation, whose land contains nearly one-quarter of all U.S. reserves, has specifically banned uranium mining If mining is not going to be resumed in the

U.S. in any significant way, then additional enrichment facilities cannot ensure a reliable fuel supply, and the Eagle Rock facility is once again shown to be unnecessary.

[191-08, Liz Woodruff] Since the uranium slated for enrichment will be from foreign sources, the licensing of this facility does not in fact create increased domestic control of reliable supplies of enriched uranium (draft EIS, 2-6).

[193-08, Liz Woodruff, on behalf of the Snake River Alliance] Third, there's currently enough enriched uranium for domestic use, and AREVA is a French company and gets it uranium supply from the international market. So how does this facility give us a more reliable source of domestically-produced uranium, enriched uranium?

[193-13, Liz Woodruff, on behalf of the Snake River Alliance] So the uranium, which is what we need the reliable supply of, is coming from international markets. Why does building a facility by a French government-owned company in the US increase the reliability of that supply, if it's coming internationally?

Response: *Although the NRC staff recognizes that some of the uranium feed material for the proposed EREF may come from foreign sources, the specific need in the case of the proposed EREF is for domestic uranium enrichment capacity, as discussed in Section 1.3.2 of the EIS. The source of the uranium hexafluoride for enrichment is part of the need for energy security, but is a separate concern and, therefore, not within the scope of this EIS. However, it should be noted that, as discussed in Sections 2.1.3, 2.1.4.2, 4.2.9.2, D.3.1.1, and D.4 of the EIS, the proposed EREF would receive a portion of its feed material from a U.S. UF_6 production plant in Metropolis, Illinois; and would also receive UF_6 feed material from a production facility in Port Hope, Ontario, Canada, which obtains some of its uranium feed from a U.S. source (Cameco, 2010).*

Comment: The following comments note that the enriched uranium product could be shipped outside the U.S., thereby negating any enhanced U.S. energy security. Some of these comments also suggest that the profits would also go overseas.

[001-02, Reham Aarti] And I just don't think there's any need for it. There's no need for that uranium, especially when it's going somewhere else. It's not even helping us. It's not doing anything here but creating trash. We.re a big giant trash can for France, and I don't think it's acceptable.

[014-02, William Blair] While some jobs would be created, the processed uranium would likely be exported and much of the financial benefit would be to France.

[015-03, Beatrice Brailsford] And, finally, the product, enriched uranium. The Draft EIS tells us that all AREVA's enriched uranium could, theoretically, be sold to U.S. companies, but it also tells us that potential customers are in Washington, South Carolina, North Carolina, and overseas. Is overseas a new state? But perhaps the theory will play out.

[015-07, Beatrice Brailsford] So, that's the proposal to meet the need of a domestic supply of enriched uranium. A uranium factory without any national purpose will produce fuel for

everywhere in the world but here in Idaho, send its profits to France, and leave us with the waste.

[015-11, Beatrice Brailsford] According to Areva, the natural uranium destined for its plant here belongs to American companies. But according to the Nuclear Energy Institute, as of 2007, owners and operators of US nuclear power plants bought 92 per cent of their uranium from foreign sources. And where is the natural uranium converted to uranium hexafluoride on its way to Idaho? According to the draft EIS, in Illinois, Canada, and overseas. And finally, the product, enriched uranium. The Draft EIS tells us that enriched uranium from Areva's plant could "theoretically" all be sold to US companies. But it also tells us that potential customers are fuel fabrication facilities in Washington, South Carolina, North Carolina, and overseas.

[040-02, Collin Day] We don't need this facility. It's already been proven – or it's been shown that all this is going to be exported out. It's not going to help our energy independence.

[031-01, James Cooper] I am OPPOSED to the Areva project. As an Idaho taxpayer and voter I feel this state does NOT NEED a foreign company to build any facility on our soil - much less one which is subject to accidents and one whose profits go to another country.

[032-04, Cindy Cottrell] I'm against a foreign country making the profit from this plant and leaving the contamination in our Country.

[071-04, David Hensel] I think what you need to look at a little more closely is there doesn't seem to be any guarantees that the enriched uranium that this plant is going to produce will be used in this country, meaning there's no guarantee.

[088-03, Stan Kidwell] The raw material for the plant would be imported, a portion of its product would be exported.

[095-04, Linda Leeuwrik; 127-01, Sheila Plowman] Some portion of its product would be exported.

[104-01, Carolyn McCollum] There's little advantage to us Idahoans when Areva's nuclear fuel would be sent worldwide and its profits back to France while we are left with its radioactive waste, compounding INL's nuclear activities that have plutonium-contaminated the aquifer.

[120-03, Frank Nicholson] This enrichment factory: • Is unnecessary. We were told it was for national consumption but as there is not that much demand, the finished product will be sent overseas no matter what they promise.

[147-08, Joey Schueler] 4. Areva, a French company, will be the owner of this company meaning much of the revenues will go over sees. It's also unclear how many employees will be Idaho residents.

[153-03 Andrea Shipley; 197-03, Andrea Shipley, on behalf of the Snake River Alliance] The EIS clearly states that AREVA's product will be shipped overseas, therefore nullifying the project's effects on domestic uses of enriched uranium.

[171-04, John Tanner] Now, okay, we could import enriched uranium, but then not only the profits go abroad, but the jobs, as well. I don't think that's what we want to do.

[175-06, Ellen Thomas] Areva's plant would not increase US energy security or nonproliferation by providing a "domestic" source of enriched uranium. Areva is owned by the French government. The raw material for the plant would be imported. Some portion of its product would be exported.

[180-10, Kaye Turner] Is it true Areva is planning to export most of their product to other countries?

[191-10, Liz Woodruff] The EIS clearly states that Areva's product will be shipped overseas, therefore nullifying the project's effects on domestic uses of enriched uranium. Because Areva is a French company, its production of enriched uranium in the US does not actually result in domestic control of that product (draft EIS, 2-17).

[193-07, Liz Woodruff, on behalf of the Snake River Alliance] Secondly, the draft EIS clearly states that AREVA's product will be shipped overseas, nullifying the project's effects on domestic uses of enriched uranium.…
And finally, quote: "Potential customers are fuel fabrication facilities in Richmond, Washington, Columbia, South Carolina, Williams, North Carolina, and overseas, through ports in Virginia and Maryland." So this domestic reliable supply of enriched uranium that we need in this country will be shipped overseas by AREVA. The need argument is highly problematic and doesn't stand.

[192-18, Lisa Young] Indeed, I hope that it is recognized that, while the proposal for this facility is based on the sole premise that a domestic uranium enrichment facility is needed to increase our national energy security, it will not increase our national energy security to have a foreign company enrich foreign chemicals, reap foreign profits, and sell the product to other foreign nations, as the AREVA proposal promises to do.

Response: *As discussed in Section 1.3.2 of the EIS, one purpose of the proposed EREF is to promote U.S. energy security by providing an additional domestic source of enriched uranium production capacity. The export of any enriched uranium from the proposed EREF in excess of that required by domestic U.S. customers is not inconsistent with that purpose, as long as this export complies with applicable laws and regulations. The destination of the enriched uranium from the proposed EREF is specified by the utility customer who is also responsible for specifying the supplier of the uranium to be enriched. The NRC licenses the import and export of radioactive materials under 10 CFR Part 110.*

As discussed in Section 1.6 of the EIS, AES is a Delaware limited liability corporation that was formed solely to provide uranium enrichment services for commercial nuclear power plants. AES's principal business location is in Bethesda, Maryland, while operations would occur at the proposed EREF in Bonneville County, Idaho. These locations, both within the United States, would benefit from the investments made to construct and operate the proposed EREF. Determination of the destination of any additional profits is not within the scope of this EIS.

I.5.5 Scope of the EIS Analysis

Comment: The following comment discusses national versus local issues pertaining to the construction of the proposed EREF.

[035-01, Stephen Crowley] I guess my concern is a certain kind of inconsistency in how you're evaluating the cost and benefits. And it might just be a misunderstanding. But it seems to me that the primary positive reason for constructing an enrichment facility is one having to do with provision of safe energy resources for the nation. If that's correct, then what you've given me is an argument for building an enrichment plant somewhere. Okay. Now I'm not -- I don't want to bore into the issue of whether or not that's correct. But what I'm going to say is what you're talking about is whether or not we should have a plant at all.

That's what I got. They call that dancing, where I'm from. Right. So the-- yes. So putting aside any issues about the correctness or incorrectness of this judgment -- right -- this is an argument for building a plant somewhere. Right.

Now what we haven't heard -- so what that makes me worry about, then is the process that the EIS went through in ruling out a certain kind of alternative sources for this product; right? Because, really, in conducting that process, what you thought about was whether or not to build the Eagle Rock facility. Right? So it's a question of should the Eagle Rock facility be built or not, and then you looked at alternative locations and ruled those out.

But that's not the same question; right. That's a question about a particular facility at a particular place, and we've been -- we've identified positives and negatives of building that particular facility; right. And whatever you think of those, those would be equally true if you built that facility anywhere at all; right. There would be waste concerns. There would be economic benefits.

So there's a certain kind of mismatch between the primary motivation for the existence of this facility, right, which is a national motivation, and the terms of the debate, which is a particular debate about an individual facility; right. So whether I agree with the proponents, or whether I agree with the people who aren't impressed, I'm like -- I'm saying that seems to be inconsistent with your primary motivation. That seems to me, that given that this is an EIS for a particular facility, that general -- or that national level motivation has to come off the table; right. It should be the issues about the particular facility under consideration, and if what you're doing is identifying features of this facility that could equally well be provided by any other facility, then those are not relevant to identifying whether or not to build this facility.

Response: *As pointed out in the comment, the need for the proposed EREF is national in scope. The process used to select the location of the proposed EREF is discussed in Section 2.3.1 of the EIS. Potential impacts of construction, operation, and decommissioning of the proposed EREF at the chosen site are analyzed to comply with NEPA. All impacts, regardless of whether they are similar to those if the facility were built elsewhere, must be considered in the EIS.*

Comment: The following comment requests that certain conditions be included in AES's license.

[066-01, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] In addition to comments on the EIS, if the AREVA facility is granted a license by the NRC we requested the following conditions be included in the license.

1. The state requests the NRC require AES to submit a yearly report to the Director of the Idaho DEQ on or before January 15th of each year that identifies the number of cylinders of DUF6 stored on site and the date of the longest stored container.

2. The state requests the NRC require AES to provide the state the same access to documents and materials relating to the AES radiation protection program that is required to be provided to the NRC.

3. The state requests the NRC require AES to allow Idaho DEQ to accompany NRC staff on any of its inspections of the AES facility. In this regard, the state requests the NRC require AES to allow Idaho DEQ staff the same access to its facilities, documents, materials and personnel to which NRC is entitled. Idaho DEQ shall execute any confidentiality agreement necessary to participate in such inspections and shall comply with all appropriate AES plant rules (e.g., safety, security) and any applicable NRC requirements when participating in such inspections.

4. The state requests the NRC require AES to provide the Idaho DEQ the physical security plan for the AES facility.

5. The state requests that NRC require AES to provide periodic training to local emergency responders for both transportation and plant operation incidents, and that the Idaho DEQ be sent a copy of the training plan and notified when such training occurs.

6. It is common for facilities of this nature to fund monitoring programs run by a separate party, in addition to their own program. The state requests that NRC require AES to fund an independent third party Environmental Monitoring program for the Eagle Rock Facility.

Response: *As stated by the Idaho Department of Environmental Quality (IDEQ) in the above comment, its request for including the license conditions is "in addition to comments on the EIS." AES's license and the conditions in that license are not included in the scope of the EIS analysis, and are separate issues that are determined by the Commission following the issuance of the SER and Final EIS and the conclusion of the mandatory hearings. In the meantime, the NRC plans to work with IDEQ and AES regarding IDEQ's requested license conditions.*

Comment: The following comment relates to spent fuel rod reprocessing and high-level waste generation and handling.

[091-01, Arthur Kull] I have followed the debate and arguments from both sides of the spectrum and came to the conclusion that the NRC should grant AREVA the permit to build and

operate the uranium enrichment facility planned for the Idaho Falls area. It is an important step for us in the US that spent fuel rods be reprocessed to

• Increase the utilization factor of the material that is now stored at the many power plants.

• Reduce the amount of high level waste generated that needs a permanent storage facility like Yucca Mountain.

Response: *The construction, operation, and decommissioning of the proposed EREF does not involve the reprocessing of spent fuel rods or the generation or handling of high-level waste. Therefore, the subject of the above comment is not within the scope of the EIS.*

Comment: The following comments question the pursuit of technology that appears to have a limited lifetime.

[183-04, James Vincent] My other issue is about estimates of uranium throughout the world. The research I have done shows that there's somewhere between 50 years at the low end, and 100 years on the optimistic side. Why would we utilize a technology that costs literally billions of dollars to implement, with public tax dollars for a loan guarantee, and I realize that it is a guarantee, and Idaho tax incentives for a limited time technology? Even 100 years is not very long, as far as reserves.

[183-11, James Vincent] My research has found known estimates world wide of uranium somewhere between 50 years on the low end and 100 years on the optimistic side. Why would we utilize a technology that costs literally billions of dollars to implement with public tax dollars for a loan guarantee and Idaho tax incentives for a limited time technology, Even 100 years is not very long as far as reserves.

Response: *The pursuit of the gas centrifuge technology for uranium enrichment, which has a limited lifetime, is a national energy policy issue that is not within the scope of this EIS (which is for the proposed EREF). As discussed in Section 1.3 of the EIS, the proposed action is intended to satisfy the need for an additional reliable and economical domestic source of uranium enrichment services. The above comments are directed at the choice of nuclear power as an energy source. These comments are not within the scope of the EIS.*

Comment: The following comments raise various U.S. government issues that are not directly related to the scope of the EIS.

[110-02, John and Susan Medlin] In the US today, government oversight of corporate behavior is laughable, regardless of the riskiness of corporate operations. And the quaint concept of "corporate social responsibility" has been completely replaced with single-minded pursuit of profitability regardless of consequences to human, economic, and environmental health. Ergo, corporations operate with neither external nor internal restraint, however vile the consequences might turn out to be.

Now in Idaho we have the perfect combination: tough times, high joblessness, hungry contractors, no government oversight at any level, and corporate greed. This is the recipe for ruination of our environment, and subsequently our health and long term economic development potential.

Add our unequivocal "NO" to the responses you have received regarding approval of this proposal.

[180-12, Kaye Turner] And finally, I wonder if Iran was proposing a plant like this would the United States have an objection to it?

Response: *U.S. government policies, including national energy policy issues, are not within the scope of this EIS, which is for the proposed EREF. The proposed action is intended to satisfy the need for an additional reliable and economical domestic source of uranium enrichment services. The issues raised in the above comments are national policy issues that are outside the scope of this EIS.*

Comment: The following comments relate to parts of the nuclear fuel cycle other than uranium enrichment.

[131-08, Morty Prisament] Source and Implications of Uranium Proposed to be Used: The source of uranium to be used and environmental implications related to extraction and transport needs to be evaluated, including environmental justice and socioeconomic considerations. National security considerations related to using proposed sources versus alternative sources should also be discussed.

[191-06, Liz Woodruff] Radioactive material is inherently dangerous. Just the activities directly connected with uranium enrichment pose risks, as do all other parts of the fuel chain. The NRC should perform a complete analysis of the risks of uranium mining and milling, mixing yellow cake with hexafluoride (itself a dangerous material), enriching UF6 in gas centrifuge plants, storing and deconverting depleted UF6, disposing of depleted uranium and low level waste, fabricating fuel from enriched uranium, and all intermediate transportation steps.

[193-02, Liz Woodruff, on behalf of the Snake River Alliance] But when we talk about the waste, it's really important that everybody here understand what is being proposed. The proposal is for a uranium enrichment factory, but that's only one part of the nuclear fuel chain. The entire nuclear fuel chain is dirty, dangerous, and promotes the transportation of radioactive materials on interstates, railways, and highways, which presents an enormous risk.

First, uranium is mined, which produces a waste stream, then it's transported, and it's milled and refined, which produces a waste stream. Then it's transported and it's converted, which produces a waste stream. And then it is transported to a uranium enrichment factory. That is what is being proposed in Idaho. It's very important that we understand that this is in the middle of the fuel chain. This not a nuclear power reactor. This is not a reprocessing facility. It's an enrichment factory.

Response: *The proposed action is intended to satisfy the need for an additional reliable and economical domestic source of uranium enrichment services. The comments are directed at evaluating impacts related to the origin of the uranium to be enriched and impacts of other parts of the nuclear fuel cycle, which are not part of the proposed action. Therefore, these comments are not within the scope of the EIS.*

Comment: The following comments suggest that other energy options be pursued.

[008-03, Carol Bachelder] But the decommission process and the construction process, and the transportation, and on and on and on -- how can we possibly expect any sort of economic feasibility for the price of this energy that we're paying for with all these extensive expenses? It boggles the mind. I don't see how we could possibly get, you know, the amount out of -- the amount of energy out of this thing that we're going to put into it, you know, in the terms of money. Energy is really kind of behind the whole argument here, and I'm interested in alternative forms of energy, so I would have to support the not action alternative for the nuclear plant. But solar has great potential because of economic warming. A month ago, the entire United states, on the weather map, was red. If we could only figure out storage for this energy from the sun, we could get through the whole winter. My neighbor has a big solar panel, and she put drapes over it because, I mean, you don't want to warm your house in the summer time, do you? But if you could store the energy from the heat of the sun during this summer, you could get through the winter, and I don't think that the cost could possibly compare to the amount of money that you're proposing to spend on this thing.

[025-03, Hon. Sue Chew] You know, when we look at our energy needs, you know, I really am the "big picture" person. And not only should we look at nuclear as a source of energy, but, you know, we've got a lot of other things that we really should be looking at in the state and in this nation.

And I would like as much effort being put forth, and as much support, being put forth with our other sources of energy. When we look at solar, we look at geo, when we look at wind, I'd like to see that develop, especially in this state. And, you know, we've heard that the energy that would be developed through this particular mechanism doesn't benefit our state. I'd like for us to reflect on that.

And I'd like for, you know, the ingenuity of Idahoans here, our researchers are regular people that have good ideas, really, to be supported in our state with regard to these other sources. Conservation goes a long way, and I think that all these things need to be at the table, not just nuclear, and, you know, I really have a caveat with regard to this, because of potential dangers.

[032-06, Cindy Cottrell] The jobs that this plant will produce will be few in comparison to the cost of allowing it here. Maybe 300 people will get jobs that will not last forever, but only for the lifetime of the plant. Right now it will cost tax payers would have to loan Areva $2 billion. Other types of energy would be much more worth the taxpayer's money. That's a lot of money for 300 jobs and waste to manage forever. Other kinds of energy that is less risky would be better to invest in.

[040-03, Collin Day] We need to look at things like – I've been reading about the "smart grid." I think we have got plenty of energy in this country. We just need to use it smarter, or we need to be smarter about how we use it.

[044-01, Dennis Donnelly] I would point out that this section of considering alternatives assumes that it has to supply enriched uranium for national energy security; that is, they assume that this plant is going to be built, and it neglects the alternative of not building these plants.

I would point out that if you build this facility, it commits America, this is the unstated thing, it commits America essentially to a future that includes nuclear power, and all the nightmares associated with it. I would like to point out that there are other options that some of the nightmares would be a police state in our communities, where the Soviet Russians and the Germans that we already have that police state. These things are so dangerous that we're considering bombing Iran and the Israelis are considering bombing Iran for exactly the same facility. It's so dangerous. The reason is, of course, that you build this facility, and then you build the reactors, the reactors breed plutonium, plutonium can make weapons. You can't take that away once you've done it.

The police state is a terrible thing. The rest of it has to do with the threat of military attack on these facilities, on the plants. Nobody seems to address that all these atomic power plants are built above ground. Any kind of terrorist or military attack on any one of them can take out two states, that much area. We've seen Chernobyl. We know it can happen, and it has happened. Even accidents can take out a large area. Right now we have major problems still from Chernobyl, and everyone knows it.

I would like to point out there are alternatives that have not been considered, that I'd like to mention. A couple of weeks ago, there was an announcement in the "New York Times", and I followed it up, and yes, it's true, there was a study in North Carolina that concluded for the first time that new power plants in North Carolina were cheaper to build with solar power than with nuclear power. This is a major crossover point that should be considered. And you see there are none of the problems, there are no activation products, there are no fission products, there are no actinides, there is no pluming of unmanageable wastes that we're casting into the future for all of geologic time that require management and armies to manage them. None of the problems if you go with solar power, and with -- instead of nuclear power. And I would urge everyone to consider personally their own career options right now.

If we go ahead with this plant, we're committing to a future that dumps unmanageable problems, and a police state on the future of this country, and every country. Whereas, if we do the unspoken thing, let all our aging and outdated nuclear plants expire, and then use clean energy, non-carbon energy for the future, and not this totally toxic nuclear energy.

[050-06, Joanie Fauci] The money being spent on these EIS documents, the hearings, the pre-building, and the rest should instead be spent on research and production of alternative energy sources. Alternative energy research and production also brings jobs.

[071-01, David Hensel] I'm not a proponent of nuclear power, and I may be a wacko, but the reason I'm not a proponent of nuclear power, one of the reasons is don't think it's a very cost-effective or a very good energy source as far as being competitive on the energy market.

[083-03, Diane Jones] As far as need, I know some speakers have attempted to make a case for need in terms of jobs and tax base, and any project can be justified in terms of jobs and tax base, including cleaning toxic waste. That's no really what we want in Idaho. There are plenty of alternatives. I know that's not covered by the EIS, but in the "big picture," jobs could be created with energy systems that might be based on wind and solar, that would have less adverse environmental effects.

[095-10, Linda Leeuwrik] In both Idaho and the entire United States, we need to focus our resources on developing clean and renewable sources of energy, rather than investing more money into "dirty" sources and technologies that will leave us with waste that we have no good solutions for dealing with. Thus, I cannot state adamantly enough, how opposed I am to Areva's proposed enrichment facility in South East Idaho.

[113-02, Ken Miller] There's been talk about nuclear as a baseload power source, and as a clean alternative to coal, and also gas to a degree, I suppose. It is true that nuclear power has a capacity factor, as we heard earlier tonight, that does qualify it as baseload, but it's not the only resource that can fill that bill. The U.S. Department of Energy does not put all of the nation's future energy eggs in the nuclear basket. Far from it, it envisions a much more diverse energy portfolio that is more reliant than ever on energy efficiency, and conservation, and other truly renewable baseload energy resources.

In Idaho, we have other baseload energy resources, such as hydropower and geothermal, and our utilities are working hand and glove with DOE at the INL, and at the National Renewable Energy Laboratory, to more efficiently integrate wind and solar into our increasingly smart grid. Our region's six power plan, which was adopted by the Northwest Power and Conservation Council, projects that our region can meet 85 percent of our new load growth over the next 20 years through energy efficiency, and to a degree, renewable energy. The plan does not envision the development of any large-scale regeneration for the next 20 years, and that would include nuclear.

[103-06, Karen McCall] Areva wants US Federal loan guarantees in the amount of $2 billion dollars. US taxpayers would get far more energy for that money spent on renewables. An analysis by Idaho Power shows that nuclear power would cost significantly more per megawatt hour than wind, geothermal and biomass.

[106-04, Ted McConaughey] I also think that the – maybe the most interesting issue in favor of this project is the idea that we need a stable baseload, and a carbon-free stable baseload. And I feel like this – that there are alternatives for the baseload. I mean, certainly, hydro is one, and we have other ways of storing energy.

For example, for instance, any of these – any electricity generator can produce hydrogen, and we could store hydrogen, and I don't know the economics of these various things, but what I do know is there are many possible ways of storing energy with efficient retrieval possible.

And so to think that we require immediate access to baseload power, at all times, I think ignores the possibility that we have other storage options that might be – that might work in conjunction with ephemeral power sources like wind and solar, in order to give us the essential benefits of baseload power.

[120-02, Frank Nicholson] Thorium is a viable alternative making this type of enrichment obsolete.

[120-05, Frank Nicholson] There are less dangerous methods of nuclear power being developed. i.e., thorium. Wait until these methods are practical and then relook at a modified proposal.

[132-01, Margo and Dennis Proksa] However, there are many who know the truth about nuclear power - from mining to uranium enrichment and all the steps between - it's dirty, dangerous, and expensive, And we think there's no need for a renaissance at all because there are wiser alternatives to renewable sources.

We propose the following energy efficient strategies to be paid for with the $2 billion loan from the feds, and whatever Idaho is throwing in. Buy and install energy efficient appliances for every Idahoan who needs them: hot water heaters, refrigerators, washers, and dryers, insulate Idaho homes and commercial buildings that are inadequately protected, more cash for clunkers, expand renewable energy resource development, wind, solar, geothermal, and the grid, build bike paths throughout Idaho communities for everyone to use for commuting to work, and to schools, and for recreation, encourage bike travel by making it safe and enjoyable, get young people involved in energy issues and problem solving by developing an education program that encourages imagination, ingenuity, and self-sufficiency that are carbon-free and nuclear-free. Why not?

This would be an economic stimulus package that would diversify the population that needs help the most, the unemployed and the middle class. This could have a positive and profound effect locally and globally. It would create jobs for Americans, the appliance manufacturers who buy raw materials like steel, and delivery and installation jobs, and jobs to extract recyclable materials from old appliances. Jobs where they make insulation, and jobs to install the insulation, jobs in manufacturing fuel efficient cars, trucks, and buses, jobs in city planning to route bike paths throughout their communities, and jobs for road and path construction, as well as the materials for that expansion, jobs in bike manufacturing, jobs in renewable energy technologies.

There are abundant health benefits and energy savings with this plan. A healthier population, because of the option to pedal around town, a broader cross section of Americans who will find work in their communities, and the cost of energy at home and fuel for their vehicles will be reined in, stress levels will drop improving everyone's attitude and outlook. Other states and countries would admire Idaho for its truly progressive focus on the short and long-term goals. Idaho could become a model for sustainable living. Tourism would increase just because people would want to see progress to believe it, especially in such a scenic state.

In addition to these straightforward suggestions for energy savings, job creation, health benefits, and collective attitude adjustment, there are a wealth of other positive side effects for Idaho if AREVA does not build a uranium enriching plant here.

We would not have to loan a foreign company/country billions of dollars we can put to better use ourselves. And we don't have to give them any more money if they underestimate costs, or have technical problems they don't expect during construction, or pay for cleanup after they take their profits and return to France. Idaho would not be responsible for the safety and cost of

storing tons of depleted uranium waiting patiently until the day comes when someone figures out what to do with it, and where to put it. Idahoans would not have to share the roads with thousands of loads of toxic and dangerous materials. Idahoans won't have to worry about living downwind of smoke or emissions should there be a fire, or terrorist attack at the facility. We don't have to endanger any wildlife because of habitat destruction, or lose productive farmland. We can rest assured radioactive materials will not be lost in the system and used for making bombs, since enrichment is a proliferable technology. The Snake River Aquifer would be protected from further contamination.

The advantages of not financing AREVA are huge. U.S. energy policy must shift its attention and resources to the development of carbon-free and nuclear-free alternatives that are faster, cheaper, and less risky. We can think outside the dirty, dangerous, and expensive nuclear power box.

[147-19, Joey Schueler] 15. Many things can be done to align our energy needs with the other options available to power our grids in America and with far less reliance on foreign trade:

a. Renewable energy sources are available and new technologies can be developed through U.S. ingenuity, providing a global demand for American jobs and products.

b. The American grid is old and outdated. The restructuring of our grid will effectively limit waste, save the environment and provide an economic growth engine based on America's "needs" not it's consumerist wants.

c. Perhaps we should limit our energy use… I know most Americans don't want to hear that, but if it's that or sunbathing next to a depleted Uranium cesspool, which would you choose?

[168-09, Lon Stewart] The United States could invest the DOE $2 billion loan in American companies that would apply towards carbon free renewable energy such as geothermal, wind and solar power systems along with energy efficiency and conservation programs that would be on line sooner than any nuclear facility. The money would be distributed over many multiple companies rather than one facility. Even if a portion of the loan(s) defaulted, at least the money was spent in the United States, on our projects, employing our people, and we saved some energy in the process. The stone age did not end because we ran out of stone. The nuclear age should not end because we used up all the uranium. The US can become energy independent if we utilize our renewable energy sources and concentrate on conservation and efficiency measures. This sounds much better to me.

[175-03, Ellen Thomas] There is no need for a new US plant to enrich uranium for electricity production. Current supplies are clearly adequate, and as we develop healthy solar, wind, tidal and other truly clean energy systems, there is no need for new nuclear power plants.

[181-10, Roger Turner] The following conditions, in combination, eliminate the need for this project: (a) recent finds of large amounts of natural gas in the U.S. is reducing interest in nuclear power and rendering nuclear power uneconomical in comparison. (b) the cost of solar and wind power are coming down resulting in a larger role for these power sources and; (c) with the reduction of nuclear power plants in the U.S. domestic uranium enrichment plants will be able to

supply the nuclear power industry with ample supplies of U-235, without the need for this proposed, expensive, AREVA plant. The aforementioned points are detailed below:

(A) Recent finds of large amounts of natural gas fields in the U.S. reducing the interest and momentum by power companies in developing nuclear power. New finds of domestic natural gas has resulted in a switch in interest from coal and nuclear to gas for power supplies. A recent MIT study, that is more up-to-date than the study referenced in the draft EIS, reveals a likely economically realistic switch to natural gas for the United States power supplies. This study, by a group of 30 MIT faculty members, researchers and graduate students reflects the more accurate conditions for power plant construction in the United States for the next 40 years. The study shows a baseline global estimate of recoverable gas resources reaching some 16,200 trillion cubic feet (Tcf), enough to last over 160 years at current global consumption rates. (The Future of Natural Gas -- Study finds significant potential to displace coal, reducing greenhouse gas emissions, MIT, June 2010) In addition the study reports the following trend:

"Natural-gas consumption will increase dramatically and will largely displace coal in the power generation sector by 2050 (the time horizon of the study) under a modeling scenario where, through carbon emissions pricing, industrialized nations reduce CO_2 emissions by 50 percent by 2050, and large emerging economies, e.g. China, India and Brazil reduce CO_2 emissions by 50 percent by 2070. This assumes incremental reductions in the current price structures of the alternatives, including renewables, nuclear and carbon capture and sequestration."

According to U.S. Energy Information Administration Annual Energy Outlook 2010, domestic and Canadian gas supply will increase, at least to 2035.

Shale gas provides largest source of growth in U.S. natural gas supply

The increase in U.S. natural gas production from 2008 to 2035 in the AEO-2010 Reference case results primarily from continued growth in production of shale gas, recent discoveries in deep waters offshore, and, to a lesser extent, stranded natural gas brought to market after construction of the Alaska natural gas pipeline is completed in 2023. Shale gas and coalbed methane make up 34 percent of total U.S. production in 2035, doubling their 17-percent share in 2008. Shale gas is the largest contributor to the growth in production, while production from coalbed methane deposits remains relatively stable from 2008 to 2035.

(B) The cost of solar power is lower than nuclear power, resulting in a larger role for these power sources. The New York Times reports the following article:

Solar power costs have been declining, the costs of nuclear power have been rising inexorably over the past eight years, said Mark Cooper, senior fellow for economic analysis at Vermont Law School's Institute for Energy and Environment. Estimates of construction costs — about $3 billion per reactor in 2002 — have been regularly revised upward to an average of about $10 billion per reactor, and the estimates are likely to keep rising, said Mr. Cooper, an analyst specializing in tracking nuclear power costs. (New York Times; Special Report: Energy and Environment, Nuclear Energy Loses Cost Advantage, July 26, 2010)

(C) Switch to other power sources means no need for Areva. Given the above two examples of a switch to other power sources than nuclear, the existing plans for enrichment will be adequate to supply the U.S. nuclear industry. The Les Urenco company has plans to produce up to

6 million SWU; while the USEC produces 10.5 Million SWUs. Also, in 2008, an amended agreement allows Russia to export increasing amounts LEU available to nuclear power companies to the United States, starting with 442,000 pounds in 2011 and up to 13.7 Million pounds in 2020.

While it is true that some nuclear plants may expand their existing power plant, such as Watts Bar 2 (TVA), there will be nowhere near the number of new units predicted by the NRC's Energy Assessment Administration Report (EIA 2009a) and nowhere near the need for SWUs referenced in the draft EIS for AREVA; and because of many nuclear plants are decommissioning -- there will be less and less need for enriched uranium. Many of the firms that initially consider nuclear construction are bound by State requirements that they be 'prudent investors'. Therefore, many initial applicants to NRC are dropping out completely, or keeping them on hold.

Consequently, the EIS should carefully review current studies and assessments that show a general swing to natural gas, solar and wind. Unfortunately the NRC fails to take a hard look at this purported need. A nuclear power plant hasn't been built in the United States in two decades. The EIS needs to provide economic comparisons of nuclear vs. Solar and Natural Gas. More and more companies are dropping their nuclear power applications to NRC, and therefore the need for this plant is not justified, given the existing and soon to open facilities in the U.S. to provide sources of enriched uranium.

[193-12, Liz Woodruff, on behalf of the Snake River Alliance] This is from a study by Mark Cooper of Vermont Law School in June of 2009, and he argues that the cost projections for new reactors are four times as high as the initial nuclear renaissance projections. So there's an economic obstacle, significant economic obstacle that has to be overcome for this supposed renaissance to occur.

He argues that nuclear reactors are, in fact, the worst option from the point of view of the consumer in society.

He talks about the ways in which efficiency, cogeneration, biomass, geothermal, other renewables, are less costly and more viable forms of energy production, leaving us with six cents per kilowatt hour versus 12 to 20 cents per kilowatt hour, to pursue the nuclear option.

And I would argue, in fact, that this third point should have been an alternative pursued in the EIS. You heard them say that they looked at the "no alternative," or the "no action alternative." Why didn't they look at the efficiency and renewable energy alternative?

And finally, the additional cost of building a hundred new nuclear reactors could be 1.9 to 4.4 trillion dollars. Now I know that "billion" has lost its shock value lately, but we should kind of be shocked by the trillion number, and this economic obstacle is certainly one that calls into question the hypothesis posed by the NRC, that there'll be a need for new enriched uranium.

And just to underscore this, this is a chart that was just released in a Duke University study in July of this year, and it shows, with the yellow line, the cost of nuclear going up and the cost of solar coming down.

So this economic obstacle presented by the nuclear -- you know, before the nuclear industry, is one that renewables are not facing. As a matter of fact, the costs are coming down.

And again, this obstacle is one that we believe will stop the supposed nuclear renaissance, and actually lead to a nuclear collapse, therefore nullifying the claim that's the premise of the NRC, that there's a need for new enriched uranium.

Response: *The issues raised in the above comments are national energy policy issues that are not within the scope of this EIS, which is for the proposed EREF. The proposed action is intended to satisfy the need for an additional reliable and economical domestic source of uranium enrichment services. The alternatives in the comments raise national policy issues (e.g., finding other sources of energy) that would not satisfy the need of the proposed action, and therefore such alternatives are not within the scope of the EIS.*

Comment: The following comments raise objections to the preconstruction exemption granted to AES by the NRC and suggest that the impacts of preconstruction were not evaluated in the Draft EIS.

[015-18, Beatrice Brailsford] Because of an exemption granted in March 2010, Areva will be allowed to start "preconstruction" activities as early as October 2010. This preconstruction exemption shows a bias towards licensing. It appears the NRC has already made the decision to allow the project to move forward even before the necessary impact assessments and public comment periods have been completed. Preconstruction constitutes one part of a major federal action. 40 CFR 1500.1(b) requires that information be available before an agency makes decisions or takes any action. It is impossible for the NRC to produce a final EIS and ROD before preconstruction starts in October. The NRC must either revise the current draft to include the impacts of preconstruction or must write an additional EIS that specifically addresses preconstruction activities. The NRC must not allow preconstruction to commence until after a ROD is issued.

[015-20, Beatrice Brailsford] The transmission lines compound the negative impact the will accrue to pronghorn antelope, greater sage grouse, and ferruginous hawks, which will all likely abandon the Areva site and surrounding areas. Sage grouse is a candidate species for federal protection. The Idaho Department of Fish and Game reaffirmed the threats transmission lines would pose to wildlife, challenged the methodology of sage grouse and lek analysis in the draft EIS, recommended burying transmission lines, and suggested Areva submit to plans to mitigate for the expected wildlife impacts. These concerns do not appear to have been addressed in this EIS and must be addressed before any preconstruction activities are allowed or before this EIS review continues.

[018-02, Deb Brown; 035-01, Stephen Crowley; 055-02, Claudia Galaviz; 056-01, Mark Galaviz; 063-02, Martha Haga; 101-02, Jody May-Chang; 117-02, Richard Morgan; 188-02, Lana Weber-Wells] In particular, I am concerned that the NRC will allow Areva to start "pre-construction" activities in October of 2010 — which would be before the Record of Decision on this license is released. Moreover, preconstruction constitutes one part of a major federal action and 40 CFR 1500.1(b) requires that information be available before an agency makes decisions or takes any action. The impacts of preconstruction must be evaluated in the draft EIS, or another EIS should be initiated to assess preconstruction impacts.

[025-05, Hon. Sue Chew] Trained as clinical pharmacist, I am taught to make sure of the facts and additionally to cut corners ultimately costs lives or causes morbidity. I am thus particularly concerned that the NRC start of the "preconstruction" activities in October of 2010 - which would be before the Record of Decision is released.

In addition, preconstruction comprises one part of a major federal action in which 40 CFR 1500.1(b) requires that information be available before an agency makes decisions or takes any action. The impacts of preconstruction must be evaluated in the draft EIS before preconstruction begins. Alternatively, I would strongly recommend that an additional EIS should be initiated to assess preconstruction impacts.

[027-02, Sara Cohn] Preconstruction has been mentioned by other folks, and I will mention it also. It is unclear under what authority NRC can offer the exemption for preconstruction activities when such impacts extend outside of NRC jurisdiction. For example, preconstruction activities will impact species protected under the Endangered Species Act, such as sage grouse, and others, and waters protected under the Safe Drinking Water Act, specifically the sole source aquifer, the eastern Snake River plain. The project must consult with agencies like EPA and the U.S. Fish and Wildlife Service, in order to analyze and release for public comment the environmental and public health impacts of preconstruction activities, including clearing, blasting, and grading, prior to conducting such activities.

[027-12, Sara Cohn] Preconstruction Exemption: It is unclear under what authority NRC may offer exemptions for preconstruction activities when such impacts extend outside of NRC jurisdiction. For example preconstruction activities may impact waters protected under the Safe Drinking Water Act – the Eastern Snake River Plain Aquifer. The project must consult with EPA in order to ensure the preconstruction activities will not impact the Eastern Snake River Plain aquifer, a sole source aquifer for eastern Idaho.

[027-21, Sara Cohn] Preconstruction Exemption: It is unclear under what authority NRC may offer exemptions for preconstruction activities when such impacts extend outside of NRC jurisdiction. For example preconstruction activities will impact sensitive and candidate species. Project impacts would normally require NRC to coordinate with the Idaho Department of Fish and Game in order to analyze and release for public comment the environmental and public health impacts of preconstruction clearing, blasting, and grading prior to conducting such activities. According to the draft EIS, such preconstruction activities are expected to take place prior to the licensing of the proposed facility. These efforts undermine the purpose of the EIS process. A mitigation plan must be created to avoid, minimize, and plan for mitigation of affected habitat.

[030-01, Kerry Cooke] There is nothing in the EIS to suggest there is any reason for haste. There's no emergency facing this country, or any other country, that this facility must be built as soon as possible. There's -- I guess I'm just going to say, that I think that there's -- there must be some proof laid out here, that there's any reason to say work needs to start in October, when so many questions are left to be answered, so much is still -- we're here talking to you tonight about effects on the environment, many questions we have about the road into it, transmission, and yet, you're going to allow preconstruction. It's totally puzzling to me, and I think really needs much more explanation, and I actually believe shouldn't happen.

[030-06, Kerry Cooke] Haste: What's the hurry? Why is the NRC allowing Areva to start a "preconstruction" phase this fall? During so-called preconstruction, the environment will be greatly disturbed. I appear before you today in good faith that a decision has not been rendered on this proposal, that all Verbal Comment will be considered, and that the EIS will be properly completed and vetted before a decision is reached. There is no emergency that demands that this project be fast-tracked, no national crisis dictating that rules be bent to allow early work. The haste shown by Idaho lawmakers in pushing through funding for a road to the Areva site, while not part of NRC domain, raises even higher my concern that decisions are being make by greed rather than science and sound energy and fiscal policy. There is no reason to start preconstruction before the EIS is released in final form.

[035-02, Steve Crowley] In particular, I am concerned that the NRC will allow Areva to start preconstruction" activities in October of 2010 - which would be before the Record of Decision is released. Moreover, preconstruction constitutes one part of a major federal action and 40 CFR 1500.1(b) requires that information be available before an agency makes decisions or takes any action. The impacts of preconstruction must be evaluated in the draft EIS, or another EIS should be initiated to assess preconstruction impacts.

[048-04, Genevieve Emerson] I am appalled that pre-construction would even remotely be considered as a viable option, as sage brush steppe can take a very long time to recover after it has been razed. I strongly feel that the citizens of Idaho need more time to consider the implications of such a facility, and pre-construction is extremely short-sighted and hasty.

[078-03, Hon. Wendy Jaquet] 3. I thought the exemptions were excessive.

[086-01, Paula Jull] The NRC has shown bias in allowing Areva to begin preconstruction activities before the decision has been made.

[087-01, Dennis Kasnicki] Comment 1: At the subject meeting some attendees commented that the NRC giving AREVA a "preconstruction exemption" constituted a bias toward ultimate license approval. I totally agree. As paranoid as the NRC was regarding "appearances" (as I saw it when I was with Region II) I can't believe you guys got away with that one.

[088-07, Stan Kidwell; 095-07, Linda Leeuwrik; 122-06, Kathy O'Brien; 175-02, Ellen Thomas] The NRC has demonstrated a clear bias toward licensing by granting Areva permission to begin "preconstruction" activities in October, long before any final decision has been made. The NRC must withdraw its permission to begin.

[105-02, Eve McConaughey] Why were exemptions for pre-construction activities given prior to licensing?

[113-03, Ken Miller] On the transmission issue, the NRC's exemption that authorizes AREVA to undertake preconstruction activities as not part of the proposed action should not include exempting utilities' installations including transmission lines and associated substations, and other utility infrastructure.

[113-14, Ken Miller] As mentioned above, NRC erred in permitting AES to undertake myriad preconstruction activities as beyond the purview of the EIS. This is only one indication that the

NRC appears biased toward approval of the EREF application even as it is soliciting public comment and review of the Draft EIS. It is not too late for the NRC to remedy this egregious oversight – deliberate or otherwise – and to subject this project to a complete environmental review before any further preconstruction activities are allowed to take place.

[118-02, Caroline Morris] The possibility of NRC's allowing the contractor Areva to begin "preconstruction" activity in October 2010 troubles me, because it would predate release of this license's Record of Decision. Clearly, preconstruction is one part of this major federal action. 40 CFR 1500.1(b) requires agencies to release available information before making the pertinent decisions or taking relevant actions. This draft EIS must evaluate the preconstruction impact factors, since there is no time to initiate another EIS to consider preconstruction.

[144-02, Sara Rodgers] Given that nuclear energy and the extraction of nuclear material create multi generational risk to human and environmental health, it is important to ensure all necessary precautions are taken seriously and that the preventative principle is the dominant paradigm when considering or planning their use. I am concerned that the NRC may allow preconstruction activities prior the adoption of the EIS. This is a poor use of wise decision making and resources. To demonstrate good faith efforts in preserving the health of Idaho and Idahoans, I request that no activities are undertaken until the EIS includes preconstruction activities and the entire EIS is adopted.

Given that Areva corporation which desires this license and access to Idaho's resources is an international firm with a poor environmental record, it is important to ensure no risk to domestic communities in case a environmental hazard occurs in the near or very long future. Since the risk of nuclear waste may occur for thousands of years, a prolonged planning process with thoughtful regulations to ensure no risk to domestic populations seems a small sacrifice than to start preconstruction without a well thought out and enforceable plan.

[148-01, Eric Schuler] Taken as a whole, the EIS suggests that this facility will have a relatively low impact on the environment. Of course several aspects of this, of the — have been overlooked in making this conclusion. For instance, as others have already noted, it does not consider the impact of the exempted preconstruction activities, the high risk of wildfires in the area, or the lack of an appropriate disposal pathway for depleted uranium. Accordingly, the true impact of this facility is certainly larger than the DEIS suggests.

[153-11, Andrea Shipley] Because of an exemption granted in March 2010, Areva will be allowed to start "preconstruction" activities as early as October 2010. This preconstruction exemption shows a bias towards licensing. It appears the NRC has already made the decision to allow the project to move forward even before the necessary impact assessments and public comment periods have been completed. (draft EIS, xxviii).

Preconstruction constitutes one part of a major federal action. 40 CFR 1500.1(b) requires that information be available before an agency makes decisions or takes any action. Considering that public comment is open until September 13, 2010. It is impossible for the NRC to produce a final EIS and ROD before preconstruction starts in October.

[197-11, Andrea Shipley, on behalf of the Snake River Alliance] Because of an exemption in March 2010, AREVA will be allowed to start preconstruction activities as early as October 2010. This preconstruction exemption shows a bias toward the licensee.

[169-04, Margaret Stewart] And it has been spoken about before that preconstruction activities by AREVA are a travesty to the public process of honest democracy. Allowing preconstruction activities to proceed without an analysis of the ensuing environmental and human effects shows a clear intention by the NRC to license this facility. And, to me, that appears to make a total sham of the impact assessments, and also of these public comments and hearings.

[181-23, Roger Turner] NRC erred by approving pre-construction of AREVA before an EIS was provided to the public. The timing of an EIS is critical. CEQ regulations instruct agencies to "integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values." 40 CFR §1501.2 (1987). An EIS must be prepared "early enough so that it can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made." Andrus, 442 U. S., at 351–352, n. 3 (quoting 40 CFR §1502.5 (1979)).

BY NRC already approving pre-construction designs, they have showed that they are using the EIS to rationalize or justify decisions already made. Federal funds have already been spent on this project, before the EIS was available to the public. This is in violation of NEPA.

[184-16, Kitty Vincent] Because of an unwarranted exemption granted in March 2010, Areva will be allowed to start "preconstruction" activities as early as October 2010. This preconstruction exemption shows a bias toward licensing. It appears the NRC has already decided to allow the project to move forward even before the necessary impact assessments and public comment periods have been completed. (draft EIS, xxviii). Preconstruction constitutes one part of a major federal action. 40 CFR 1500.1(b) requires that information be available before an agency makes decisions or takes any action. Considering that public comment is open until September 13, 2010. It is impossible for the NRC to produce a final EIS and ROD before preconstruction starts in October.

[184-21, Kitty Vincent] The Idaho Department of Fish and Game, in a response to NRC dated April 14, reaffirmed the threats transmission lines would pose to wildlife (draft EIS B-26) and challenges the methodology of sage grouse and leak analysis in the EIS (B-27), recommends burying transmission lines, and suggests Areva submit to plans to mitigate for the expected wildlife impacts. These concerns do not appear to have been addressed in this EIS and must be addressed before any preconstruction activities are allowed or before this EIS review continues.

[191-01, Liz Woodruff] Most importantly, preconstruction cannot begin in October 2010. That would be a completely unacceptable outcome of these proceedings.

[191-05, Liz Woodruff] Moreover, preconstruction plans must be halted and no preconstruction activities should be allowed until an evaluation of the environmental impacts of those activities has been integrated into an EIS. To allow preconstruction in October of 2010 is unacceptable, and I believe such action will be adamantly opposed by residents of the state.…

• Because of an exemption granted in March 2010, Areva will be allowed to start "preconstruction" activities as early as October 2010. This preconstruction exemption shows a

bias towards licensing. It appears the NRC has already made the decision to allow the project to move forward even before the necessary impact assessments and public comment periods have been completed. draft EIS, xxviii)

• Preconstruction constitutes one part of a major federal action. 40 CFR 1500.1(b) requires that information be available before an agency makes decisions or takes any action. Considering that public comment is open until September 13, 2010. It is impossible for the NRC to produce a final EIS and ROD before preconstruction starts in October. The NRC must either revise the current draft to include the impacts of preconstruction or must write an additional EIS that specifically addresses preconstruction activities. The NRC should not allow preconstruction to commence until after a ROD is filed.…

• The draft EIS (draft 4-5) notes that "The greatest potential for impacts on historic and cultural resources would occur during ground disturbance during preconstruction." Yet these preconstruction activities are specifically removed from review in this study. *Again, the impacts of preconstruction must be integrated into this draft EIS.*

[193-15, Liz Woodruff, on behalf of the Snake River Alliance] AREVA was given an unwarranted exemption, granted in March of 2010, to start preconstruction activities as early as October of this year, two months away. This preconstruction exemption shows a bias towards licensing, without hearing public comment first.

But preconstruction constitutes one part of a major federal action. 40 CFR 1500.1(b) requires that information be available before an agency makes decisions or takes any action.

The NRC cannot simply grant an exemption for activities with excessive environmental impacts.

If you look at the EIS, all the environmental impacts happen in preconstruction, and then they aren't being taken into consideration, in the EIS, as an area of impact because we granted an exemption for those impacts.

And they must either include preconstruction in the EIS, or write an additional EIS to evaluate preconstruction impacts. Preconstruction activities cannot occur until the impacts are analyzed, and the record of decision is signed, and your comments getting in on September 13th will certainly not give them adequate time before preconstruction starts to issue a record of decision, and this is unacceptable.

[193-19, Liz Woodruff, on behalf of the Snake River Alliance] Now this is something that's considered as a preconstruction impact in EIS, so this isn't given the weight and the technical impact review, the small, moderate, and large that you saw.

But more specifically, in the EIS, in Appendix B, the Idaho Department of Fish and Game affirms that the threat to transmission lines would be great for wildlife, and they recommend barring transmission lines and suggest AREVA submit to plans to mitigate for the expected wildlife impacts. These concerns must be addressed in the EIS, before any preconstruction activities are allowed.

[193-20, Liz Woodruff, on behalf of the Snake River Alliance] And all of the issues associated with the construction of this facility -- accidents, fire, air and water quality degradation, the development of this land will impact several species, including raptors and sagebrush obligate species. This includes the sage grouse. The sage grouse is a candidate species for federal protection, and the only reason it's not listed yet is because of bureaucratic process of listing. There's a delay. But the treatment of this issue is inadequate in the draft EIS.

The impacts to sage grouse from transmission and preconstruction warrant integration into this EIS, or separate EISs, specifically around preconstruction and transmission issues.

[192-14, Lisa Young] Indeed, I hope to see preconstruction activities prohibited until a further analysis of the environmental impacts of these activities can be fully evaluated, and until the facility is actually licensed (a rather logical notion, I think).

Response: *On March 17, 2010, the NRC granted AES an exemption from the requirements of the regulations under 10 CFR 30.4, 30.33(a)(5), 40.4, 40.32(e), 70.4, and 70.23(a)(7), which govern the commencement of construction (NRC, 2010c). This action was in response to AES's request dated June 17, 2009 (AES, 2009b), as supplemented by letter dated October 15, 2009 (AES, 2009c), that requested an exemption from specific requirements of 10 CFR Parts 30, 40, and 70 to allow AES to commence certain construction activities associated with the proposed EREF before completion of the NRC's environmental review under 10 CFR Part 51. The exemption authorizes AES to conduct the specified preconstruction activities, provided that none of the facilities or activities subject to the exemption would be components of AES's Physical Security Plan or its Standard Practice Procedures Plan for the Protection of Classified Matter, or otherwise be subject to NRC review or approval.*

As discussed in the March 17, 2010, exemption approval, the NRC staff determined that granting AES's exemption request is authorized by law; and has reasonable assurance that granting the exemption request would not endanger life or property or the common defense and security, and is otherwise in the public interest. Also, pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment.

Approval of the exemption request does not indicate that a licensing decision has been made by the NRC. Preconstruction activities would be completed by AES with the risk that a license may not be issued. Some of the preconstruction activities may be deferred by AES until, or continue after, the commencement of construction, if a license is issued. Before a license would be granted, the Final EIS must be issued, and the ASLBP must review the NRC staff's SER (NRC, 2010b) and Final EIS, conduct mandatory hearings on the staff's safety and environmental reviews, and issue adjudicatory decision(s), which are subject to Commission review.

Although the exemption allows AES to proceed with certain activities that are considered outside of NRC regulatory purview (they are not related to radiological health and safety or the common defense and security) before obtaining an NRC license to construct and operate the proposed EREF, the potential impacts of preconstruction were fully and accurately analyzed in detail, in Section 4.2 of the Draft EIS. In addition, other Federal agencies, the Shoshone-Bannock Tribes, and State and local government agencies have been consulted or otherwise contacted regarding these impacts and the other impacts of the proposed project, as required.

The Federal, State, and local agencies with jurisdiction over, or other interest in, the preconstruction activities, and the Shoshone-Bannock Tribes, have reviewed the Draft EIS and have raised no objections to the preconstruction exemption. By law, AES is required to obtain all other required Federal, State, and local permits and approvals in order to conduct preconstruction activities.

I.5.6 Nuclear Proliferation

Comment: The following comments relate to issues and concerns about proliferation and nuclear weapons development related to the uranium enrichment technology and enriched uranium product of the proposed EREF.

[015-17, Beatrice Brailsford; 191-24, Liz Woodruff] The NRC should produce an unclassified non-proliferation assessment for the Areva enrichment plant. To refuse to do so based on the fact that Areva intends to enrich uranium to no more than 5% misses an important point. Gas centrifuge uranium enrichment is a proliferable technology. A comparable case occurred in Idaho during the environmental evaluation of pyroprocessing. In that instance, no one was arguing that the DOE intended to recover pure plutonium. But, because pyroprocessing is a proliferable *technology,* the DOE produced a non-proliferation assessment as part of the final EIS on the *facility.*

[029-02, Richard Conner; 063-04, Martha Haga; 099-02, Brent Mathieu; 100-07, Wendy Matson; 112-02, Mark Menlove; 161-04, Marisa Smith; 199-02, Dina Bond; 200-02, Sean Campbell; 201-02, Giovanna Campos; 203-02, Danielle Dugge; 204-02, Susan Filkins; 207-02, Drew Harris; 208-02, Emily Harvey; 213-02, Darvel Jones; 214-02, Jacob King; 216-02, Beau Lee; 218-02, David Minick; 219-02, Neil Miyaoka; 220-02, Tim Naftzger; 221-02, Mike Perrington; 223-02, Mason Richens; 226-02, Jessica Toinga; 227-02, Joseph Voss] The draft EIS is inadequate and fails to address the fact that uranium enrichment is a technology used for proliferation. The NRC should produce an unclassified non-proliferation assessment for the EREF. To refuse to do so based on the fact that Areva intends to enrich uranium to no more than 5% misses an important point: Gas centrifuge uranium enrichment is a proliferable technology and precedents exist for nonproliferation assessments of proliferable technology whether the license allows for proliferation or not.

[044-01, Dennis Donnelly] I would point out that this section of considering alternatives assumes that it has to supply enriched uranium for national energy security; that is, they assume that this plant is going to be built, and it neglects the alternative of not building these plants.

I would point out that if you build this facility, it commits America, this is the unstated thing, it commits America essentially to a future that includes nuclear power, and all the nightmares associated with it. I would like to point out that there are other options that some of the nightmares would be a police state in our communities, where the Soviet Russians and the Germans that we already have that police state. These things are so dangerous that we're considering bombing Iran and the Israelis are considering bombing Iran for exactly the same facility. It's so dangerous. The reason is, of course, that you build this facility, and then you build the reactors, the reactors breed plutonium, plutonium can make weapons. You can't take that away once you've done it.

The police state is a terrible thing. The rest of it has to do with the threat of military attack on these facilities, on the plants. Nobody seems to address that all these atomic power plants are built above ground. Any kind of terrorist or military attack on any one of them can take out two states, that much area. We've seen Chernobyl. We know it can happen, and it has happened. Even accidents can take out a large area. Right now we have major problems still from Chernobyl, and everyone knows it.

I would like to point out there are alternatives that have not been considered, that I'd like to mention. A couple of weeks ago, there was an announcement in the "New York Times", and I followed it up, and yes, it's true, there was a study in North Carolina that concluded for the first time that new power plants in North Carolina were cheaper to build with solar power than with nuclear power. This is a major crossover point that should be considered. And you see there are none of the problems, there are no activation products, there are no fission products, there are no actinides, there is no pluming of unmanageable wastes that we're casting into the future for all of geologic time that require management and armies to manage them. None of the problems if you go with solar power, and with -- instead of nuclear power. And I would urge everyone to consider personally their own career options right now.

If we go ahead with this plant, we're committing to a future that dumps unmanageable problems, and a police state on the future of this country, and every country. Whereas, if we do the unspoken thing, let all our aging and outdated nuclear plants expire, and then use clean energy, non-carbon energy for the future, and not this totally toxic nuclear energy.

[050-14, Joanie Fauci] The last point I wish to have addressed in the EIS concerns the enriched uranium product. As this material has the potential to be used in nuclear weapons, I ask that the NRC make it a requirement of the license that the enriched uranium is not to leave US soil.

[061-01, Nancy Greco] I am very concerned about the possibility that Areva, a French owned company, can quite possibly put our country in danger by opening the way to nuclear weapon development.

[067-07, Mike Hart] With respect to proliferation, I am a member, or I was a member, of the Global Freeze Movement. I'm a member of Global Zero. I don't like nuclear weapons. I have concerns about proliferation, but not for this project. Uranium enrichment is going to occur throughout the world because there will be nuclear energy throughout the world. I would like to see that enrichment occur in the United States, and I think if there's any place the bad guys won't find enrichment technology, and proliferate nuclear technology to weapons it would be right here in Idaho Falls. I just don't see that technology escaping our backyard. So, I think with respect to proliferation, the NRC probably should give credit to this facility, because it will be contained, and by having proliferation -- by having enrichment here, there would be far fewer proliferation concerns for my part. I'd much rather have the global nuclear fuel cycle provided by the United States, even if we do export the fuel.

[071-02, David Hensel] A big concern I have with nuclear power is the risk of weapons proliferation. And I don't think the EIS does a very good job of addressing that. The Federation of American Scientists call, and I'm going to quote here, "Gas Centrifuge Uranium Enrichment an open road to a nuclear weapon." It is what they consider breakout technology, meaning that a plant that enriches uranium for nuclear power production can also be used to convert uranium

to a level rich enough to be used in a weapon. Once the feedstock has been raised to what you guys call a low-level of enrichment, you're more than halfway to the point of being able to produce weapons-grade uranium.

The gas centrifuge plants like AREVA is talking about using are definitely more efficient than the old methods, but they're also smaller, easier to hide. They do use less electricity and less water, which is a great thing, but it also means that it's more difficult to detect where they're being used, and where they're being used in a manner that's not appropriate. And I think Iran has come up several times, and it's going to be one of the flashpoints in the world, and it's all about this technology that we're discussing here. And I'm not worried about what's going to happen over here as far as producing nuclear-grade uranium. We have other ways of doing that, but I think we need to pay attention to our perception with the rest of the world. The United States, for better or worse is no longer the only big guy on the block. And if you look at the people that have nuclear weapons now, nuclear power generation was the path, whether they did it dangerously or not, to get to their nuclear weapons capabilities.…

One thing I would specifically like to ask you to do, I think you, the NRC, should produce an unclassified non-proliferation assessment for this plant. And I know that the talk has been well, the uranium is only going to be enriched to 5 percent, so it's not a proliferation risk, but that does miss the point. It's a proliferable technology. And a few years ago, a decade ago, or whatever, there was the pyroprocessing plant that the Department of Energy was going to build here. No one was saying that they were going to make weapons grade plutonium, but they did this assessment because the process that they were doing was a proliferable technology. And I really think that you should do this, and provide it in a non-classified manner, and provide that to the public.

[088-06, Stan Kidwell; 095-06, Linda Leeuwrik; 175-05, Ellen Thomas] Gas centrifuge uranium enrichment is a technology the Federation of American Scientists calls "an open road to a nuclear weapon." At the very least, the Nuclear Regulatory Commission must produce an unclassified proliferation assessment of Areva's plant.

[096-03, Arjun Makhijani] Finally, I would just remind you that there needs to be a non-proliferation section in this. The non-proliferation is dismissed by saying 5% uranium cannot be used to make weapons. This is completely correct, of course. But it has been the foreign policy of this country with respect to Iran that a commercial enrichment plant has a proliferation risk, even though they say, rightly or wrongly, which is a separate issue, that they're building a commercial plant for commercial purposes. It's different to build a commercial enrichment plant in a weapon state that's got surplus highly enriched uranium, completely different, but it has to be part of your analysis. You can't say -- you can't undermine US-Foreign policy by saying 5 percent enrichment plant is not a proliferation issue, because you can't make weapons with 5 percent enrichment. You change the valving arrangement in the enrichment plant, you can make 90 percent enriched uranium. And you know that, and I know that. You can't ignore this very critical problem in your haste to give a license, and undermine non-standing U.S. non-proliferation policy.

[098-05, Linda Martin; 098-14, Linda Martin] In addition, there is no evidence of any danger or threat of nuclear proliferation from the design, construction, or operation of the proposed facility.

[103-07, Karen McCall] A uranium enrichment plant can easily be converted into to making bombs. This is an unacceptable possibility for nuclear proliferation.

[108-01, John McMahon] • The USA spent $5+TRILLION on Nuclear Weapons and related technology since 1945. This is an astounding waste of our Nations' engineering skill and industrial capability!

The Obama administration apparently has already decided to enrich Uranium, something we may even go to war over (again!!) to prevent the Iranians from doing! This can only mean the US Congress will give its "blessing"(?) [The same "blessing" they gave to Custer and Generals Crook and Miles]. Only this time it will be to make new Nuclear Weapons.

- This is unacceptable in light of our having just recently re-negotiated the Strategic Arms Reduction Treaty (START) with Russia, et al.

- If the United States continues to enrich Uranium it does not need (or use) for Power production and nuclear weapons retrofits, or God forbid, "New" N-Weapons, then this is the height of fear mongering stupidity.

- This is not about our National Defense or our Energy Policy!

- It is irresponsible fiscal treachery! Taxpayers will revolt once they learn the true motives for the Eagle Rock Enrichment Facility!

Here in Idaho we can and will mount a campaign to unseat some or all of the Four Horsemen of the Apocalypse we send to the US Congress, especially since they are receiving heaps of filthy lucre from the special interests promoting the Areva boondoggle!

[131-05, Morty Prisament] Proliferation and Terrorism: The draft EIS fails to adequately address the fact that uranium enrichment is a technology used for proliferation. The NRC should produce an unclassified non-proliferation assessment for the EREF. To refuse to do so, based on the fact that Areva intends to enrich uranium to no more than 5%, misses an important point: Gas centrifuge uranium enrichment is a proliferable technology and precedents exist for non-proliferation assessments of proliferable technology, whether the license allows for proliferation or not. NRC is aware that enriching uranium from commercial to weapons-grade is hardly a formidable obstacle. In fact, the enrichment process becomes exponentially easier as levels of enrichment increase. Moreover, the new centrifuge technology essentially doubles this nuclear enrichment capability. These are the very issues that the U.S. is concerned about in the case of Iran's nuclear program. Absent a thorough analysis of proliferation and terrorism issues, the DEIS would be clearly inadequate.

[147-12, Joey Schueler] 8. Enriched Uranium is one of the critical components required for nuclear weapons: http://en.wikipedia.org/wiki/Enriched_uranium. Bringing this component to Idaho means an increased risk of terrorist threat and/or at least the assistance in nuclear proliferation.

16. This one's more personal, but my mom taught me to be a "lover not a fighter" and the product of this plant can be used to devastate entire civilizations (I say this on the 65th

anniversary of the bombing of Hiroshima and Nagasaki). We only just now sent a representative from the U.S. to stand with the Japanese people in remembrance to those hundreds of thousands of innocent civilians killed by this action. This is an important step in the United States diplomatic stance with the world. Why do we insist on undermining it by not practicing what we preach in regards to nuclear non-proliferation? In the words of a beautiful woman who made public comment at the EIS hearing who had been notified of her potential exposure to radiation by the government near the Hanford Nuclear Plant, “Such Hubris”. Can’t we find a better path? Is the money too good?

[168-05, Lon Stewart] If this is a similar type of enrichment plant that Iran has built, and the US is contemplating war over this issue, why would the US allow such a plant to be built on their shores? We are having enough problems world wide, why create more problems for ourselves. There are no huge benefits for the US in this venture. This does not sound good to me.

[175-06, Ellen Thomas] Areva’s plant would not increase US energy security or nonproliferation by providing a “domestic” source of enriched uranium. Areva is owned by the French government. The raw material for the plant would be imported. Some portion of its product would be exported.

[181-12, Roger Turner] The Draft EIS States that nuclear proliferation was dropped from the scope of this EIS:

In the case of nonproliferation, the intent of constructing and operating the EREF is to produce uranium enriched in uranium-235 up to approximately 5 weight percent for use in commercial nuclear reactors, as mentioned in Section 1.2. This level of enrichment is not sufficient to produce nuclear weapons. Nonproliferation is therefore out of scope.

The Non Proliferation Treaty (NPT) Signed by the U.S. and 188 other countries, provides, among other thing, that members will: Provide assurance through the application of international safeguards that peaceful nuclear energy in NNWS will not be diverted to nuclear weapons or other nuclear explosive devices. The centrifuge technology violates this agreement. The NPT is an indispensable legal and political instrument in preventing further proliferation of nuclear weapons. In the absence of the NPT, many other countries might well acquire nuclear weapons. Without the NPT safeguards requirements, monitoring and inspections of nuclear materials and facilities in non-nuclear weapon states would be significantly weakened.

Although the 5% level of enrichment is not sufficient to produce nuclear weapons, the simple addition of more centrifuge units, or a re-arrangement of the cascade system, may render such a facility capable of producing weapons-grade Uranium. Consequently, the draft EIS erred in not addressing the proliferation potential of this project. The Treaty on the Non-Proliferation of Nuclear Weapons, also Nuclear Non-Proliferation Treaty (NPT or NNPT) is a treaty to limit the spread (proliferation) of nuclear weapons. The treaty came into force in1970, and currently there are 189 states party to the treaty, five of which are recognized as nuclear weapon states: the United States, Russia, the United Kingdom, France, and China. Four nonparties to the treaty are known or believed to possess nuclear weapons.

Monitoring and verification is very important under the Treaty and it would be improbable that the U.S. or the International Atomic Energy Agency (IAEA) could count the centrifuge units or

the analyze the way that a facility would carry out repeating cycles through the centrifuge units to achieve weapons grade Uranium.

Consequently, the issue of enrichment through the centrifuge method, must be reviewed and added to the EIS review. The NRC is obligated through NEPA to review the proliferation risks of this technology, and it violates the principles of the Treaty, be dropped from the alternatives. If the project is approved at all, the EIS should review other technologies that eliminate the proliferation threat that this one poses.

[184-09, Kitty Vincent] Given this information, the Alliance believes the NRC should produce an unclassified non-proliferation assessment for EREF. To refuse to do so based on the fact that Areva intends to enrich uranium to no more than 5% misses an important point: Gas centrifuge uranium enrichment is a proliferable technology. A comparable case occurred in Idaho during the environmental evaluation of pyroprocessing. In that instance, no one was arguing that the DOE intended to recover pure plutonium. But because pyroprocessing is a proliferable *technology,* the DOE produced a non-proliferation assessment as part of the final EIS on the *facility.*

[192-15, Lisa Young] Indeed, I hope to see a nonproliferation assessment devised to address the fact that this plant will have the technology and the capability to enrich the uranium hexafluoride to *beyond* the indicated 5%, posing an unacceptable proliferation risk (this is not *at all* assuming that AREVA or America or any other party would assuredly *proceed* with this process, but is merely recognizing the fact that this risk *exists* and because the consequences of such a risk are so extremely significant, the least that needs to be done is a formal assessment of the situation).

[193-16, Liz Woodruff] But the NRC should produce an unclassified nonproliferation assessment for the EREF, because gas centrifuge uranium enrichment is a proliferation technology. A comparable case occurred in Idaho during the environmental evaluation of pyroprocessing.

In that instance, no one was arguing that the DOE intended to recover pure plutonium, but because pyroprocessing is a proliferable technology, the DOE produced a nonproliferation assessment as part of the final EIS on the facility. And we are asking that the NRC include a nonproliferation assessment on this facility as well. Why? This is a demonstration of the rapidity with which you can move from the generation of fuel for power reactors to fuel for weapons, a key ingredient in weapons.

Each one of these rows is a cascade. Each one of these bars is a centrifuge, those big things they use to enrich the uranium; right?

So you need 24 cascades to enrich uranium to fuel grade, and you can see as we go in a linear fashion toward, you need two cascades to get it to weapons grade.

In other words, it's incredibly efficient technology for producing material that's a key ingredient in nuclear weapons, and this underscores the point of why a nonproliferation assessment must be included in the EIS, and is currently lacking.

Response: *In response to the above comments, the NRC staff provides the excerpt below from an August 25, 2010, letter from Chairman Gregory B. Jaczko of the NRC to the Honorable John M. Spratt, Jr., Congressman, U.S. House of Representatives (NRC, 2010d). This letter was in response to Congressman Spratt's June 30, 2010, letter (Spratt et al., 2010) in which he requested that the NRC conduct a nuclear nonproliferation assessment as part of the review of license applications for new nuclear technologies.*

> *"The NRC has adopted a comprehensive regulatory infrastructure and implements an integrated set of activities directed against the unauthorized disclosure of information and technology considered important to common defense and security and the diversion of nuclear materials inimical to public health and safety and the common defense and security. The NRC's key regulations in this area (10 CFR Parts 73, 74, and 95) provide comprehensive requirements governing the control of, and access to, information, physical security of materials and facilities, and material control and accounting. Other NRC regulatory requirements are directed at preventing unauthorized disclosure of classified information, safeguards information (SGI), and sensitive unclassified nonsafeguards information. As appropriate, the NRC may supplement these requirements by order consistent with its statutory obligation to protect the common defense and security and public health and safety.*
>
> *"Beyond the NRC's regulations, uranium enrichment facility licensees have voluntarily committed to implement additional measures to protect information associated with classified enrichment technologies. The Nuclear Energy Institute developed a guidance document for the enrichment facility licensees and certificate holders which the NRC staff has endorsed. Licensees are now implementing these additional measures and incorporating their commitments in their site security plans. These additional measures and commitments become part of their licensing basis. In addition, the staff is working with other agencies to provide additional Federal involvement in protecting uranium enrichment technologies and establishing information protection measures.*
>
> *"Given the NRC's comprehensive regulatory framework, ongoing oversight, and active interagency cooperation, it is the NRC's current view that a formal nuclear nonproliferation assessment would not provide any additional benefit to protection of the common defense and security....*
>
> *"I want to assure you that the NRC takes your concerns very seriously and that we will continue to regulate nuclear materials and sensitive technology to ensure protection of public health and safety and the environment, promotion of the common defense and security, and fulfillment of U.S. obligations for nonproliferation and international agreements."*

I.5.7 Alternatives Considered but Eliminated

Comment: The following comments suggest that the proposed action is unnecessary because the current U.S. program to purchase and downblend Russian highly enriched uranium could be extended.

[096-04, Arjun Makhijani] Alternatives are not considered. This is also not in conformity with the National Environmental Policy Act. You've eliminated alternative by fiat, saying we're not going to have down blending of surplus HEU …

[147-18, Joey Schueler] 14. The United States currently purchases enriched Uranium from Russia for use in the few facilities it does have. While this may sound negative at the outset, we are actually aiding Russia in downsizing its nuclear arsenal, which only further secures the United States due to the instability of such a vast arsenal of weapons that could be sold on the black market to terrorists or foreign Para-military groups. Enriching our own Uranium devalues this peace seeking process and results in excessive storage of a highly toxic chemical on our soil.

[131-03, Morty Prisament] Need for Action: The DEIS has not established a "need" for this action, as required under NEPA. Need is required to be discussed in specific, quantitative, terms and within the scope of global production and markets. there exists a competitive global market to provide enriched uranium. Russia (CIS) has been one of the leading suppliers of enriched U2. If there is a national security rationale for building such facilities in the U.S., the EIS needs to discuss and document such an assertion. Moreover, the document needs to explore the reasons why the supply of enriched U2 from nuclear weapons decommissioning could not meet projected demand for enriched U2.

[148-02, Eric Schuler] But there's a bigger issue here. Before we can ask whether the impact will be small or devastating, we need to ask why we're making an impact at all. This question is paramount, but the draft EIS failed to provide a convincing answer. The EIS claims that the EREF needs to be build to improve national security. For this to be a legitimate need, however, the U.S.'s supply of enriched uranium would have to be unreliable currently. This is not the case.

The U.S.'s enriched uranium sources are reliable partners and the U.S. even seems to tacitly acknowledge this fact, when it states that some of the enriched uranium will be exported to foreign countries. Even so, it is useful to evaluate the sources more fully, just to understand just how unnecessary this facility is.

Now we've heard earlier that 90 percent of our enriched uranium is imported, and about half of that is from Russia, and we've also heard that uranium enrichment is a necessary technology because we need nuclear power to deal with global warming.

However, strictly speaking, that's not true, as a great example of that is the megatons to megawatts program that we operate with Russia. This is an agreement between Russia and the U.S. where by Russian nuclear warheads are downblended to make fuel grade uranium, and thus, since we have an abundant supply of warheads, is a very bountiful source of this enrichment – or of enriched uranium. Moreover, this program diminishes the threat of proliferation and prevents the environmental degradation associated with continued mining.

In other words, it's beneficial in many ways, and it's been existing for several years and there is no reason to expect that it would not be renewed in the future.

The other enriched uranium sources are also reliable. Although much of the enriched uranium is, indeed, imported, this fact alone does not indicate instability. We live in an age of globalization and there is no international market for enriched uranium. Credit counseling with a comparative advantage in the production of enriched uranium, whether because they have highly-accessible reserves, low-cost labor in Africa, or other factors, will specialize in producing enriched uranium while the U.S. focuses its resources in other areas, like agriculture.

Our reliance on this market is not a sign of weakness or vulnerability, but a sign of efficiency. Energy independence is an outdated idea, is one that is not based on security or patriotism, but of ignorance.

The current system works, and has worked for several years. The entire project that we are discussing here tonight is predicated on the assertion that it will provide national energy security with respect to enriched uranium.

The fact of the matter is that this security already exists and the EREF facility is not necessary, and if the benefits stated in this proposal do not exist, no amount of environmental impact is tolerable, and this facility cannot be licensed.

[181-13, Roger Turner] Add Alternative to extend the Megatons to Megawatts Program in order to supply the U.S. with enriched Uranium. The EIS should re-evaluate interest by the U.S. to extending the Megatons to Megawatts program in order to obtain enriched uranium. The EIS should re-evaluate the possibility of receiving other Foreign supplies of enriched uranium to supply the U.S. needs.

Response: *Downblending of Russian highly enriched uranium under the Megatons to Megawatts Program is an issue of national energy policy and is set to expire in 2013, as discussed in Sections 1.3.1, 2.2, and 2.3.2.2 of the EIS. As such, this alternative does not fulfill the need for the proposed action because it does not meet the objective of developing a reliable domestic source of low enriched uranium to fulfill electricity generation requirements. Therefore, it is not considered a viable alternative to enriched uranium from the proposed EREF and, therefore, was eliminated from further consideration in the EIS.*

I.5.8 Land Use

Comment: The following comment expresses concern that farm land would be lost if the proposed EREF project goes forward.

[036-07, Christina Cutler, on behalf of the Shoshone-Bannock Tribes] Also the loss of farm land needs to be addressed. Loss of farm is and will continue to be an issue in this country, we need to address the impact that loss has and how AREVA plans to mitigate the loss.

Response: *As stated in Section 4.2.1.1, approximately 202 hectares (500 acres) of farm land would be lost due to construction and operation of the proposed EREF. The impacts of this loss would be SMALL because that area constitutes approximately 0.25 percent of the land currently cultivated in Bonneville County. In addition, the current zoning for the area is compatible with the use for which the proposed EREF is intended.*

Comment: The following comment expresses concern about the likely, permanent loss of BLM-managed public land to wildlife and to wildlife-related recreation access due to the construction and operation of the proposed project

[089-06, Sharon Kiefer, on behalf of the Idaho Department of Fish and Game] Loss of Public Lands to Public Access - The Department remains concerned about the likely, permanent loss of public land to wildlife and to wildlife-related recreation access due to the construction and operation of the proposed project. There is a BLM owned and managed parcel of land entirely within the property boundary. Concerns regarding the loss of this parcel from wildlife-related recreation and BLM management could be mitigated by the project proponent exchanging a similar acreage outside the project area to be managed by BLM for multiple uses including wildlife habitat and wildlife-related recreation. We are willing to work with AES and other parties to pursue a solution but do not believe delay of the DEIS process and facility consideration is necessary to address this issue.

Response: *Development of the proposed EREF would not alter the current situation on the BLM-owned parcel of land, and BLM's access to this land will be unaltered (AES, 2010a). No licensed activities will occur on the parcel.*

Comment: The following comment adds clarity to the nature of recreational impacts to the Hell's Half Acre Wilderness Study Area (WSA).

[140-02, Wendy Reynolds, on behalf of the Bureau of Land Management, Upper Snake Field Office] 2) While the BLM has commented on the reduction of the visual quality of the area as a result of the construction and operation of the facility (Boggs, 2010), the BLM would like to add clarity to the nature of recreational impacts as it concerns the Hell's Half Acre WSA. First, the camping area described in the DEIS is not within the WSA itself. The proposed facility would be seen from this area (particularly at night), however, so from a recreational standpoint a more appropriate impact analysis might read, for example, "The construction and operation of the proposed facility would reduce the quality of the recreational experience for campers at the Hell's Half Acre trailhead."

Response: *The NRC appreciates the clarification and has modified the text accordingly in Section 4.2.3.2 of the EIS.*

Comment: The following comment relates to Bonneville County's appraisal of the quality of the farmland at the proposed EREF site and vicinity.

[152-05, Steven Serr] Issues were brought up, which I don't remember in particular were addressed, as to the viability of the area out there as being a prime agricultural area. It is a desert that we're irrigating and farming. A good portion of this site is not farmed.

Some of the facility will be on irrigated acreage. We have farms out on the west side that are shutting down, and reverting back to natural habitat. Issues of suitability for that agricultural use because of high-life pumping and that. So we don't consider it to be an extreme prime agricultural area that far out. Closer in, lower depths, it would be more prime.

Response: *It is acknowledged in Section 3.2.1 of the EIS that some prime farmland is found on the proposed EREF property. However, the proposed EREF is sited in an area with county zoning consistent with AES's intended operations. As discussed in Section 4.2.1, and as noted in the comment, this area is not considered a prime agricultural area.*

Comment: The following comments note the suitability of the location of the proposed EREF site, including with respect to Bonneville County's comprehensive plan and zoning rules and regulations.

[133-05, Richard Provencher] The land where the facility is being located is baron with virtually no other viable use other than farming, however, there are thousands of acres in this area that are also not being used for farming.

[135-04, Hon. Dave Radford] Being a political subdivision of the State of Idaho, Bonneville County adopted a comprehensive plan that included located nuclear growth west of -- on the western side of -- Bonneville County, so we think that will help expedite the process. We, as the commission, agree with the Environmental Impact Statement's conclusion.

[152-03, Steven Serr] As far as compliance with zoning rules and regulations, that area was designed specifically for this type of facility. It's not designed to have other uses out there that could be impacted by those uses.

[152-09, Steven Serr] I wanted to address the issue as to the suitability of this property for development of that site. Again, as the Commissioner mentioned earlier, this area has been zoned and designated for this type of use. It's been planned that it could accommodate this type of operation since 1960. So, it's been a long-designated piece of property, tract of land out there for this type of use.

I approach this as an enforcement site for any facility that's built in the county. Our concern in the county is making sure that things are built to code, built complaint, built safe, protect public health, safety, and welfare. My office, we are responsible for enforcement of the building code, the fire code, mechanical code, flood plain rules and regulations, and we have addressed most of these issues with AREVA. We've made modifications for some of their design issues on what they contemplate doing to try to mitigate, and make sure that the operation that they're proposing out there will be a safe compliant operation.

Response: *The NRC appreciates the confirmation of the information presented in Section 3.2.1 that the zoning of the area where the proposed EREF is to be located is compatible with the intended use of the site.*

Comment: The following comments suggest that the Federal Farmland Protection Policy Act (FPPA) applies to this EIS and to the proposed EREF project.

[013-02, Kit Blackburn; 063-03, Martha Haga; 093-02, Louis Landry; 109-02, Eugene McVey; 120-07, Frank Nicholson; 121-02, Jennifer Nordstrom] Additionally, the draft EIS may not be in compliance with the Federal Farmland Protection Act. The EIS claims that the

licensing of this facility is exempt from the Farmland Protection Act since the site is on private property (EIS, 3-3). But because Areva has accepted a $2 billion federal loan guarantee from the Department of Energy, the Federal Farmland Protection Act applies to this license and the required procedures under the Act must be completed prior to licensing.

[015-21, Beatrice Brailsford; 088-09, Stan Kidwell; 122-05, Kathy O'Brien; 175-07, Ellen Thomas] The NRC should address both Areva's failure to comply with the Federal Farmland Protection Act and its own failure to fully analyze the environmental effects of a large range fire at the Areva site.

[095-09, Linda Leeuwrik] The NRC should address both Areva's failure to comply with the Federal Farmland Protection Act and its own failure to fully analyze the environmental effects of a large range fire at the Areva site.

[118-03, Caroline Morris] The draft EIS also may not comply with the Federal Farmland Protection Act (Act), which applies because Areva has a $2 billion federal loan guarantee from the Department of Energy. The EIS claim of being exempt from the Act because the EREF site is on private property is wrong. Areva's licensing must comply with the Act and its procedural requirements before licensing.

[127-02, Sheila Plowman] Also, The NRC should address both Areva's failure to comply with the Federal Farmland Protection Act and its own failure to fully analyze the environmental effects of a large range fire at the Areva site.

[153-01, Andrea Shipley; 197-01, Andrea Shipley, on behalf of the Snake River Alliance] Areva's proposed uranium enrichment factory will…utilize farmland that is potentially protected by the Federal government.

[153-12, Andrea Shipley; 184-17, Kitty Vincent] Further, The EIS may not be in compliance with the Federal Farmland Protection Act. The EIS claims that the licensing of this facility is exempt from the Farmland Protection Act since the site is on private property (EIS, 3-3). But because Areva has accepted a $2 billion federal loan guarantee from the Department of Energy, the Federal Farmland Protection Act applies to this license and the required procedures under the Act must be completed prior to licensing.

[184-07, Kitty Vincent] Areva's proposed Eagle Rock Enrichment Facility (EREF) will…obliterate farmland that is potentially protected by the federal government.

[191-02, Liz Woodruff] But I did want to provide further details on one aspect of the testimony that I gave in Idaho, and that has to do with the fact that the DEIS may not be in compliance with the Federal Farmland Protection Act. The EIS claims that the licensing of this facility is exempt from the Farmland Protection Act, since the site is on private property. To quote the Draft EIS, "Some of the land located within the proposed property was designated as prime farmland by the U.S. Natural Resource Conservation Service. This is a federal designation. Prime farmland is protected by the Federal Farmland Protection Policy Act. The intent of this act is to protect prime farmland from other uses as the result of federal actions." I'm still quoting from the EIS. "The act does not apply to federally permitted or licensed actions of private lands,

therefore, the act and its designation as prime farmland do not restrict land use on the proposed EREF property." And this is from EIS 3-3.

So, from information the Alliance gathered from the Idaho State USDS we confirmed that because AREVA has accepted a $2 billion federal loan guarantee, and this is a form of financial insurance from the federal government with your taxpayer dollars, AREVA has even been quoted as saying without access to this cheap capital, they would not build this facility in the U.S., so this is clearly a form of financing. That the Federal Farmland Protection Act absolutely applies to this license, and when the NRC consulted with the USDA in Idaho, they did not share the information with that agency that there would be a loan guarantee. Perhaps it was not known at that time, but it is known now.

Specifically, from 7 CFR, Section 258.2, "Federal program means those activities are responsibilities of a federal agency that involve undertaking financing or assisting construction, or improvements projects, or acquiring, managing, or disposing of the federal lands and facilities." So, simply put, this loan guarantee changes the game. And this isn't a claim that you can't license the facility, this is a claim that you absolutely must go through the processes that fall under the Federal Farmland Protection Act. It would be unacceptable to do otherwise.

[191-20, Liz Woodruff] • The EIS may not be in compliance with the Federal Farmland Protection Act. The EIS claims that the licensing of this facility is exempt from the Farmland Protection Act since the site is on private property. To quote the draft EIS:

"Some of the land located within the proposed property was designated as prime farmland by the U.S. Natural Resources Conservation Service (NRCS). Prime farmland is protected by the Federal Farmland Protection Policy Act (see Title 7of the U.S. Code of Federal Regulations (7 CFR 658.2). Per 7 CFR 658.2 (c)(1)(i), the intent of this Act is to protect prime farmland from other uses as the result of Federal actions. The Act does not apply to Federally permitted or licensed actions on private lands. Therefore, the Act and its designation as prime farmland do not restrict land use on the proposed EREF property" (EIS, 3-3).

From information gathered from the Idaho State USDA, I've confirmed that because Areva has accepted a $2 billion federal loan guarantee from the Department of Energy, the Federal Farmland Protection Act likely applies to this license and the required procedures under the Act must be completed prior to licensing. From 7 CFR Section 258.2 (c):

"Federal program means those activities or responsibilities of a Federal agency that involve undertaking, financing, or assisting construction or improvement projects or acquiring, managing, or disposing of Federal lands and facilities."

[193-21, Liz Woodruff, on behalf of the Snake River Alliance] My next point is that this Environmental Impact Statement and the proposed licensing is potentially in violation of the Farmland Protection Act. The EIS claims that this facility is exempt from the Farmland Protection Act since the site is on private property.

So a red flag went off for me when I read this in the EIS, and so I called the relevant agencies, federally, and in the state, and I was told that because AREVA accepted a $2 billion federal loan

guarantee from the Department of Energy, the Farmland Protection Act applies, because it's a federally-funded project.

The NRC must go back, review this section of the EIS, talk to the relevant agencies, discuss the issues around this huge Department of Energy loan, and go through the process and procedures necessary to determine that you're in compliance with the Farmland Protection Act. This is on Prime A age farmland that they're proposing for this facility.

[197-12, Andrea Shipley, on behalf of the Snake River Alliance] Further, the EIS may not be in compliance with the Federal Farmland Protection Act.

Response: *The FPPA is discussed in Section 3.2.1 of the EIS. As stated in the Draft EIS, it is correct that the FPPA does not apply to Federally permitted or licensed actions on private lands (including the potential licensing by the NRC of the proposed EREF) (7 CFR 658.2 (c)(1)(i)). However, the text of Section 3.2.1 has been modified to acknowledge that the DOE, in issuing a Federal loan guarantee to AES, is required by the FPPA to assess the project's effect on the prime farmland that would be converted on the proposed EREF site.*

I.5.9 Historic and Cultural Resources

Comment: The following comment asks the NRC to incorporate design features in the proposed EREF project to minimize impacts to cultural resources and to prepare a plan to mitigate for impacts that cannot be avoided or minimized.

[027-22, Sara Cohn] *Avoid, Minimize, Mitigate:* In terms of priorities, the NRC should first site facilities and infrastructure to avoid impacts to wildlife and cultural resources. If impacts cannot be entirely avoided, the NRC should incorporate design features to minimize impacts. Lastly, a plan should be prepared to mitigate for impacts that cannot be avoided or minimized.

Response: *The siting of a uranium enrichment facility involves a number of requirements, as discussed in Section 2.3.1 of the EIS. Environmental protection and land use/demography were two of the criteria categories used. Mitigation measures identified by AES to minimize impacts to cultural resources during preconstruction, construction, and operation of the proposed EREF are presented in Section 4.2.2.3 and Chapter 5. Further, procedures to address unexpected discoveries in the case of cultural resources have been put in place, as mentioned in Section 4.2.2.3.*

The NRC's action with regard to the proposed EREF project is limited to granting a license, if found to be warranted, for the construction, operation, and decommissioning of the proposed facility. NRC is not the implementer or funding entity for the proposed activity. As a result, NRC generally limits its analysis to the alternatives and actions reasonably available to the applicant.

When NRC reviews a proposed action, its ability to impose additional requirements and environmental mitigation and monitoring measures beyond those proposed as part of the license application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the proposed facility be built in accordance with the submitted application, including mitigation and monitoring measures proposed by the applicant that are not specifically required

by or directly related to NRC's regulations. Thus, the NRC does have the ability to hold licensees to key mitigation and monitoring measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comment states that mitigation of impacts to aboriginal and ceded areas, and to water, soil, plants, animals and air, need to be addressed in the EIS.

[036-06, Christina Cutler, on behalf of the Shoshone-Bannock Tribes] Mitigation of impacts to aboriginal and ceded areas needs to be addressed. Mitigation issues regarding environmental impacts to water, soil, plants, animals and air.

Response: *Mitigation measures identified by AES to minimize impacts during preconstruction, construction, and operation of the proposed EREF are presented in Section 4.2 and Chapter 5 of the EIS for all resource areas as applicable. Further, procedures to address unexpected discoveries in the case of cultural resources have been put in place, as mentioned in Section 4.2.2.3.*

Comment: The following comment suggests that mitigation for all culturally sensitive items needs to be done.

[036-08, Christina Cutler, on behalf of the Shoshone-Bannock Tribes] Mitigation for all culturally sensitive items needs to be done. It is my understanding that since AREVA is required to follow the NEPA process we can request mitigation for all of our concerns.

Response: *All known impacts on historic and cultural resources, as discussed in Section 4.2 of the EIS, will be mitigated by AES.*

Comment: The following comment relates to a Memorandum of Agreement between the Idaho State Historic Preservation Office (SHPO) and the NRC to resolve the effects on site MW004.

[126-01, Susan Pengilly, on behalf of the Idaho State Historic Preservation Office] Our only recommendation is to add a statement saying that effects on site MW004 will be resolved through a Memorandum of Agreement (MOA) between the NRC and the Idaho SHPO (assuming that the Advisory Council on Historic Preservation does not want to be a signatory). This statement should be added somewhere in Section 4.2.2, perhaps in the paragraphs bounded by lines 13-24.

Also, please be aware that the MOA needs to be signed *before* the ROD is issued to ensure compliance with Section 106. This has been a problem in the past with other Federal projects, and the Advisory Council has made it very clear that the MOA needs to be finalized before issuance of the ROD.

Response: *The most recent information of the consultations between the NRC, SHPO, and Federally recognized Shoshone-Bannock Tribes concerning impacts on historic and cultural resources has been added to Section 4.2.2.1 of the EIS.*

Comment: The following comment requests notification of the Heritage Tribal Officer of the Shoshone-Bannock Tribes of any inadvertent cultural or archaeological discoveries, and training of EREF site workers in cultural resources regulations and laws.

[129-03, Willie Preacher, on behalf of the Shoshone-Bannock Tribes] Regarding cultural issues the tribes would like to have the Heritage Tribal Office (HeTO) to be a part of the cultural surveys of this proposed site and to be notified of any inadvertent cultural or archaeological discoveries. Also inform the contractors who may be utilized for the construction of the facility and for the permanent employees of the cultural regulations and federal laws concerning artifacts, retrieving and removing historic items, The INL who is a neighbor to this proposed site has experienced decades of this type of behavior.

Response: *An inadvertent (unanticipated) discovery plan has been developed by AES for the proposed EREF project and is discussed in Section 4.2.2.1 of the EIS. Pre-project training of workers in cultural resources legislation and rules is identified as a mitigation measure in Section 4.2.2.3 and Chapter 5 of the EIS.*

Comment: The following comment states that the Final EIS should discuss both (1) how issues raised by tribes would be addressed by the project and (2) the outcomes of ongoing work with the Idaho SHPO and affected tribes on potential effects requiring Section 106 review of the *National Historic Preservation Act*.

[138-08, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] Consultation with Tribal Governments - The draft EIS indicates that there have been contacts with Tribes that may be affected by the proposed project. This is especially important because the DEIS states that the project would result in up to large impacts to resources important to tribes (p. 4-4)**,** including historical and cultural, visual, and ecological resources. Construction activities, for example, would destroy historic and cultural resources at MW004 site, while increased traffic and construction activities and the presence of an industrial complex would significantly alter the visual landscape. Because of these and other impacts that may be discovered during the project operations, we recommend that the final EIS include a discussion of how issues raised by Tribes would be addressed by the project and outcomes of the ongoing work with the Idaho State Historic Preservation Office and affected Tribes on potential effects requiring Section 106 review of the National Historic Preservation Act.

Response: *Consultation with the SHPO and the affected Federally recognized Shoshone-Bannock Tribes has been ongoing throughout the EIS process. The information on the status of these consultations in Sections 1.5.4.2 and 4.2.2 of the EIS has been updated. An updated discussion of the impacts on specific cultural resources is also presented in Section 4.2.2.*

Comment: The following comments were expressed over the destruction of the John Leopard Homestead (site MW004).

[135-04, Hon. Dave Radford] Historically, I serve on the Heritage Commission. I think history is important, that homestead, I think, could be mitigated out there. Historically, Bonneville County, my predecessors at the County Commission, took very limited resources in terms of property

tax dollars and invested them in improved roads to get out to the site 60 years ago. So, historically, we've been a nuclear-friendly county, and I believe that it will continue. And we applaud your work, we respect your work, and we hope for a great outcome for an expedited license for AREVA.

[147-15, Joey Schueler] 11. A historical landmark and a vast expanse of Idaho native habitat will be destroyed to build this plant.

[153-01, Andrea Shipley; 197-01, Andrea Shipley, on behalf of the Snake River Alliance; 184-07, Kitty Vincent] Areva's proposed uranium enrichment factory will…support destruction of the John Leopard homestead which has been recommended for the National Register of Historic Places

[191-23, Liz Woodruff] Construction of the facility would lead to the destruction of a site that has been recommended for the National Register of Historic Places. The John Leopard homestead (MW004), would be destroyed in preconstruction activity. A Memorandum of Understanding must be signed with the Idaho State Historic Preservation Office before any activity is initiated that would affect this historic site.

[193-24, Liz Woodruff, on behalf of the Snake River Alliance] Areva's proposed Eagle Rock enrichment facility will…impair a national monument in Idaho, and support destruction of a historic site….

Response: *Impacts on historic and cultural resources are discussed in Section 4.2.2 of the EIS. The NRC has been in involved in consultation with the Idaho SHPO concerning the impacts on the John Leopard Homestead (site MW004) throughout the EIS process. The discussion of the consultation and mitigation efforts in Section 4.2.2 has been updated.*

AES archaeological consultant, Western Cultural Resource Management, Inc. (WCRM), conducted professional excavation and data recovery as mitigation site MW004 in October–November 2010 following the process identified in a Treatment Plan previously reviewed by the Idaho SHPO (Idaho SHPO, 2010). WCRM submitted a summary report on these data recovery efforts to the Idaho SHPO on November 17, 2010 (WCRM, 2010). In a letter dated November 26, 2010, the SHPO stated that the data recovery report had been reviewed and accepted (Idaho SHPO, 2010). A detailed report on the site MW004 mitigation is being prepared by AES.

I.5.10 Visual and Scenic Resources

Comment: The following comment states that the Final EIS should include a discussion of how issues such as visual impacts raised by tribes would be addressed by the project.

[138-08, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] Consultation with Tribal Governments - The draft EIS indicates that there have been contacts with Tribes that may be affected by the proposed project. This is especially important because the DEIS states that the project would result in up to large impacts to resources important to tribes (p. 4-4), including historical and cultural, visual, and ecological

resources. Construction activities, for example, would destroy historic and cultural resources at MW004 site, while increased traffic and construction activities and the presence of an industrial complex would significantly alter the visual landscape. Because of these and other impacts that may be discovered during the project operations, we recommend that the final EIS include a discussion of how issues raised by Tribes would be addressed by the project and outcomes of the ongoing work with the Idaho State Historic Preservation Office and affected Tribes on potential effects requiring Section 106 review of the National Historic Preservation Act.

Response: *Consultation with the SHPO and the affected Federally recognized Shoshone-Bannock Tribes has been ongoing throughout the EIS process. The visual impacts associated with the project are discussed in Section 4.2.3 of the EIS.*

Comment: The following comment relates to mitigation measures for visual impacts from the proposed EREF.

[152-13, Steven Serr] There was discussion as far as potential moderate impact on the facility that it could create a visual impact on site. One of the very early things we discussed with AREVA when they looked at the site was the potential for location on the site to keep it back from visual appearances to the public, and also discussing what landscaping features might be incorporated into it to even buffer it, to mitigate any visual impacts. We discussed lighting issues, treescape, approach roads, and we feel that before this project would fully be built, that we would have some approved mitigation plans to help eliminate any of those visual impacts, so we could take that down from a moderate impact to a slight impact.

Response: *The NRC recognizes the ongoing consultations between AES and Bonneville County regarding the construction and operation of the proposed EREF. Visual impact mitigation measures that AES has identified are presented in Section 4.2.3.3 and Chapter 5 of the EIS.*

Comment: The following comment relates to impacts on the wilderness values of Hell's Half Acre WSA due to construction and operation of the proposed EREF.

[140-03, Wendy Reynolds, on behalf of the Bureau of Land Management, Upper Snake Field Office] Second, Mr. Boggs indicates that the proposed facilities would be seen from certain areas of the Hell's Half Acre WSA (particularly from the northern end of the hiking trail). Because these areas are within the WSA itself, there would be adverse impact on wilderness values associated with the implementation of the proposed action. The analysis in this case could read, for instance, "The construction and operation of the proposed facility would have an adverse impact on wilderness values because opportunities for solitude would be reduced due to the facility being within sight of users of certain areas of the WSA. The impact would be greatest at night when artificial lighting is in use". The BLM agrees with the characterization of these impacts as MODERATE.

Response: *The NRC appreciates the clarification and has modified the text of Section 4.2.3.2 of the EIS accordingly.*

Comment: The following comments relate to the impacts of light pollution on Hell's Half Acre WSA.

[067-01, Mike Hart] With respect to what I view as the public's best interest, first, I thank you for the analysis. Looking through the EIS, Section 4.2.3, you analyze visual impacts which include light pollution. As an astronomer, we use the area, Hell's Half Acre, for astronomy parties. We use that because it's a good dark sky location that's relatively convenient. The EIS doesn't specifically mention that, but in mitigation, it does identify that there will be low – or the lights will be pointed downwards, and I would appreciate further mitigations to acknowledge that the sky should be kept as dark as possible. Possibly for security, if you could use infrared technology or something that doesn't require high light levels that would very much be appreciated.

[067-08, Mike Hart] With respect to environmental impacts, I'd like to thank the NRC for listening to my scoping comments about light pollution. This facility is located near 20 Mile Rock, as we call it, or the lava hiking trail. We use that for star parties. If you go out tonight, it's the Perseid Meteor Shower peak. This would be a great time to visit a dark sky 20 miles from town. You can get away from the city lights. I hope this facility continues to be pursued, but with the idea of keeping those lights to a minimum and keep that dark sky, preserve that resource.

Response: *AES has stated that light noise will be minimized to the extent practicable and that all perimeter lights would be downfacing (AES, 2010a), as discussed in Section 4.2.3.3 and Chapter 5 of the EIS.*

Comment: The following comments noted that the proposed EREF could have impacts to Hell's Half Acre WSA.

[153-01, Andrea Shipley] Areva's proposed uranium enrichment factory will…impact the Hell's Half Acre National Monument

[184-07, Kitty Vincent] Areva's proposed Eagle Rock Enrichment Facility (EREF) will…impair the Hell's Half Acre National Monument

[191-32, Liz Woodruff] Visual and scenic resources. The proposed facility will have a visual impact on the Hell's Half Acre National Monument.

[193-24, Liz Woodruff, on behalf of the Snake River Alliance] AREVA's proposed Eagle Rock enrichment facility will…impair a national monument in Idaho….

Response: *Visual impacts on Hell's Half Acre WSA from the construction and operation of the proposed EREF are discussed in Section 4.2.3 of the EIS. AES has identified a number of measures to mitigate these impacts, as presented in Section 4.2.3.2 and Chapter 5 of the EIS.*

I.5.11 Air Quality

Comment: The following comment expresses concern about the potential release from the proposed EREF of radioactive, hazardous, and toxic materials into the air.

[027-13, Sara Cohn] The ICL is very concerned about the potential release of radioactive, hazardous and toxic materials into the air. Potential air releases associated with operation of this facility should be further analyzed, reported, and permitted though Idaho's Department of Environmental Quality.

Response: *Potential emissions of criteria pollutants and hazardous air pollutants during facility operation are analyzed in Section 4.2.4.2 of the EIS. Potential radiological releases during facility operation are analyzed in Section 4.2.10.2. The license that would be issued to AES by NRC, if granted, would not exempt AES from its obligation to comply with other applicable Federal, State, and local regulations or requirements, as noted in Section 1.5 of the EIS. Under Idaho State regulations, AES would have to satisfy all air quality regulatory and permitting requirements that may be enforced by the IDEQ.*

Comment: The following comment deals with mitigation of air pollution resulting from construction of the proposed EREF.

[027-17, Sara Cohn] Air pollution resulting from construction of the proposed facility should be avoided or reduced using the best available management practices and control technology. To preserve Idaho's clean air during construction operations, the NRC should include mitigation measures for these pollutants. For example, fugitive dust emissions can be controlled through the use of water trucks, provided the Storm Water Pollution Prevention Program (SWPPP) ensures no discharge of sediment from the site. Additionally, diesel emissions should be reduced using best management practices for construction including limited idling of diesel equipment and the use of low-emitting fuels and low-emitting technology for construction equipment.

Response: *Mitigation measures for control of air pollutants during preconstruction and construction of the proposed EREF have been identified by AES, and are presented in Section 4.2.4.3 and Chapter 5 in the EIS. Further, IDEQ has the authority to require AES to control fugitive dust emissions throughout the preconstruction and construction phases.*

Comment: The following comment requests that AES/NRC re-evaluate the need for an air permit to construct using uncontrolled emission rates of toxic air pollutants.

[066-24, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 22. Chapter 1: pp 1-17, Table 1-2. This table summarizes that an air quality permit to construct is not required for this project because the exemption criteria of IDAPA are satisfied. Toxic air pollutant emissions are discussed on pages 4-24 through 4-27. In these pages it is concluded that emissions of fluoride, ethanol, methylene chloride, and uranium from normal operations meet the exemption criteria for toxic air pollutants in IDAPA 58.01.01 Section 223. In order to meet the Section 223 exemption criteria for toxic air pollutants, uncontrolled emissions must

meet the exemption criteria as opposed to emissions from “normal” operations as discussed in the Draft EIS.

In accordance with IDAPA 58.01.01 Section 210 an uncontrolled emissions rate of a toxic air pollutant from a source or modification is calculated using the maximum capacity of the source or modification under its physical and operational design without the effect of any physical or operational limitations. Examples of physical and operational design include but are not limited to: the amount of time equipment operates during batch operations and the quantity of raw materials utilized in a batch process. Examples of physical or operational limitations include but are not limited to: shortened hours of operation, use of control equipment, and restrictions on production which are less than design capacity. It is not clear from the information provided in the draft EIS whether uncontrolled emissions of fluoride, ethanol, methylene chloride, and uranium were compared to the exemption thresholds, but the use of the term “normal emissions” on page 4-27, line 37 does imply that air pollution mitigation measures were inappropriately considered in the toxic air pollutant exemption determination. DEQ requests that AES/NRC reevaluate the need for an air permit using uncontrolled emission rates of toxic air pollutants.

Response: *The NRC staff based its analysis of air releases on operational data and experiences provided by AES for other AES facilities using similar enrichment technology and controls. This information from AES was reviewed and independently verified by the NRC staff before using it in the EIS. To ensure the most conservative estimate possible, the NRC staff constrained the releases of the subject materials to the shortest reasonable time frame, given the nature of the activity resulting in a release. For example, methylene chloride is used for equipment refurbishment, but that activity takes place only during the first shift. Consequently, that time frame is reflected in the NRC’s estimate of the rate of methylene chloride release. In the case of methylene chloride release, the NRC understands that this does represent an uncontrolled release because it is the result of evaporative losses from benchtop operations where methylene chloride vapors are subsequently vented to the atmosphere without passing through any control devices. Although the NRC believes that its application of the IDEQ regulations in the EIS is reasonable and conservative, the determination of whether the scenario described meets the permit exemptions contained in IDEQ rules is solely the province of IDEQ; and AES will be dealing directly, and the NRC will not be involved, with IDEQ with regard to air permitting for construction and operation of the proposed facility.*

The NRC’s use of the term “normal emissions” is meant to describe a condition where all systems are operating as designed (i.e., no upset or off-normal conditions exist) and pollution control devices are operating in accordance with their performance guarantees.

Comment: The following comment asserts that there is a contradiction in statements in the EIS regarding exceedances of ambient air quality standards for particulate matter during preconstruction and construction of the proposed EREF.

[066-25, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 23. Chapter 4: pp 4-20, Table 4-5. This table shows that the National Ambient Air Quality Standards will be exceeded for particulate matter during preconstruction and construction. Mitigation measures are discussed in Section 4.2.4.3, pp-4-28. The opening paragraph of this section

states, “Impacts from the release of criteria pollutants from the operation of vehicles and equipment during preconstruction, construction, and operation are not expected to result in exceedances of ambient air quality standards....” This statement contradicts with the estimated ambient impacts presented in Table 4-5 (which shows violations of the particulate matter standards). It appears that the predicted ambient impacts shown in Table 4-5 should be updated to reflect the ambient impacts that would occur when operating using the listed mitigation measures which are expected to result in lower emissions that do not cause an exceedance.

Response: *To clarify, the EIS language quoted in the comment was included to emphasize that exceedance of the particulate standard would result primarily from fugitive dust generation and not from operation of reciprocating internal combustion engines (RICE). The estimated ambient air impacts in Table 4-5 in the EIS include contributions from all sources of criteria pollutants. The opening paragraph in Section 4.2.4.3 was revised to make that distinction. In this case, mitigations of fugitive dust would be more valuable than efforts to minimize emissions from RICE.*

Data in Table 4-5 resulted from application of the appropriate U.S. Environmental Protection Agency (EPA) AERMOD dispersion models. The mitigation measures identified by AES and presented in the EIS can be expected to result in reduced emissions of criteria pollutants. However, since a final mitigation strategy is not available, the suggested updated emission reduction calculation cannot be completed at this time.

Comment: The following comment expresses agreement with the Draft EIS that any potential negative impacts on the air and water resources would be SMALL.

[102-02, R.D. Maynard] After reviewing the summary of the environmental consequences and mitigation section of the draft EIS, I’m confident that any potential negative impact on the air and water resources would be small.

Response: *The NRC staff acknowledges this comment and appreciates the participation.*

Comment: The following comment recommends that the NRC maximize implementation of the air pollution mitigation measures described in the EIS and coordinate with the IDEQ throughout the project lifespan to assure that federal and state air quality standards will be met by the proposed project.

[138-02, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] For better protection of public health from air pollution exposure, EPA has set National Ambient Air Quality Standards (NAAQS) for six principal pollutants or criteria pollutants (see http://www.epa.gov/air/criteria.html) that should be used to determine if emissions from a project would exceed daily and annual standards. Any projects that would generate emissions exceeding the standards would have to include measures to demonstrate that, if implemented, the project would comply with both state and federal air quality regulations. Even though background concentrations of criteria pollutants within the project area and environs are currently below the standards, it is likely that emissions within the project area could exceed the standards because of the proposed project. As the DEIS noted, particulate matter (PM)

concentrations during construction activities would be moderate to large (p. 4-1 1) due to fugitive dust releases to the air during ground disturbing activities even after application of mitigation measures, although they would be temporary and brief in duration. The DEIS indicates that air emissions associated with the ERF preconstruction and construction activities alone would be 271.5% and 105% higher than NAAQS for 24-hour PM10 and PM2.5 concentrations, respectively (p. 4-20). Because of these anticipated exceedances of ambient air quality standards, we recommend that NRC maximize implementation of the mitigation measures described in the DEIS and coordinate with the Idaho Department of Environmental Quality (IDEQ) throughout the project lifespan to assure that federal and state air quality standards will be met by the project.

Response: *The NRC staff concurs with EPA's assessment that a properly designed and executed mitigation plan will be essential for preserving ambient air quality during certain phases of facility construction and agrees that collaboration with IDEQ is the best way to ensure that adequate controls will be included in IDEQ permits.*

The NRC's purpose and need statements in its environmental review documents reflect that NRC is not the implementer or funding entity for the proposed activity. As a result, when the NRC reviews a proposed action, its ability to impose additional requirements and mitigative measures beyond those proposed as part of the application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the facility be built in accordance with the submitted application, including mitigation measures proposed by the applicant that are not specifically required by or directly related to the NRC's regulations. Thus, the NRC does have the ability to hold licensees to key mitigation measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comments express the belief that fugitive dust generation during construction would not be a LARGE impact.

[094-02, Michael Lange] There are very few disagreements I would have. Only, I guess the one I could say would be the dust mitigation issue more than likely can be mitigated down to a moderate level. And I believe that we do that out at IWTU everyday now, so I think that's pretty accurate. The rest of it looks very professionally done.

[098-08, Linda Martin] In the NRC assessment, the only topic which was described as small to large concerns the subject of Air Quality. In this geographic region local, state, and regional governments, agricultural interests, and private landowners frequently encounter dust or "fugitive" dust when working on projects concerning the land. Therefore, these impacts would be and should be considered to be normal, temporary, and brief in duration.

[152-14, Steven Serr] The dust issue was one of the other issues in the EIS that was mentioned, that it would be a potential moderate impact. We do have a fairly aggressive plan for onsite maintenance of water application to construction sites to mitigate any dust out from it. I feel that given what we have encouraged developers to do on site during construction, that that could also be minimized down to a small impact, as opposed to a moderate impact.

Response: *The NRC staff acknowledges these comments and appreciates the participation. However, the NRC staff stands by its determination that fugitive dust generation would result in a LARGE impact, for reasons discussed in Section 4.2.4.1 of the EIS.*

I.5.12 Geology, Minerals, and Soil

Comment: The following comments are related to the seismic hazards to the proposed EREF.

[014-01, William Blair] Idaho does not need more radioactive waste placed over the Snake Plain Aquifer in an active earthquake area. Until a safe method of handling and storing radioactive wastes for thousands of years is devised, NO new facilities should be approved.

[016-01, Manley Briggs] I think that the seismic activity in the area around the plant needs to be considered. I understand that that was addressed and it was felt to not be significant. But Idaho is very seismically active. It has the fifth largest number of earthquakes in the country. The most recent earthquake was August 1st, 2010. It has had the two largest earthquake in the lower United States in the last 50 years. The Hebo Lake earthquake on the Idaho-Montana border was a 7.5 magnitude, and the Borah Peak earthquake, in 1983, was a 7.3 magnitude. And if this material is being stored in an area close to those potential earthquakes, I feel that that has to be addressed. There are fault lines that essentially completely surround the INL, comes down from the Lost River, comes down from the north, and I think that certainly needs to be addressed from the health point of view, because an earthquake could certain disrupt storage.

[0163-03, Manley Briggs] Accordingly, I am concerned about the development of Areva's Eagle Rock Enrichment Facility, where depleted uranium hexafluoride will be stored over the aquifer. One of my concerns is that the INL is located in a seismically active area, and in addition of numerous other natural and manmade accidents that could compromise the safety of the stored material, an earthquake could pose a serious hazard.

As you are probably aware, Idaho is very active seismically, and has the fifth highest earthquake activity in the nation. In addition, Idaho has experienced the two largest earthquakes in the contiguous United States in the last fifty years – the 1959 Hebgen Lake Earthquake (M7.5) and the Borah Peak earthquake (M7.3) in 1983. Both of these quakes occurred in locations close to EREF. I have enclosed maps showing the close proximity of fault lines to the INL. The Areva EIS needs to address this danger.

[100-03, Wendy Matson] Due to the indefinite storage of depleted uranium hexafluoride on site, seismic activity in the area of the proposed facility poses a major safety hazard that could lead to a critical level accident. And I wish that the NRC could clarify why a complete analysis of this risk is delayed until the safety evaluation report.

[150-04, Katie Seevers] NRC should clarify why a complete analysis of seismic risk is delayed until the safety evaluation report.

[152-06, Steven Serr] The issues they had, that were addressed, as to seismic protection, life, safety, protection from earthquake damage. This area is in a seismic zone C on the building code map, cause it's not an extreme risk area for seismic activity. The INL is in the same seismic zone

designation. We have multiple nuclear facilities that have been constructed, nuclear reactors that have been built there have been safely functional during the seismic events we have experienced in the past, with no negative impacts on it. We have discussed the seismic issues with AREVA, and NRC staff, it was in my office, and felt that with compliance with the building code requirements that we have, that we fully intend to implement, that we don't see that there would be an issue with-- issues of seismic, inappropriateness for this site to be built.

[152-11, Steven Serr] Discussion regarding the seismic area out there, we have talked about seismic conditions, what the facility will need to be doing to meet safety issues as far as seismic design criteria. The safety issue of long-term storage was addressed, also, as to the containers that will be stored on site. The containers that they have on site, just to check and see, they're designed for transportation containers. They're able to survive an auto wreck, impact damage in an auto accident. Seismic conditions on site, worst case we'd have where there are outside storage, if something would fall over, be a low impact on it. We determined that that would not be a problem, as far as damage creating an issue in a seismic event that there could be any potential leakage.

[169-05, Margaret Stewart] And, finally, I need to know why a complete analysis of the seismic risks of this facility is being delayed until the safety evaluation report. As you all know, this area has always been seismically active, and the production, transportation, and storage of such dangerously radioactive materials in such a volatile region seems irresponsible, at best.

Now, I've used these signs before at hearings, and I use them again because geology doesn't change that much. Back in -- before 1982, the U.S. Building Code upon which all buildings in the U.S. must adhere to, and follow their codes, shows that this is the State of Idaho. Here's INEL, as it was called back then, and this is a zone three potential for major damage. Just after this date, INEL was looking to get approval from the U.S. Congress to build a nuclear facility, a very, very -- I won't go into that -- but a very specific nuclear facility with lots of inherent dangers, and it needed approval from Congress. And, uniquely, after 1992, the potential for major damage changed. And INEL is here completely outside of the danger zone. And now we go to 1989, and here is the potential for major damage with the yellow, and the proximity for major fault system damage practically inevitable is here, and here is INEL, this little island that there's no problem. So, I think that we really need to look at experts and science to give us this kind of information that, in my book, appears to be based on politics, not on science.

[171-01, John Tanner] The entire Snake River Plain has been known as an area of very low seismic activity, in spite of the high seismic activity in the surrounding hills and mountains. I was working at the chemical processing plant when the Mt. Borah earthquake, a giant earthquake struck, which caused a fault displacement of about, I think over 10 feet there, but we just barely felt a tremor at the chemical processing plant, at the INL. And I point out how well the reactors in Japan and Armenia have stood up to earthquakes that have happened there. I think it was Armenia, not Azerbaijan, which is next door.

[184-05, Kitty Vincent] Who in their right mind would come to a city that has a nuclear facility eighteen miles to the West at the foot of one of the most active seismic areas in the country? Especially a facility that is owned and managed by a company that has a history of problems?

[191-21, Liz Woodruff] Geology and Soils. Due to the indefinite storage of depleted uranium hexafluoride on site, seismic activity in the area of the proposed facility poses a major safety

hazard that could lead to a critical level accident. The NRC should clarify why a complete analysis of seismic risk is delayed until the Safety Evaluation Report.

Response: *As noted in Section 3.6 of the EIS and in accordance with 10 CFR 51.71(c) and NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs" (NRC, 2003), a seismic hazards analysis is outside the scope of the EIS. The seismic hazards analysis is addressed in Section 1.3.3.4.1 of the SER, NUREG-1951 (NRC, 2010b). As discussed in Section 1.4 of the EIS, the development of the SER was closely coordinated with the EIS analysis. Section 3.6.1.1 of the EIS describes the seismic setting and earthquakes in the vicinity of the proposed EREF site as part of the regional geology discussion and summarizes the results of the probabilistic seismic hazard study conducted as part of the safety review of AES's license application and documented in the SER. Section 4.2.5.1 considers this information along with local soil and groundwater conditions to conclude that the liquefaction potential of soils near the proposed EREF is also low.*

Section 3.6.1.1 of the EIS provides a map (Figure 3-15) showing the locations of Quaternary faults and earthquakes of magnitudes greater than 3.0. This figure illustrates the low seismic activity within the Snake River Plain. A new map (Figure 3-17), based on information from the U.S. Geological Survey's Earthquake Hazards Program, has been added to Section 3.6.1.1 to illustrate the low level of ground shaking in the vicinity of the proposed EREF associated with earthquakes in the region.

Note that there is no risk of a criticality accident involving depleted uranium in the storage yard as a result of seismic activity (or any other catastrophic event) as suggested in some of the comments.

I.5.13 Water Resources

Comment: The following comment talks about injection wells through which waste was introduced into the aquifer.

[008-06, Carol Bachelder] I would like to speak about water. I'm not a nuclear engineer. I'm not an expert in the field of water, but I've lived in Idaho most of my life, and I've educated myself a little bit. I watch the news, and I read, and I remember the aquifer from years ago when they had injection wells. Now, these injections wells were developed by nuclear scientists, and engineers, and professional people. And you know what they did? They put waste down into the aquifer, because at the time we thought that a little bit of waste wouldn't hurt anything. You know, just sort of diffuses into the aquifer, and won't hurt anybody. I like to compare it to just a little bit of Drano, you know, you put just a little Drano in your cereal, and it won't hurt you, because it's just a little bit. So, they invented the injection wells, and another reason that they thought this was safe was because they thought that there was very little movement of the water down there. And the scientists, they figured that out, there's no movement. But when they put microphones down into the injection wells, what did you get? You had gurgling.

Now, still water doesn't gurgle, so they concluded that there was movement of the water. And the water was carrying the waste, and this was all done in the name of science.

Response: *No injection wells are associated with the proposed EREF project. Also there would be no wastewater discharges associated with the operation of the proposed EREF (see*

Section 4.2.6.2 of the EIS). Therefore, contamination of the underlying aquifer would not be expected.

Comment: The following comment expresses concerns over the various potential avenues for water quality impacts and urges that updated information on the National Pollutant Discharge Elimination System (NPDES) permit process and water protection measures be presented in the Final EIS.

[138-05, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] The DEIS indicates that water quality may be adversely affected if the project construction activities (blasting, surface grading, excavation, and surface pavement, building roofs) alter the hydrology of springs and surface runoff such that erosion carries sediment and pollutants to local drainages (p. 4-32), accelerating infiltration and migrating through soils to the underlying aquifer. Also, groundwater extraction, land disturbance, material storage, waste disposal, inadvertent chemical or hazardous liquid spills, and compaction produced by vehicular traffic can all affect recharge to the local aquifer and groundwater quality. Because of such potential impacts to water quality, we recommend that this aspect of the project be monitored to assure that water quality is protected. The NRC should continue to coordinate with IDEQ and Tribes that may be affected by the project to assure that the state and tribal water resources (quantity and quality) are protected and used judiciously.

Since the project anticipates obtaining a National Pollutant Discharge Elimination System (NPDES,) permit for planned preconstruction and construction activities likely to disturb up to nearly 600 acres, the final EIS should include updated information on the permit application process and measures to protect water quality.

Response: *As stated in Table 1.2, and Sections 4.2.5.3 and 4.2.6.3 of the EIS, AES must obtain an NPDES Construction General Permit for its site preparation and construction activities. The NPDES permit sets standards and limits pertaining to the facility's industrial wastewater, sewage, and stormwater discharges. Updates on the NPDES permitting process can be viewed on the EPA's website at: http://cfpub.epa.gov/npdes/stormwater/noi/noidetail_new.cfm?ApplId=IDR10CI01. This has also been added as a footnote to Table 1-2 in Section 1.5.2 and a footnote in Section 4.2.6 of the FEIS. Water protection (i.e., mitigation) measures to be implemented by AES are discussed in Section 4.2.6.3 and Chapter 5.*

The NRC's purpose and need statements in its environmental review documents reflect that the NRC is not the implementer or funding entity for the proposed activity. As a result, when the NRC reviews a proposed action, its ability to impose additional requirements and mitigation and monitoring measures beyond those proposed as part of the application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the facility be built in accordance with the submitted application, including mitigation measures proposed by the applicant that are not specifically required by or directly related to the NRC's regulations. Thus, the NRC does have the ability to hold licensees to key mitigation measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comment encourages the use of low impact development techniques to reduce adverse water resource impacts.

[138-06, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] In keeping with the use of sustainable practices, we encourage NRC to consider use of Low Impact Development (LID) techniques during the proposed project activities because some of them have the potential to reduce stormwater volumes and thus mimic natural conditions as closely as possible. The techniques also lessen the impacts of stormwater runoff from impervious surfaces such as paved parking lots, roads and roofs, and can provide energy other utility savings. More information about LID practices can be found online at: http:/www.low/impactdevelopment.org/ and http://www.epa.gov/smartgrowht/stormwater.htm.

Response: *The EPA's "low impact development" practices have been added to the list of mitigation measures recommended by the NRC in Section 4.2.6.3 and in Chapter 5, Table 5-2.*

The NRC's purpose and need statements in its environmental review documents reflect that the NRC is not the implementer or funding entity for the proposed activity. As a result, when the NRC reviews a proposed action, its ability to impose additional requirements and mitigation measures beyond those proposed as part of the application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the facility be built in accordance with the submitted application, including mitigation measures proposed by the applicant that are not specifically required by or directly related to the NRC's regulations. Thus, the NRC does have the ability to hold licensee's to key mitigation measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comment expresses concerns regarding the amount of water that will be used in the enrichment process, and the safety of the filtration system that will be used for the evaporation process.

[183-02 and 183-08, James Vincent] I also am particularly concerned with the amount of water that will be used in the enrichment process, and the safety of the filtration system that will be utilized for the evaporation process.

Response: *The amount of water expected to be used by the proposed EREF is less than the current appropriation for water use; therefore, the amount of water used would have a SMALL impact, as further explained in Sections 4.2.6.1 and 4.2.6.2 of the EIS. Solid waste from the filtration system is addressed in Section 4.2.11.2, with SMALL impacts expected.*

Comment: The following comments are concerned with water quality permitting issues.

[027-12, Sara Cohn] It is unclear under what authority NRC may offer exemptions for preconstruction activities when such impacts extend outside of NRC jurisdiction. For example preconstruction activities may impact waters protected under the Safe Drinking Water Act – the Eastern Snake River Plain Aquifer. The project must consult with EPA in order to ensure the

preconstruction activities will not impact the Eastern Snake River Plain aquifer, a sole source aquifer for eastern Idaho.

[066-20, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 18. The Proposed Eagle Rock Enrichment Facility potable water system will be classified as a non-transient non-community public water system and subject to the requirements of the Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08). DEQ expects that AES will comply with all applicable regulations of the DEQ concerning the design, construction and operation of the water system (Refer to IDAPA 58.01.08 for official rule language).

[066-21, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 19. Clean Water Act/surface water issues and requirements
We expect that AES will comply with all applicable DEQ regulations concerning surface and ground water quality protection including but not limited to the requirements of IDAPA 58.01.02 and IDAPA 58.01.1 1. In that regard, DEQ would identify the following issues that this EIS should consider and that AES in preconstruction, construction and operation should note:

- There are a number of intermittent or ephemeral streams on the property. AES will need to obtain a Clean Water Act Section 404 dredge and fill permit from the US Army Corps of Engineers (USACOE) if these are deemed waters of the U.S. and AES plans to place dredge or fill material in the streams. The USACOE and EPA make the determination if a stream is considered waters of the U.S.

- Construction projects larger than 1 acre are required to get coverage under the construction storm water general permit from EPA if the storm water discharges to waters of the U.S.

- If storm water discharges to waters of the U.S., then AES should determine whether this facility is regulated under EPA's Multi-sector General Permit (MSGP) for storm water.

[036-03, Christina Cutler, on behalf of the Shoshone-Bannock Tribes] Question on what about the water permits, not only the permits to use water for processing but also potable water, as well the permits for disposal of water from the processing as well as septic water. They will also need to address plant protection runoff water issues.

Response: *The approvals and permits pertaining to water use, water quality, and water runoff, required for preconstruction, construction, and operation of the proposed EREF must be obtained by AES from other regulatory agencies. Tables 1-1 and 1-2 of the EIS list applicable requirements and the agencies to which AES must submit the appropriate applications.*

The Safe Drinking Water Act and Idaho Administrative Procedures Act (IDAPA) 58.01 are listed in Table 1-2 as potentially applicable permitting and approval requirements for the proposed EREF's drinking water system.

The U.S. Army Corps of Engineers has issued a letter (Joyner 2008) stating that a Section 404 permit (authorized by the Clean Water Act) is not required for the intermittent streams located on the proposed EREF property (see Table 1-2). A statement to this effect has also been added to Section 3.7.1.

Updates on the NPDES construction permitting process can be viewed on the EPA's website at: http://cfpub.epa.gov/npdes/stormwater/noi/noidetail_new.cfm?ApplId=IDR10CI01.

Comment: The following comments present observations on water use and threats to the Eastern Snake River Plain (ESRP) Aquifer.

[007-01, Arnold Ayers] For one, disposal wells don't gurgle. For two, we put monitors around those wells which Jack Barraclough was well associated with, and instigated in the back history of his time to monitor those things. And those wells worked, and those wells were able to monitor what was coming out of the facilities directly under the facilities, as well as outside of the facilities. If AREVA is monitoring what's going on, as they should do, there will be no discharges that I can see that could ever come undetected from those facilities, in my experience.

[023-02, Rebecca Casper] I will tell you that at no time since April 2007 has there been one official conversation or unofficial conversation that I'm aware of, of the need for us, as a planning committee, to prepare to alter our plan for any threats that might be posed by AREVA. We were in existence before AREVA came on the scene. We still are, and it's never been a problem. We've more talked about climate change than we have from threats of radioactivity, or anything like that.

I will say that we've had no discussion, in my opinion, not because we've been remiss, but rather because there are no threats that meet the worry and action threshold. Again, we care about the safety and quality of the water. We would not -- we would be remiss in our duties if we didn't explore every viable threat out there. And I am confident that my friend Jack would have -- he spoke earlier -- would have told you if there were some threats.

[102-02, R.D. Maynard] After reviewing the summary of the environmental consequences and mitigation section of the draft EIS, I'm confident that any potential negative impact on the air and water resources would be small.

[133-06, Richard Provencher] The facility does not require a large amount of water to operate. This is good from an aquifer conservation and a waste minimization standpoint.

[143-03, Hon. James Risch; 172-03, Amy Taylor, on behalf of Hon. James Risch] The process will use 50 times less electricity than a gaseous diffusion plant, and the amount of water used by the plant is less than the current irrigation appropriation.

Response: *The comments are consistent with the NRC's finding that impacts on water resources from preconstruction, construction, and operation of the proposed EREF would be SMALL.*

Comment: The following comments express concern about contamination of the ESRP Aquifer as a result of the proposed EREF project.

[008-07, Carol Bachelder] Another thing about the water was the hearings I went to several months ago in Mountain Home, again, the scientists, the nuclear scientists were going to build a

reactor, and they started in one county, and it was disproved, and they went to another county and it was disproved. The Snake River Alliance finally called this nuclear reactor Idaho's "Nomadic Nuclear Reactor," which wasn't very scientific, but boy, it was funny. I mean, I liked that. The "Nomadic Nuclear Reactor," because nobody wanted it. And the hearings from them were mainly from the farmers around there. It was an agricultural area, and they were scared, and they were mad, because they said this nuclear reactor is going to take our water. And this is the west. And a lot of fights, and hangings, and range wars happened in the early west over water. This is still the west, and these farmers were saying we don't want this nuclear reactor here, and so it was disproved, and now it's off down somewhere else trying to get approval. And that is stuff I've learned from the Snake River Alliance. They're not -- maybe they're not scientific, maybe they're not totally educated, but they have a contribution to make.

[010-02, Jack Barraclough] When they say that this plant is going to ruin the aquifer, just read the EIS and find out they're not going to discharge. And if they do, the monitor will pick it up and changes will be made. So. I don't worry about this plant and what its effect on the aquifer is.

[014-01, William Blair] Idaho does not need more radioactive waste placed over the Snake Plain Aquifer in an active earthquake area. Until a safe method of handling and storing radioactive wastes for thousands of years is devised, NO new facilities should be approved.

[015-05, Beatrice Brailsford] The most domestic part of the proposal is that the waste will, in fact, stay here. The plant would produce 320,000 tons of depleted uranium hexafluoride over its licensed lifetime, and the door is already ajar for the license to be extended. That waste might be stored on outdoor concrete pads above the Snake River aquifer until the plant is decommissioned.

It's worth noting that New Mexico sharply limits how much, and how long waste can stay at the plant there. The waste has to be treated before it can be disposed of. Two government-owned treatment plants are under construction, over budget, and behind schedule. Waste the U.S. has already accumulated will take a combined 43 years to process.

[015-14, Beatrice Brailsford] The EREF will produce more than 350,000 tonnes of depleted uranium hexafluoride (DUF6) over its licensed lifetime, and the door is already ajar for the license to be extended. That waste would be stored in 25,718 cylinders on outdoor concrete pads above the Snake River Aquifer as long as the plant operates. DUF6 is both radioactive and chemically toxic and has to be treated before it can be disposed of. The DOE has built two plants to treat depleted uranium hexafluoride waste the US has already accumulated. That treatment will take a combined 43 years to process. A private US corporation is seeking a license for its own treatment plant. The draft EIS cavalierly dismisses any potential bottlenecks by stating that the waste could simply be sent to the DOE treatment plants before they're ready to process it and then their operating lives extended. But it is at least as likely that the DUF6 will be stored in Idaho for an uncertain length of time above the Snake River Aquifer, a sole source aquifer for nearly 300,000 people. Storage under these conditions must be fully evaluated under NEPA.

[017-03, Sally Briggs] At Stake is the very air we all breath and the water we receive from our amazing and priceless aquifer.

[019-01, George Buehler] As a long time resident of Southeast Idaho, I am very disturbed by the possibility of the Areva Uranium Enrichment being located in my neighborhood. This area is above a highly permeable aquifer which provides water for the most populous cities in the state.

[020-01, Tracey Busby] I do not support the idea of putting any type of nuclear plant / enrichment facility above the Snake River Aquifer for the obvious environmental risks.

[025-02, Hon. Sue Chew] So, you know, when I look at the fact that we have an aquifer, and we have potential waste that would be created upstream, I want to make sure that we have a good plan there when we look at transportation into Idaho and out, that those things are considered.

[027-11, Sara Cohn] Water Resources: The ICL is very concerned that spillage or leakage of hazardous materials and waste from the proposed facility will further contaminate Idaho's surface or groundwater. We are concerned that there will be large quantities of hazardous, toxic, and radioactive materials produced and stored onsite and that these materials may contribute to existing contamination of Idaho's waters. The Snake River Plain Aquifer is southern Idaho's primary source of drinking and irrigation water and is already contaminated with materials stored within the Idaho National Laboratory as well as nutrients associated with historical and existing agricultural practices. Should the facility operations result in further contamination of the aquifer, this pollution would have wide reaching affects on public health and Idaho's agricultural economy. Toxic and radioactive materials from enrichment facilities have been shown to leak through detention basins and contaminate groundwater. We are very concerned the proposed facility may contaminate Idaho's waters the way similar facilities have contaminated groundwater in Paducah, KY and Portsmouth, OH.

Due to the amount of pollutants expected to be stored onsite, the extremely hazardous nature of waste products like depleted uranium, the possibility of waste spills, the possibility of leakage from proposed retention basins, and the importance of the Snake River Plain Aquifer, much more information is needed, in the final EIS, to ensure no endangerment of public health or contamination of precious water resources. We request more information with regard to the amount of waste and hazardous materials expected to be stored onsite, the types of preventative measures that will be in place to ensure no contamination of water, as well as plans outlining monitoring and reporting methods and responsible parties. The applicant should also prepare reports and plans that detail the roles and responsibilities of agencies and AREVA in the event of spillage or contamination from the site. These plans should outline remediation, public alerts, public safety measures, and clean up strategies, among all other necessary actions to protect environmental and public health.

Nitrate contamination of groundwater is also of concern. Recent findings indicate that long-term exposure to elevated concentrations of nitrate may contribute to the risk of developing bladder and ovarian cancers and non-Hodgkin's lymphoma.

[030-03, Kerry Cooke] One of the worst places anyone could think of for nuclear waste is above the Snake River Plain Aquifer.

[032-02, Cindy Cottrell] Another reason Idaho should never be considered is because of the risk involved to main waterways and land. If any accident were to occur which exposes the

environment to radiation or the storing of the waste to do so, it would contaminate much more area than if it were next to the ocean somewhere. It would first contaminate one of the largest underground aquifers, then continue down the beginning of the Snake River, passing all through Southern Idaho and then into the Columbia River, contaminating the length of Oregon and Washington before reaching the ocean. The contamination would ruin lands that grow needed crops and range land for wildlife and cattle. The fish would also suffer and eventually the ocean life would suffer. If it was near the ocean, it would reach the ocean which would be a disaster but at least the in land would be free of the radiation.

[040-01 and 040-04, Collin Day] But are we really willing to risk storing all this stuff right on top of an aquifer? It makes no sense to me. I mean, not only -- I mean, can you guarantee that 30 years from now, there will be no accidents, and none of that's going to leak into an aquifer?… But there's just no need to take risks and gamble with things like the aquifer that, you know, supplies drinking water to some 300,000 people, because 500 people need jobs.

[048-01, Genevieve Emerson] As a fifth generation steward of the land in Southern Idaho, as well as a biologist, I found that the EIS for the proposed Eagle Rock Facility fails to consider how such a facility, poised directly over the Snake River Aquifer, could have extremely serious health implications for both wildlife and human beings who rely on this sole source of precious water in a high mountain desert.

[050-04, Joanie Fauci] There is also the question, unknown scientific impact, of the interaction of the waste and water. There is risk of it getting into the aquifer as well as how it reacts with rain and excess moisture.

Safety should be given the highest risk factor in the EIS.

[068-02, Anne Hausrath] I am very much opposed to the storage of radioactive [waste] above an important aquifer. This is a huge risk that I do not believe has been adequately addressed.

[074-01, Don Howard] I've been on the focus group at INEL forever, under Mark Marinet (phonetic). We'd go out and we'd look at the site and the projects, and when you say a leach to, on the water, well, they have a deal out there called Pit 9, that they dump this raw nuclear waste in, and it's down, I thing, about 139 feet in the aquifer, Under it is down about 459 feet. And if we have leach, the gentleman said that they was putting a leach to rejuvenate the waters.

[078-04, Hon. Wendy Jaquet] I could not get a feeling for the safety processes that would make me feel comfortable regarding our sole source aquifer. After the BP fiasco, I am now more concerned.

[087-02, Dennis Kasnicki] Comment 2a: Many attendees expressed concern regarding contamination, especially depleted uranium, getting into the Snake River Aquifer; that, by far, seemed to be the biggest concern, and rightfully so. Does AREVA's Integrated Safety Assessment address ALL CREDIBLE accident scenarios whereby depleted uranium (or other contamination) could get into the Snake River Aquifer? Are the "probabilities" of all such scenarios deemed at least "highly unlikely", or otherwise meet the requirements of 10 CFR 70? If so, or if not, this should be loudly and clearly "called out" in the Draft EIS.

[092-01, Ginna and Ken Lagergren] The Areva plant is a BAD idea anywhere, and even worse where they want to locate it over the Snake River Aquifer. Please listen to the testimony of the organization Snake River Alliance for all the scientific reasons why the Areva uranium factory should NEVER BE BUILT!!!

[100-04, Wendy Matson] The facility will store radioactive waste above the sole-source aquifer for nearly 300,000 people. This scares me. This threat to a vital and unique resource outweighs any perceived benefit of the facility.

[102-01, R.D. Maynard] I'm interested in any potential impacts to the environment, particularly the Snake River aquifer, that construction and operation of the Eagle Rock enrichment facility might cause.

Past waste disposal practices at the INL site, along with land application of fertilized and pesticides, and excessive irrigation, have already caused some contamination of the aquifer.

[103-03, Karen McCall] The radioactive risk to Idaho is significant as this plant is proposed to be built upstream of the Snake River Aquifer which is already contaminated by the activities at the INL. Further degradation of this enormous water source is unacceptable and a risk to agriculture in the state.

[105-05, Eve McConaughey] No mention was made of the potential contamination of the aquifer or mention made of the location near the Snake River.

[110-01, John and Susan Medlin] As the Snake River Alliance presentation pointed out, there is no current need for this facility, no compelling evidence that a nuclear renaissance is coming (or inevitable), no rationale for a French company building a nuclear facility in Idaho that purports to promote US energy security while importing inputs and exporting outputs, no provision for the deteriorating and dangerous waste that will haunt us for decades or maybe forever, no concern for yet another threat to the Snake River aquifer, the lifeblood of Idaho agriculture.

So how can the NRC conclude that building this facility is vital, and that the most problematic outcome to be evaluated is construction dust?

[122-04, Kathy O'Brien] I am also concerned about the wildlife in the area as well as the Snake River Aquifer. This must be taken into account and given priority.

[128-04, Bob Poyser] Second, during the design of this facility, AREVA has applied standards for environmental practices and protection above and beyond acceptable industry practices, wherever possible. At the Eagle Rock facility, even rainwater runoff from the site will be directed to a storm water retention basin. Similarly treated liquid waste from the domestic sanitary sewer treatment plant will be directed to a fully lined retention basin with no outlet.

The lined retention basins will use evaporation, thus precluding any interaction with the water in the aquifer.

These additional features are a part of Areva's commitment to sustainable development, and the deployment of our best know-how to protect the environment.

[147-06, Joey Schueler] The site of this nuclear facility is located directly above the Snake River Aquifer, which supplies water to over 300,000 individuals in Idaho (including the entire Treasure Valley).

[150-01, Katie Seevers] The potential for a nuclear facility, which will site over a sole source aquifer for about 300,000 residents, is beyond disconcerting. The location of the facility above the Snake River aquifer causes further alarm when additional environmental effects are considered.

[153-01, Andrea Shipley; 197-01, Andrea Shipley, on behalf of the Snake River Alliance] Areva's proposed uranium enrichment factory will store radioactive waste above the sole source aquifer for nearly 300,000 people,

[168-03, Lon Stewart] What does Idaho get out of this? We get highly radioactive waste that increases in intensity over time, we get a chance to pollute the Eastern Snake River Aquifer, the main source for water for all of Southeast Idaho and then pollute the Snake River which flows through the Southwest portion of the state….

[181-06, Roger Turner] It would be opposed, because the waste is likely to remain in eastern Idaho, posing a risk to the Snake River Plain Aquifer.

[183-01, James Vincent] Since the two US de-conversion facilities are not operational, and if they do become operational they will first process already existing depleted uranium waste for 60 plus years of existing waste, from the 100 plus nuclear energy producing plants here in the US, the timeline for the removal of the on site storage of Uranium hexafluoride DUF6 from Idaho is in doubt. I have a problem with storing this waste above ground and possible leaching of contaminants into the aquifer for our state.

Their figures are that these are increasing to 2,000 metric tons per year. And, in addition, there's like 12 million cubic feet of low-level waste from these plants. Supposedly, we have around 60,000 metric tons of waste in this country that we have to get rid of one way or another.

[183-07, James Vincent] Since the two US de-conversion facilities are not operational, and if they do become operational they will first process already existing depleted uranium waste for 60 plus years of existing waste, from the 100 plus nuclear energy producing plants here in the US, the timeline for the removal of the on site storage of Uranium hexafluoride DUF6 from Idaho is in doubt. I have a problem with storing this waste above ground and possible leaching of contaminants into the aquifer for our state.

[184-02, Kitty Vincent] What matters is Areva's history of leaks and pollution overseas as well as the fact that this plant would sit atop this magnificent aquifer.

[184-01, Kitty Vincent] Water is a resource in scarce supply in the West. The Snake River aquifer is a huge water source for now and the future in not only the State of Idaho but also the entire West. While several scientists at the meeting denied the potential threat to this water source by the Areva project -- they are not employed by Areva so whatever expertise they have is a moot point.

[184-07, Kitty Vincent] Areva's proposed Eagle Rock Enrichment Facility (EREF) will store radioactive waste above the sole source aquifer for nearly 300,000 people;

[191-33, Liz Woodruff] The facility will store radioactive waste above the sole source aquifer for nearly 300,000 people. This threat to a vital and unique resource outweighs any perceived benefit of the facility.

[192-05 and 192-11, Lisa Young] Idaho will not allow for this kind of risk, especially over its precious aquifer, which could easily be contaminated after an accidental spill of depleted uranium hexafluoride waste. With a spill of this material, the radioactive material has a potential to enter the aquifer and poison our sole source of water.

[192-11, Lisa Young] This risk is unacceptable anywhere with the storage of depleted uranium hexafluoride, and Idaho will certainly not allow for this kind of risk, especially over its precious aquifer, which could easily be contaminated after an accidental spill of depleted uranium hexafluoride waste…poisoning our sole water source.

Response: *As discussed in Section 4.2.6.2 of the EIS, there would be no wastewater discharges associated with the operation of the proposed EREF. Chemical spills or releases around vehicle maintenance and fueling locations, storage tanks, and painting operations are not expected to affect groundwater in the Eastern Snake River Plain aquifer because it occurs at great depths (about 660 ft) below the ground surface (see Section 3.7.2.2) and contaminants would likely be cleaned up quickly and otherwise likely adsorbed by overlying soils long before reaching the aquifer. Compliance with the facility's Spill Prevention Control and Countermeasures (SPCC) Plan would minimize the likelihood of inadvertent releases to the ground surface during all project phases. Therefore, contamination of the underlying aquifer would not be expected.*

Section 4.2.6.2 has been modified to provide further information on the measures (e.g., system or basin design) that would be taken by AES to assure that contaminated effluents are contained within the Liquid Effluent Collection and Treatment System and potentially contaminated effluents from the cylinder storage area are retained in the Cylinder Storage Pads Stormwater Retention Basins and that inadvertent releases would be detected and corrected in a timely manner. Releases associated with an accident would be addressed as part of the facility's emergency response planning with technical support and oversight from various Federal, State, and local agencies. Any ground contamination from depleted uranium material released by a potential accident would be isolated and retrieved in a timely manner.

I.5.14 Ecological Resources

Comment: The following comment states that there is no discussion of impacts to the greater sage-grouse (*Centrocercus urophasianus*) from the operation of the plant, and that AES should place metal reflectors on the top wire of the fence to reduce the probability of sage-grouse colliding with the fence, thus reducing mortality.

[140-04, Wendy Reynolds, on behalf of the Bureau of Land Management, Upper Snake Field Office] 3) The BLM appreciates the lengthy and thorough discussion of the greater sage

grouse, particularly in the affected environment section of the document. In terms of the analysis, however, there is no discussion of impacts to the greater sage grouse from the operation of the plant. Here too, as with the impacts from preconstruction and construction activities, the greater sage grouse would likely avoid the area due to human presence, noise, and the use of artificial lights resulting in habitat displacement over an area substantial larger than the footprint of the facility itself. Further, indirect impacts would occur once the boundary fence is in place. Greater sage grouse are known to collide with the top wire of fences like the fence proposed to encircle the AES property. Such collisions are known to be a source of mortality amongst local and regional sage grouse populations. In view of this fact, the BLM requests that AES place metal reflectors on the top wire of the fence. This mitigation measure has been shown in recent preliminary and, as of yet, unpublished studies to reduce the probability of sage grouse colliding with fence, thus reducing mortality.

Response: *Wildlife avoidance of the areas around the proposed facility is acknowledged in Section 4.2.7.2 of the EIS, Facility Operation. Additional information has been included in Section 4.2.7.2 regarding effects on sage-grouse during operation of the proposed EREF. Information regarding the inclusion of markers on the boundary fence and metal reflectors on the top wire of the fence has been added to the NRC-recommended additional mitigation measures in Section 4.2.7.3 and Table 5-4, Section 5.2.*

When NRC reviews a proposed action, its ability to impose additional requirements and environmental mitigation measures beyond those proposed as part of the license application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the proposed facility be built in accordance with the submitted application, including mitigation and monitoring measures proposed by the applicant that are not specifically required by or directly related to NRC's regulations. Thus, the NRC does have the ability to hold licensees to key mitigation measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comment expresses concern that the transmission lines compound the negative impact that will accrue to wildlife, and points to the Idaho Department of Fish and Game's (IDFG's) comments on this matter.

[015-20, Beatrice Brailsford] The transmission lines compound the negative impact the will accrue to pronghorn antelope, greater sage grouse, and ferruginous hawks, which will all likely abandon the Areva site and surrounding areas. Sage grouse is a candidate species for federal protection. The Idaho Department of Fish and Game reaffirmed the threats transmission lines would pose to wildlife, challenged the methodology of sage grouse and lek analysis in the draft EIS, recommended burying transmission lines, and suggested Areva submit to plans to mitigate for the expected wildlife impacts. These concerns do not appear to have been addressed in this EIS and must be addressed before any preconstruction activities are allowed or before this EIS review continues.

Response: *The concerns of IDFG are addressed in the EIS. A supplementary lek survey was conducted by AES (see Section 3.8.3), and AES is committed to coordinating with IDFG during monitoring (see Section 6.2.2). Measures for the protection of birds would be implemented in*

the construction of the transmission lines (see Section 4.3.7). Regarding transmission line burial, the cumulative impacts of a proposed, above-ground, 161-kV transmission line that would serve the proposed EREF are analyzed (see Section 4.3), and this analysis concludes that the line would have SMALL contributions to cumulative impacts in all resource areas. Information regarding monitoring of the transmission line right-of-way for avian mortality has been added to Section 6.2.2.

Comment: The following comment asks the NRC to incorporate design features in the proposed EREF project to minimize impacts to ecological resources and to prepare a plan to mitigate for impacts that cannot be avoided or minimized.

[027-22, Sara Cohn] *Avoid, Minimize, Mitigate:* In terms of priorities, the NRC should first site facilities and infrastructure to avoid impacts to wildlife and cultural resources. If impacts cannot be entirely avoided, the NRC should incorporate design features to minimize impacts. Lastly, a plan should be prepared to mitigate for impacts that cannot be avoided or minimized.

Response: *The siting of a uranium enrichment facility involves a number of requirements, as discussed in Section 2.3.1 of the EIS. Environmental protection was one of the criteria categories used. Mitigation measures identified by AES to minimize impacts to wildlife during preconstruction, construction, and operation of the proposed EREF are presented in Section 4.2.7.3 and Chapter 5.*

The NRC's action with regard to the proposed EREF project is limited to granting a license, if found to be warranted, for the construction, operation, and decommissioning of the proposed facility. NRC is not the implementer or funding entity for the proposed activity. As a result, NRC generally limits its analysis to the alternatives and actions reasonably available to the applicant.

When NRC reviews a proposed action, its ability to impose additional requirements and environmental mitigation and monitoring measures beyond those proposed as part of the license application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the proposed facility be built in accordance with the submitted application, including mitigation and monitoring measures proposed by the applicant that are not specifically required by or directly related to NRC's regulations. Thus, the NRC does have the ability to hold licensees to key mitigation and monitoring measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comment expresses concern regarding impacts to sage-grouse.

[027-23, Sara Cohn] There is significant concern regarding the long-term viability of greater sage-grouse populations. The US Fish and Wildlife Service concluded that Greater sage-grouse are warranted for protections under the Endangered Species Act but this action is precluded by other priorities. The US Fish and Wildlife Service will continue to reassess the status of sage-grouse. If sage-grouse are listed, the protections could have far reaching effects on land management in Idaho and in the region.

Greater sage-grouse suffer from the loss, degradation, and fragmentation of habitat throughout the west. It's estimated that only 50-60% of the original sagebrush steppe habitat remains in the west (West 2000), and in 2007, the American Bird Conservancy listed sagebrush as the most threatened bird habitat in the continental United States. 4 As such, we cannot stress enough how important it is for agencies to consider impacts to sage-grouse, conserve existing habitat, and actively restore altered sagebrush steppe habitats due to project-related impacts.

Depending on location and design specifics, the construction of additional roads within sage-grouse habitat could constitute "nonlinear infrastructure" under the *Conservation Plan for the Greater Sage-grouse in Idaho (Idaho Sage-Grouse Advisory Committee 2006).* Nonlinear infrastructure is defined as "human-made features on the landscape that provide or facilitate transportation, energy, and communications activities." The *Conservation Plan* lists infrastructure such as this as the second greatest threat for sage grouse, with wildfires as the greatest risk. Road construction and use associated with the facility represents high risk for loss of lek areas, nesting locations, and brood-rearing habitats (Braun 1986, Connelly et al. 2004)

Coordination with local stakeholder groups: We believe that an integral part of conserving and recovering sage-grouse will be relying on the guidance from local stakeholder groups. As such, we recommend that the applicant coordinate further efforts more closely with the US Fish and Wildlife Service, local Sage-grouse Working Groups, the Idaho State Sage Grouse Advisory Council, the Idaho Department of Fish and Game, and the Governor's Office of Species Conservation. Conservation groups to consult include the Audubon Society, the Idaho Chapter of the North American Grouse Partnership, the Idaho Falconer's Association, the Nature Conservancy, the Western Watersheds Project as well as the Idaho Conservation League.

Response: *Impacts on sage-grouse are discussed in Section 4.2.7 of the EIS, along with mitigation measures that include the planting of disturbed areas with sagebrush steppe species. As shown in Figure 4-4, the site access road avoids sagebrush steppe habitat, being located entirely within nonirrigated pasture. AES has committed to working with the U.S. Fish and Wildlife Service (FWS), Bureau of Land Management (BLM), and IDFG in the development of action levels and/or reporting levels for the ecological monitoring program for the proposed EREF (see Section 6.2.2.1). These agencies work with many conservation groups for the protection of sage-grouse and other species.*

When considering the long-term viability of sage-grouse populations the proposed action is evaluated considering short term impacts during preconstruction and construction (Section 4.2.7.1) and cumulative impacts (Section 4.3.7) during the life of the facility. By necessity, the viability of an entire population has to be viewed at the ecosystem level. The ecosystem level used in this analysis was the Upper Snake sage-grouse planning area as described in the July 2006 Idaho sage-grouse conservation plan (ISAC, 2006). The evaluation takes into account past, present and reasonably foreseeable impacts. As part of the evaluation it was recognized that past actions have caused extensive habitat fragmentation at the proposed site and future actions were evaluated in terms of the incremental contribution to environmental impacts from an area already heavily impacted by prior activities (e.g., cultivation and cattle grazing). For example, the July 2006 plan describes the impact of roads as a linear infrastructure feature and contributor to habitat fragmentation. US 20 is considered to be a major highway in the project area and forms the southern boundary of the proposed EREF site.

The July 2006 plan describes taking into account a 6.2 mile buffer on either side of a major road to account for its impact.

Comment: The following comment discusses the effects of operation of the proposed EREF on sage-grouse that are on public land.

[089-05, Sharon Kiefer, on behalf of the Idaho Department of Fish and Game] Recent research on sage-grouse suggests that disturbance-related impacts from energy development on counts of displaying male sage-grouse at leks were apparent out to 6.4 km or approximately 4 miles (Naugle et al. *in press),* and that most (79%) nests occur within 4 miles of leks (Doherty et al. *in press* citing Colorado Division of Wildlife 200S-Appendix B Page 7). As noted in the DEIS the property is adjacent to mapped key sage-grouse habitat with one sage-grouse lek approximately 3.5 miles away from the site. Presence of an industrial facility this distance from occupied sage-grouse habitat remains a consideration although we recognize the facility direct footprint excludes occupied habitat.

There are guidelines that should be considered to help steer significant construction activity that could benefit sage-grouse. The Upper Snake Sage-Grouse Local Working Group work plan includes the following recommendation that would be applicable: *All land management agencies adjust timing of energy exploration, development, and construction activity to minimize disturbance of sage-grouse breeding activities. Energy-related facilities should be located* >3.2 *kilometers from active leks whenever possible. Human activities within view of or <0.5 kilometers from leks should be minimized during the early morning and late evening when birds are near or on leks.* http://fishandgame.idaho.gov/hunt/grouse/conserve_plan/upsnake_workplan.pdf

Likewise, Idaho Bureau of Land Management's (BLM) Seasonal Wildlife Restrictions and Procedures for Processing Requests for Exceptions On Public Lands in Idaho (Information Bulletins No. ID-2010-039) also includes recommendations for controlled surface and timing limitation use near sage-grouse leks and/or nesting/early brood rearing habitat: *Potentially disruptive larger-scale construction activities (e.g. , infrastructure/ energy development and similar projects), shall be avoided within* 6.4 *km* (~4 *miles) of occupied or undetermined status sage-grouse leks from March 1 to June 30 to reduce disturbance to lekking or nesting grouse (and/or hens with early broods).*

If monitoring indicates sage-grouse do avoid public lands surrounding the facility due to post-construction operational effects, such as lights and roads, we request AES to determine corrective action or to mitigate the offsite public lands lost to wildlife due to project effects.

Response: *AES has committed to the consideration of all recommendations of the FWS and IDFG (see Section 4.2.7.3 of the EIS), and to working with the FWS, BLM, and IDFG in the development of action levels and/or reporting levels for the ecological monitoring program for the proposed EREF (Section 6.2.2.1). A measure recommending that AES coordinate with IDFG regarding corrective action or mitigation has been added to the NRC-recommended additional mitigation measures in Section 4.2.7.3 and Table 5-4, Section 5.2.*

The NRC's purpose and need statements in its environmental review documents reflect that the NRC is not the implementer or funding entity for the proposed activity. As a result, when the NRC reviews a proposed action, its ability to impose additional requirements and mitigative measures beyond those proposed as part of the application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the facility be built in accordance with the submitted application, including mitigation measures proposed by the applicant that are not specifically required by or directly related to the NRC's regulations. Thus, the NRC does have the ability to hold licensees to key mitigation measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comment recommends that the NRC continue to work with the FWS and IDFG as the project is implemented to monitor risks to individual species and identify effective measures to reduce risks and protect the species and their habitat; and to also coordinate with the Idaho National Laboratory (INL) and BLM due to their long term experiences monitoring impacts to the species and associated habitats in and around the proposed project area.

[138-07, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] Sections 4.2.7 discuss the project's impacts to ecological resources, including vegetation and wildlife species. The DEIS indicates that vegetation removal, habitat fragmentation, and ground disturbance would result in moderate impacts on plant communities and wildlife species (p. 4-44). Most impacts to these resources would occur primarily on almost 592-acre area of the ERF footprint. About 185 acres of sagebrush steppe, 136 acres of non-irrigated pastures, and 268 acres of irrigated cropland habitats would be lost. Such habitat loss and alterations would impact a number of species including sage grouse, which is a candidate species for listing under the Endangered Species Act, pygmy rabbits, and nesting migratory birds and other species of concern (p. 4-46). Noting that some of the impacts would be indirect, others would be direct, cumulative and unavoidable.

We appreciate measures to limit the project footprint impacts, including replanting almost 133 acres of that footprint with native species after construction activities and eliminating grazing within the entire project area (4200 acres). Because of an arid environment at the project site, however, planted vegetation would take years to establish or restoration could fail, thus exacerbating loss of cover and habitat for the species. Given the usage of the project area by sage-grouse and other sensitive wildlife species, and limited survey data for the species, it is important that the NRC continue to work with the US Fish and Wildlife Service and the Idaho Department of Fish and Game (IDFG) as the project is implemented to monitor risks to individual species and identify effective measures to reduce risks and protect the species and their habitat, particularly loss, degradation, and fragmentation of the sagebrush steppe habitat due to construction activities, wildfire, and agriculture. Also, we believe that it would be useful for the project to coordinate with the Idaho National Laboratory and Bureau of Land Management due to their long term experiences monitoring impacts to the species and associated habitats in and around the proposed project area.

Response: *AES has committed to ongoing coordination with the FWS, IDFG, and BLM during ecological monitoring program activities for the proposed EREF project (see Section 6.2.2.1 of*

the EIS). A recommended mitigation measure that AES should also coordinate with INL has been added to the NRC-recommended additional mitigation measures in Section 4.2.7.3 and Table 5-4 in Section 5.2.

The NRC's purpose and need statements in its environmental review documents reflect that the NRC is not the implementer or funding entity for the proposed activity. As a result, when the NRC reviews a proposed action, its ability to impose additional requirements and mitigative measures beyond those proposed as part of the application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the facility be built in accordance with the submitted application, including mitigation measures proposed by the applicant that are not specifically required by or directly related to the NRC's regulations. Thus, the NRC does have the ability to hold licensee's to key mitigation measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comment recommends that the Final EIS include a discussion of how issues such as ecological impacts raised by Tribes would be addressed by the project.

[138-08, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] Consultation with Tribal Governments - The draft EIS indicates that there have been contacts with Tribes that may be affected by the proposed project. This is especially important because the DEIS states that the project would result in up to large impacts to resources important to tribes (p. 4-4)**,** including historical and cultural, visual, and ecological resources. Construction activities, for example, would destroy historic and cultural resources at MW004 site, while increased traffic and construction activities and the presence of an industrial complex would significantly alter the visual landscape. Because of these and other impacts that may be discovered during the project operations, we recommend that the final EIS include a discussion of how issues raised by Tribes would be addressed by the project and outcomes of the ongoing work with the Idaho State Historic Preservation Office and affected Tribes on potential effects requiring Section 106 review of the National Historic Preservation Act.

Response: *Consultation with the affected Federally recognized Shoshone-Bannock Tribes has been ongoing throughout the EIS process. The ecological impacts associated with the project are discussed in Section 4.2.7.*

Comment: The following comment expresses concerns that an historical landmark and expanse of Idaho native habitat will be destroyed to build the proposed plant and that there would be no return to the area's natural state after plant decommissioning

[147-15, Joey Schueler] 11. A historical landmark and a vast expanse of Idaho native habitat will be destroyed to build this plant. After plant decommission, there will be no return to this valuable area of Idaho's beautiful wilderness.

Response: *There is an estimated 9,013,000 acres of land identified as existing key sage-grouse habitat in Idaho. Approximately 592 acres on the 4200-acre proposed EREF property would be disturbed by construction and operation of the proposed EREF, as discussed in*

Section 4.2.1 of the EIS. The remainder of the 4200-acre property would revert to a more natural state because cultivation and grazing activities on the site would cease, as noted in Section 4.2.1.3. Thus, the land use impacts are considered to be SMALL and the general character of the surrounding land is better preserved. Impacts on habitats are considered and described in Section 4.2.7. Impacts related to decommissioning are discussed in Section 4.2.16.7 and I.5.21. Impacts related to historic and cultural resources are described in Sections 4.2.2 and I.5.9.

Comment: The following comment asks for more serious consideration of the wildlife species that will be affected by construction, operation, and decommissioning of the proposed facility, including the sage-grouse.

[192-17, Lisa Young] Indeed, I hope to see much more serious consideration of the wildlife species that will be affected by all three stages of construction, operation, and decommissioning of this facility, including the fact that the sage grouse, well-known to be a vulnerable species in need of federal protection, makes its home in this region.

Response: *As discussed in comment responses above, additional NRC-recommended mitigation measures for the protection of wildlife have been added to the EIS, in Section 4.2.7.3 and Chapter 5, Table 5-4; and additional information regarding sage-grouse has been added in Section 4.2.7.2.*

Comment: The following comments express concerns about the wildlife in the area.

[122-04, Kathy O'Brien] I am also concerned about the wildlife in the area as well as the Snake River Aquifer. This must be taken into account and given priority.

[153-01, Andrea Shipley; 197-01, Andrea Shipley, on behalf of the Snake River Alliance] AREVA's proposed uranium enrichment factory will…impact sensitive species

[184-07, Kitty Vincent] Areva's proposed Eagle Rock Enrichment Facility (EREF) will store radioactive waste above the sole source aquifer for nearly 300,000 people; impact sensitive species; require the transport of radioactive materials; impair the Hell's Half Acre National Monument; support destruction of the John Leopard homestead, which has been recommended for the National Register of Historic Places; devour billions of dollars in state and federal largess; and obliterate farmland that is potentially protected by the federal government. The Alliance is here to say it is not worth the risk.

Response: *Impacts on wildlife have been assessed and are discussed in Section 4.2.7 of the EIS. Impacts would be SMALL to MODERATE. Mitigation measures for the protection of wildlife are identified in Section 4.2.7 and Chapter 5.*

Comment: The following comments suggest that beneficial ecological impacts could occur at the proposed EREF site outside of the disturbed area footprint.

[067-02, Mike Hart] In terms of ecological impacts of the site, one thing I noticed was again the analysis of the fact that you'll not -- you'll be ceasing grazing on that area, which for sage grouse, the reality is what really causes threatened and endangered species listing of sage grouse is not spoken -- but it's cows.

So, actually, getting cows off that range, and reseeding it with natural native plants, will actually probably improve sage grouse habitat significantly, and I think you list it as a light impact. Actually, I would go so far as to say it might actually be a benefit, of having an area. But when you do reseed, do go with natives rather than reseeding with crested wheat grass or other non-native species that are invasive.

[067-10, Mike Hart] With respect to ecological impacts, sage grass, I think having, and I apologize to the farmers here, but I think getting the cows off the land will help the sage grass, and let's just leave it at that.

Response: *The NRC acknowledges the potential for habitat improvement once grazing is not practiced on the proposed EREF property. This is discussed in Sections 4.2.7.1 and 4.2.7.2 of the EIS.*

Comment: The following comments express concerns about minimizing impacts to affected habitat and wildlife during construction and operation of the proposed EREF.

[027-20, Sara Cohn] Ecological Resources: The draft EIS does not adequately address impacts to ecological resources on site and the preconstruction exemption guarantees the loss of large areas of habitat to sensitive and candidate species such as greater sage-grouse and pygmy rabbit. The US Fish and Wildlife Service determined that greater sage-grouse warrant protection under the Endangered Species Act, but listing is currently precluded by the need to respond to other species at greater risk of extinction. As such, the greater sage-grouse is considered a candidate species for listing and the status will be reviewed annually by the US Fish and Wildlife Service. The BLM and Forest Service currently consider the greater sage-grouse as a Sensitive Species.

The pygmy rabbit (*Brachylagus idahoensis*) is currently considered as a candidate species by the US Fish and Wildlife Service, a Sensitive Species by the Bureau of Land Management, a Species of Special Concern (Category C – Undetermined Status Species) on the Idaho State Sensitive Species List (*Idaho Conservation Data Center, 1994*), and is managed by the Idaho Department Idaho Fish and Game as protected, non-hunted species. As with greater sage-grouse, loss of sagebrush steppe habitat has fragmented habitat and the US Fish and Wildlife Service is conducting a status review to determine whether to propose listing under the Endangered Species Act.

Because listing under the Endangered Species Act (ESA) is a possibility for both species, we suggest the applicant design the project to avoid, minimize and mitigate for any impacts. Furthermore, these steps should be submitted for review in the environmental analysis.

Preconstruction Exemption: It is unclear under what authority NRC may offer exemptions for preconstruction activities when such impacts extend outside of NRC jurisdiction. For example

preconstruction activities will impact sensitive and candidate species. Project impacts would normally require NRC to coordinate with the Idaho Department of Fish and Game in order to analyze and release for public comment the environmental and public health impacts of preconstruction clearing, blasting, and grading prior to conducting such activities. According to the draft EIS, such preconstruction activities are expected to take place prior to the licensing of the proposed facility. These efforts undermine the purpose of the EIS process. A mitigation plan must be created to avoid, minimize, and plan for mitigation of affected habitat.…

Habitat, habitat fragmentation, and migration corridors: Portions of the project area contain habitat that is crucial to the sagebrush steppe obligate species such as sage-grouse, pygmy rabbits, sage thrasher, sage sparrow, and others. Such habitat has been severely fragmented and reduced through a variety of land management practices, including road construction and development of rights of way corridors. Although communities cannot be listed under the endangered species act, sagebrush steppe habitat is considered by federal agencies as "imperiled" and an area of primary concern. The project should avoiding areas of critical habitat for species of concern, minimize negative impacts by using seasonal restrictions and other recommendations in the Idaho State Sage-Grouse Plan, and mitigate for any potential impacts by working directly with the Idaho Department of Fish and Game and Local Sage-grouse Working Groups. In addition, the NRC should establish siting criteria to minimize soil disturbance and erosion on steep slopes, utilize visual resource management guidelines, and avoid significant historic and cultural resource sites.…

Additional Wildlife: In addition to sage-grouse, other wildlife including pygmy rabbits, sage thrasher, sage sparrow, and birds of prey, are of concern. New construction and infrastructure will also change crucial habitat for these species and may inhibit the ability of these species to migrate. The project design should avoid construction in any designated areas or lands for special management of these species. There are also elk, mule deer, and pronghorn antelope in the proposed project area. The project should avoid and minimize all impact to big game winter habitat. The project site contains good to excellent antelope and sage-grouse habitat. We are concerned how the proposed project will impact this important habitat and the species that depend on it. We are also greatly concerned the project will impact nesting habitat for migratory birds.

Invasive Weeds: The most cost-effective way to deal with noxious weeds is to protect strongholds of native vegetation from activities that either spread noxious weeds directly or create suitable habitat by removing native vegetation and disturbing the soil. Project activities should limit road construction in areas that contain mineral soils where weeds may become established. Roads serve as a primary route for noxious weed species expansion. Special care should be taken to safeguard ecologically intact areas that are not currently infested. The EIS needs to analyze the effects of noxious weeds and describe management of weeds in the project area. For example, management strategies may include ensuring the tires and undercarriage of access vehicles are hosed down prior to site access to dislodge noxious weeds. Further documentation should analyze the effects of regular weed control activities in previously undisturbed areas. For example, weed treatments may affect non-target species and vehicle access may increase fire hazard and soil disturbance.

[036-05, Christina Cutler, on behalf of the Shoshone-Bannock Tribes] Endangered species may or may not be at the site at the time of survey; however it is known that there are

endangered species and sensitive species in the immediate area. How is there habitat and survival going to be addressed, not just during operation of the facility but also and maybe most important during the construction phase.

Response: *Mitigation measures for impacts to ecological resources during preconstruction, construction, and operation of the proposed EREF are included in Section 4.2.7.3 and Chapter 5 of the EIS. In response to other comments in this section, additional NRC recommended mitigation measures have been added to the EIS, in Section 4.2.7.3 and Chapter 5, for protection of sage-grouse, preventing the introduction of invasive plant species, and minimizing indirect effects of weed control activities.*

Impacts and mitigation should be understood in the context that the environment at the site has been degraded by past agricultural and cattle grazing activities and at the ecosystem level provides marginal habitat for sagebrush obligate species. In addition, the sage-grouse habitat in the Upper Snake sage-grouse planning area is about 2.5 million acres in size with approximately 83 percent of this habitat found on State or Federally owned and/or managed lands with associated protections.

As shown in Figure 4-4, much of the project footprint is located outside of the sagebrush steppe habitat, and the site access road avoids sagebrush steppe habitat, being located entirely within nonirrigated pasture. In addition, grazing impacts would be removed from the remaining sagebrush steppe, and the remaining irrigated crop areas would be planted with native species. AES has committed to working with the FWS, IDFG, and BLM in the development of action levels and/or reporting levels for the EREF ecological monitoring program (Section 6.2.2.1). These agencies work with many conservation groups for the protection of sage-grouse and other species. Section 4.2.7 discusses invasive plant species and control measures, acknowledging that nontarget species may be affected.

Comment: The following comments express a concern that the true scale of ecological impacts is larger than that presented in the EIS.

[083-06, Diane Jones] Finally, I'd just like to say the EIS found only small and moderated impacts from this project, this proposed project. One of the things that was looked at is removal of sagebrush steppe and that was regarded as a moderate. I would like to say that when sagebrush steppe is removed, it's removed, and it does not come back for a long time. That's not small or moderate. It's a very large impact.

[086-04, Paula Jull] Antelope, sage grouse, and ferruginous hawks all will likely abandon the Areva site and surrounding areas due to development and human activity. Sage grouse is a candidate species for federal protection. The problem is compounded by construction of the electric transmission line and poles proposed to support the facility, which sage-grouse are known to avoid because they serve as perches for raptors.

[088-08, Stan Kidwell; 095-08, Linda Leeuwrik] Pronghorn antelope, greater sage grouse, and ferruginous hawks all will likely abandon the Areva site and surrounding areas due to development and human activity. Sage grouse is a candidate species for federal protection. The problem is compounded by construction of the electric transmission line and poles proposed to

support the facility, which sage-grouse are known to avoid because they serve as perches for raptors.

[153-10, Andrea Shipley] Accidents, fire, air and water quality and the development of on this land will impact several species including raptors and sage-brush obligate species (draft EIS 4.2.7) Pronghorn antelope, greater sage-grouse, and ferruginous haws all will likely abandon the EREF site and area surrounding the EREF due to development and human activity. Sage-grouse is a candidate species for federal ESA protection. USFWS recently concluded that listing under the ESA is warranted, though formal listing is precluded by other agency priorities. The EIS is inaccurate based on the true scale of ecological effects and the problem is compounded by construction of the proposed electric transmission line and poles, which sage-grouse are known to avoid because they serve as perches for raptors.

[197-10, Andrea Shipley, on behalf of the Snake River Alliance] Accidents, fire, air and water quality and the development of on this land will impact several species including raptors and sage-brush obligate species (draft EIS 4.2.7).

[175-08, Ellen Thomas] Pronghorn antelope, greater sage grouse, and ferruginous hawks all will likely abandon the Areva site and surrounding areas due to development and human activity. Sage grouse is a candidate species for federal protection. The problem is compounded by construction of the electric transmission line and poles proposed to support the facility, which sage-grouse are known to avoid because they serve as perches for raptors.

[183-13, James Vincent] I also believe that EIS does not fully take into account the impact on antelope, sage grouse, and birds of prey.

[184-15, Kitty Vincent] Accidents, fire, air and water quality degradation and the development of this land will impact several species including raptors and sage-brush obligate species (draft EIS 4.2.7) Pronghorn antelope, greater sage grouse, and ferruginous hawks all will likely abandon the EREF site and surrounding areas due to development and human activity. Sage grouse is a candidate species for federal protection. The problem is compounded by construction of the proposed electric transmission line and poles, which sage-grouse are known to avoid because they serve as perches for raptors.

[191-15, Liz Woodruff] Ecology. • According to the NRC's own definition of the significance of potential impacts, a large impact is one that "the environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource." According to the draft EIS, the sage-brush steppe located within the proposed EREF would improve due to the elimination of grazing. The NRC must flesh out the connection between claims of potential improvements and the amount of habitat that will be compromised.

• Several species will be impacted by development on this land including sensitive species, raptors, and sage-brush obligate species (draft EIS 4.2.7). Pronghorn antelope, greater sage-grouse, and ferruginous hawks all will likely abandon the EREF site and areas surrounding the EREF due to development and human activity. It is difficult to see how, when an ecosystem is considered as a whole, it be improved if the animals that depend on it can no longer use it. In other words, it is not a healthy sagebrush ecosystem if there are no antelope, grouse, and

hawks. The conclusion of small to medium potential ecological/wildlife impacts contained in the draft EIS is inaccurate based on the true scale of ecological effects.

• This problem is compounded by construction of the proposed electric transmission line and poles, which sage-grouse are known to avoid because they serve as perches for raptors.

• Sage-grouse is a candidate species for federal ESA protections. USFWS recently concluded that listing under the ESA is warranted, though formal listing is precluded by other agency priorities. The treatment of the threats to sage grouse is inadequate in the draft EIS.

[193-20, Liz Woodruff, on behalf of the Snake River Alliance] And all of the issues associated with the construction of this facility--accidents, fire, air and water quality degradation, the development of this land will impact several species, including raptors and sagebrush obligate species. This includes the sage grouse. The sage grouse is a candidate species for federal protection, and the only reason it's not listed yet is because of bureaucratic process of listing. There's a delay. But the treatment of this issue is inadequate in the draft EIS.

The impacts to sage grouse from transmission and preconstruction warrant integration into this EIS, or separate EISs, specifically around preconstruction and transmission issues.

[197-14, Andrea Shipley, on behalf of the Snake River Alliance] The EIS in inaccurate based on the true scale of ecological effects, and the problem is compounded by construction of the proposed electric transmission line and poles, which sage grouse are known to avoid because they serve as perches for raptors.

Response: *The EIS acknowledges that many wildlife species would likely avoid the area near the proposed facility during its construction and operation. The above comments do not present information to support the statement that wildlife would avoid the entire 4200-acre proposed EREF property. Other areas of the proposed property would still be usable as habitat, and sagebrush steppe in those areas would be expected to improve over time. For the species that use the sagebrush steppe habitat (including that which is contiguous to and outside the proposed EREF property), such as pronghorn antelope, sage-grouse, and ferruginous hawk, construction of the proposed EREF would noticeably alter that habitat, with a loss of 185 acres plus an area of avoidance; however, this would neither destabilize the habitat used by these species nor the species' populations because extensive sagebrush habitat is available outside the proposed EREF property, as described in Section 4.2.7.1 of the EIS. Text has been added in Section 4.2.7.2 to clarify impacts to sage-grouse during operations.*

The impacts have taken into account that the sage-grouse habitat in the Upper Snake sage-grouse planning area is about 2.5 million acres in size with approximately 83 percent of the habitat found on State or Federally owned and/or managed lands. It should be further noted many species adapt to disturbances and the fact that facilities such as this prohibit hunting as evidenced by extensive areas of surface coal mining and reclamation in similar types of habitats in Montana, Wyoming and Utah.

I.5.15 Noise

No comments were received on the noise section of the Draft EIS.

I.5.16 Transportation

Comment: The following comment acknowledges the adequate safeguards that are in place for shipping containers for radioactive waste materials such as spent nuclear fuel.

[007-03, Arnold Ayers] I've been involved with such things as a first responder from the Three Mile Island reactor, and also was associated with the retrieval, but mostly with the arrival of that fuel here in INL. That puts me in the prospect of knowing what's involved in transportation of spent nuclear fuel. And yes, it is complicated, and yes it is difficult, and yes it has been solved relatively well, quite well, in fact. The adequate safeguards that the NRC has put on materials on shipping containers for that waste material has shown itself, and has proven itself time, and time, and time again.

Response: *No spent nuclear fuel (SNF) would be generated at, or shipped to or from, the proposed EREF. Transportation regulations for the shipment of the uranium materials used and produced at the EREF are discussed in Appendix D of the EIS and are protective of human health and the environment.*

Comment: The following comment contends that the Draft EIS does not consider methods to minimize risks associated with alternative transport route options and transportation modes.

[027-09, Sara Cohn] The documents provided do not consider methods to minimize risks associated with transport routes options. Alternative transportation modes, such as rail, should be analyzed. Transportation routes and modes that present significant risk to public health and natural resources should be avoided.

Response: *Transportation routes are determined by carriers in accordance with U.S. Department of Transportation (DOT) regulations, which attempt to reduce potential hazards by avoiding populous areas and minimizing radiological risks. Route selection is described in Appendix D, Section D.3.1.1, of the EIS.*

As noted in Sections 3.10.2 and 4.2.9.2, AES does not plan to perform any shipping operations via rail because rail access is not readily available at or near the proposed EREF site. To use rail as a transportation mode, shipments to and from the proposed EREF would require truck transport to the nearest intermodal facility, which could incur additional risks to workers and potentially the public at such facilities.

Comment: The following comment emphasizes the opportunity for public comment in each and every community through which radioactive material would be transported, and that the Fort Hall Indian Reservation needs to be a part of this process.

[028-01, David Coney] One thing I'd like to emphasize is public comment in each and every community that any transportation of radioactive material goes through. Specifically because today is World Indigenous Day, I would say that the Fort Hall Indian Reservation needs to be a part of this process. That's huge. And I just returned from an encampment down in New Mexico where I witnessed, firsthand, the desecration of community due to the nuclear military-industrial complex.

Response: *Impacts from transportation of materials to and from the proposed EREF are discussed in Section 4.2.9 of the EIS. These impacts would be SMALL. Residents of the Fort Hall Indian Reservation have had the opportunity to comment on the Draft EIS. In addition, NRC staff met with the Shoshone-Bannock Tribal Council on August 11, 2010, to brief them on the Draft EIS and discuss their concerns.*

Transportation routes are determined by carriers in accordance with DOT regulations, which attempt to reduce potential hazards by avoiding populous areas and minimizing radiological risks. Those routes are also determined based on the origin and destination of shipments and are not presently known. Therefore, holding public comment meetings in every community through which transportation of radioactive material would occur would not be feasible. However, all members of the public, regardless of their location, have had the opportunity to provide comments on the Draft EIS, either in person or by postal mail or email.

Comment: The following comment mentions that permanent impacts associated with the proposed project would include the construction of two access roads from US Highway 20 to the proposed project site.

[027-10, Sara Cohn] Permanent impacts associated with the project include the construction of two access roads from Highway 20 to the project site.

Response: *Traffic impacts associated with construction of the two access roads from US 20 are addressed in Section 4.2.9.1 of the EIS. The associated air quality and noise impacts are addressed in Sections 4.2.4.1 and 4.2.8.1, respectively. In addition, please note that as acknowledged in the response to Comment 142-01 below from Mr. Blake Rindlisbacher of the Idaho Transportation Department (ITD), plans for access to US 20 have not been finalized, and no decision has been made about whether to use two full-time operational connections.*

Comment: The following comment requests that Highway Route Controlled Quantity (HRCQ) routing be written into the AES license as a condition of transportation operations since it was used in the risk analysis.

[066-16, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 14. Appendix D: pp. D-9, Lines 6-14. Under input parameters and route selection, HRCQ routing was used. Again on pp. D-30, Lines 14-15, *"the NRC staff used HRCQ routing for the transportation impact assessment in this EIS".* DEQ would like to see this requirement written into the license as a condition of transportation operations since it was used in the risk analysis.

Response: *The IDEQ preference is noted. However, HRCQ routing is not required for any radioactive material shipments that would take place to or from the proposed EREF, as the quantity of radioactive material within any package would not exceed the HRCQ threshold. HRCQ routing was assumed in the transportation risk analysis because it results in longer routes and a more conservative estimate of population risk.*

Comment: The following comment identifies an error in Appendix D of the Draft EIS regarding the definition of the transport index (TI).

[066-17, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 15. Appendix D: pp. D-21, Lines 15-16. The transport index (TI) is incorrectly defined as the dose rate at 1 meter from the lateral sides of the transport vehicle. The correct definition is the highest measured dose rate at 1 meter from any side of the package surface.

Response: *The text of Section D.3.5 of the EIS has been corrected to state that the TI is measured from the side of the package surface, as opposed to the side of the transport vehicle. By using the TI of the package, without consideration of shielding by a transport vehicle, the most conservative dose rate values have been assumed in the transportation risk assessment.*

Comment: The following comment questions the source of the population density number used in Appendix D of the Draft EIS, and expresses disagreement with Table D-2.

[066-18, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 16. Appendix D: pp. D-23, Line 11 states "... assumed population density of one person per square kilometer (2.6 persons per square mile)." DEQ is not sure where this density number comes from and it is not in agreement with Table D-2 on pp. D-11, where the rural density is listed as 9.5 persons per km^2

Response: *The emission risk factor is a unit risk factor (i.e., per unit area). As noted in Section D.3.6 of the EIS, this (unit) risk factor is multiplied by the average population density along the route and the route distance to obtain the one-way vehicle emission risk for the shipment. The text of Section D.3.6 has been clarified on this matter.*

The average rural population density for the route between the proposed EREF site and the DOE depleted uranium hexafluoride (UF_6) conversion facility in Paducah, Kentucky, was determined using the WebTRAGIS routing model (as were all of the population densities in Table D-2). The value of 9.5 persons/km^2, which accounts for all rural transportation segments in each State between the origin and destination (not just Idaho), has been verified. Table D-2 is correct.

Comment: The following comment addresses the number of truckloads of waste that would be transported over Idaho roads in need of repair.

[070-03, Virginia Hemingway] We will also have approximately 2,000 truckloads of incoming waste being transported over our potholed roads which need fixing, more than we need a $750,000 off-ramp to a spot where there is nothing currently, except sagebrush.

Response: *Waste from operations of the proposed EREF would be transported from the proposed EREF site to licensed treatment, storage, and/or disposal facilities (TSDFs). No waste would be transported into Idaho from out-of-state locations as a result of preconstruction, construction, operation, or decommissioning of the proposed EREF. The only materials transported to the proposed EREF would be raw materials for preconstruction, construction, and operation, including UF_6 feed material for the enrichment process.*

Existing state and regional road conditions are not within the scope of the EIS. Road conditions will vary over the lifetime of the proposed facility. However, the text in Section 3.10 of the EIS has been modified to note that the 18-mile stretch of US 20 from Idaho Falls to the Bonneville-Butte county line was resurfaced during the summer of 2010.

Comment: The following comment expresses the commenter's difficulty understanding the transportation issues to and from the proposed EREF.

[078-02, Hon. Wendy Jaquet] 2. I couldn't understand the transportation issues back and forth to the enrichment plant. It seemed to make more sense to co locate.

Response: *All shipments to and from the proposed EREF would occur by truck. The proposed EREF requires natural UF_6 feed material, which – as discussed in Section 4.2.9.2 of the EIS – would be shipped to the proposed EREF site from facilities in Illinois and Ontario, Canada, that convert uranium oxide to the fluoride form. The enriched UF_6 product from the proposed EREF would be sent to fuel fabrication facilities, such as those located in the States of Washington, North Carolina, and South Carolina (see Section 4.2.9.2), which convert the enriched fluoride product back to an oxide form and incorporate this material into fuel rods for commercial nuclear reactors (i.e., nuclear power plants). Co-location of the proposed EREF with any of these facilities – or with a natural uranium supplier, enriched uranium customer, or waste disposal site – could require significantly increased transport distances for the other materials because of the dispersed locations of these facilities. As discussed in Section 2.3.1, the site selection process also had other requirements necessary for the safe and economic operation of the proposed EREF that would preclude siting it near some of these other facilities.*

Comment: The following comment identified improvements that have been made to US 20 to accommodate existing facilities and future development.

[098-01, Linda Martin] Several comments have been made for the transportation. Due to the potential localized increase in traffic density along Highway 20, we have tried to think ahead, and we have tried to encourage improvements to that highway. These increased road improvements will currently affect and advantageously speed future travelers through INL, Sun Valley, Boise, and other tourist locales. So we think that that's a very important issue, that while it may not appear that anything is there now, there are people that go past those sections, and if you have several hundred people working, moving equipment and going through there, people are going to need increased transportation access.

Response: *The NRC acknowledges this comment and recognizes that road improvements along US 20 have been advocated to support increased tourism and promote general development in the region.*

Comment: The following comment asks if AES will provide the Shoshone-Bannock Tribes with information on shipment of materials to and from the proposed EREF, and if AES will provide the Tribes with emergency response training.

[129-02, Willie Preacher, on behalf of the Shoshone-Bannock Tribes] The Tribes Emergency Management Department questioned the transportation route of product to and from the Eagle Rock Enrichment Facility and will AREVA share information regarding the amount of shipments, hazards of the shipments, and will they provide training to the Tribes Emergency Management and Response staff to identify and respond to a transportation accident on the reservation.

Response: *As noted in Section 4.2.9.2 and Appendix D of the EIS, product destinations include the States of Washington, North Carolina, South Carolina, Virginia, and Maryland. As noted in Section 3.10.1, Interstate 15 (I-15) would serve as the primary route for all incoming and outgoing truck shipments. Information about the number and hazard of shipments is provided in Section 4.2.9. It is the NRC staff's understanding, from discussions with the Shoshone-Bannock Tribes and with AES, that AES has coordinated, and will continue to coordinate, with the tribes regarding various matters of interest to the tribes.*

Comment: The following comment acknowledges that the Draft EIS is accurate with regard to the state highway system and the impacts the proposed project will have on it, and that the mitigation cited for those impacts is appropriate. Also, the comment cautions that it has not yet been decided whether access to US 20 will consist of two full-time, operational connections.

[142-01 and 142-02, Blake Rindlisbacher, on behalf of the Idaho Transportation Department] Thank you for your early and close consultation with the Idaho Transportation Department in the development of this environmental impact statement. We believe the statement as expressed in this draft is accurate with regards to our state highway system and the impacts this project will have on it. The mitigation you cite for those impacts are indeed appropriate and we encourage the NRC to make ride sharing and shifts staggered from those of the Idaho National Laboratory a part of the operating license for AREVA Enrichment Services. We will continue to discuss with them the terms and conditions of their access to US-20, but specific operation behavior that may reduce risk is beyond our authority to require.

With regards to the operational baseline stated in your statement, we offer this caution. We are concerned over the description of their access to our highway as having two full-time, operational connections; one east (the primary) and one west. This has not been decided. If we concentrate resources at the east side of their facility by building a grade-separated interchange, the need for a second, at-grade, access is triggered by phasing and the management of incidents, not full-time operations. As you state, we are in negotiation with the owner over terms and conditions. If the impacts are sensitive to the number and placement of access, please consider this information when making your decision.

Response: *NRC acknowledges that plans for access to US 20 to/from the proposed EREF have not been finalized and that AES continues to consult with the ITD. The impacts described in the EIS are not believed to be sensitive to the number and placement of the access roads. However, the text of Section 4.2.9.1 of the EIS has been modified to clarify that plans for the access road(s) have not been finalized.*

Comment: The following comment calls attention to a number of minor matters in the text of Section 3.10.1 of the Draft EIS.

[142-03, Blake Rindlisbacher, on behalf of the Idaho Transportation Department] With regards to the facts in the draft, we would call your attention to the following minor matters. On page 3-75, line 24, the driving lanes on US-20 is given as 12.5 meter (41-feet): this appears to be a unit conversion error, as the driving lanes are generally 12 to 12.5 feet wide. On page 3-78, line 6, the speed limit is states as 55 mph: it is 65 mph. And finally, on page 7-78, lines 34-37, we are quoted as stating that the intersection of US 20 and I-15 "…may need to be upgraded to handle increased traffic from the proposed EREF…." While this grade-separated intersection is reaching the end of its useful life and presents a number of challenges for our maintenance team, neither the character nor the count of the traffic predicted off this facility will trigger its "need to be upgraded" in and of themselves. Rather, the increased loading (in terms of vehicles and weight of vehicles) will bring sooner the day when the interchange will need to be rebuilt. A secondary and cumulative impact (rather than a primary impact) in our opinion, and we have no funded plans for that construction.

Response: *The following text changes have been made in Section 3.10.1 of the EIS in response to this comment:*

- *The reference to the lane width has been omitted.*
- *The text has been corrected to reflect the 65 mph speed limit.*
- *The text has been modified to clarify that the need for upgrade of the junction of US 20 and I-15 may be accelerated by, but would not be the direct result of, additional traffic to and from the proposed EREF.*
- *Text has been added to note that there are no funded plans for this construction.*

Comment: The following comment addresses the adequate capacity of the road (US 20) to handle the flow of traffic during construction and operation of the proposed EREF.

[152-12, Steven Serr] There were three items in the EIS that I'd like to address. They noted in here, a small to moderate impact on traffic conditions. We have discussed with AREVA the issues on traffic. They've been working with the Transportation Department. The road that is constructed out there has adequate capacity to handle any of the traffic flow, increased traffic flows that would be created by the construction and operations over the long-term operation of the facility. They're well within the traffic design standards, even with that increased traffic flow on it. They are in the process of construction an overpass in their plans to access this site. With that construction, we fell that it would not be a traffic flow impediment with approaching cars coming in or out of the facility, or truck traffic.

Response: *The NRC acknowledges this comment and appreciates the participation in the NEPA process Please note that, as acknowledged in the response to Comment 142-01 from Mr. Blake Rindlisbacher of the ITD, plans for access to US 20 have not been finalized and construction has not yet begun.*

Comment: The following comment discusses the waste classification of depleted uranium by the State of Tennessee and its relation to the handling, storage, and transport of UF_6.

[181-20, Roger Turner] NEPA requires a hard look at environmental impacts even if waste classification system is flawed….

Because depleted uranium has been evaluated by the State of Tennessee as a "solid waste" as defined by RCRA, and because uranium hexafluoride is toxic, the EIS must examine more closely the handling, storage, and transport of UF6 including the environmental impacts, both cumulative and indirect from the project at Areva, regardless of the "official" classification of it as "Low-Level", or Low Level Mixed waste.

Response: *Classification of waste by the State of Tennessee has no bearing on the handling, storage, and transport of wastes generated at the proposed EREF. Impacts from the handling, storage, transportation, and disposal of radioactive wastes, including depleted UF_6, are addressed in Sections 4.2.9, 4.2.10, 4.2.11, and Appendix D of the EIS.*

Comment: The following comment asserts that the risks of accidents associated with the transportation of radioactive materials to and from the proposed EREF site should require the NRC to notify all relevant regional offices when radioactive material will be shipped.

[191-16, Liz Woodruff] Accidents. The risks of accidents associated with the transportation of radioactive materials into and out of the site should require the Nuclear Regulatory Commission to notify all relevant regional offices when radioactive material will be shipped to and from the Areva facility.

Response: *Per 10 CFR 71.97, such notifications would not be required for the shipment of UF_6 or other radioactive materials and wastes that would be transported to or from the proposed EREF.*

Comment: The following comment relates to risks associated with radioactive materials.

[191-06, Liz Woodruff] Radioactive Waste Poses an Unacceptable Risk. Radioactive material is inherently dangerous. Just the activities directly connected with uranium enrichment pose risks, as do all other parts of the fuel chain. The NRC should perform a complete analysis of the risks of uranium mining and milling, mixing yellow cake with hexafluoride (itself a dangerous material), enriching UF6 in gas centrifuge plants, storing and deconverting depleted UF6, disposing of depleted uranium and low level waste, fabricating fuel from enriched uranium, and all intermediate transportation steps.

Response: *The public health impacts from the transportation of radioactive and nonradioactive materials to and from the proposed EREF, including radioactive waste and depleted UF_6, are addressed in Section 4.2.9 and Appendix D of the EIS. Public health impacts from incident-free transportation of materials to and from the facility would be SMALL, and public health impacts from transportation accidents would also be SMALL. The risks posed by other activities in the uranium fuel cycle (e.g., mining and milling) are not within the scope of this EIS, which is for the proposed EREF.*

Comment: The following comment relates to the shipment of radioactive materials to and through the State of Idaho and the storage of such materials in Idaho.

[147-05, Joey Schueler] 1. Nuclear compounds will be shipped to Idaho and the byproduct waste of the process as well as enriched Uranium will be either shipped through our state or stored in Idaho.

Response: *As discussed in Section 4.2.11 of the EIS, low level radioactive waste from operation of the proposed EREF would be transported to licensed TSDFs. No radioactive waste would be transported into Idaho as a result of the proposed EREF project. The only radioactive materials transported to the proposed EREF would be UF_6 feed for the enrichment process.*

Comment: The following comments contend that radioactive materials are already transported safely across Idaho.

[133-08, Richard Provencher] Last, the transportation corridor in this area is robust and has been used successfully by other regional nuclear operators to safely transport large amounts of radioactive materials without incident. This existing infrastructure has also prepared local communities along transportation routes to respond to incidents should they occur making them well prepared.

[157-08, Hon. Erik Simpson] Transportation of radioactive materials. Concern was raised in western Idaho over the transportation of uranium hexafluoride and enriched uranium across Idaho's highways. Radioactive materials are already transported across Idaho several times a week. In fact, Idaho National Laboratory contractors have shipped more than 40,000 cubic meters of low-level and transuranic waste safely across Idaho to out-of-state facilities during the last decade.

Response: *The NRC acknowledges these comments.*

Comment: The following comments concern the cleanup costs for transportation accidents.

[049-02, Victoria Everett] And also, in the case of an accident, who plays for the cleanup? Who's responsible for that? The State of Idaho? Or is it AREVA? You know, that wasn't clarified. And in transportation, a truck gets in a wreck, it spills all over the ground. You know, such cases as that. Say there is a fire, and there's a major disaster at the plant. Who pays for that?

[181-08, Roger Turner] It would be opposed because the project would transport approximately 2,000 trucks of radioactive material across the state highways with no financial support dedicated, and provided to this state for safety, or for cleanup.

Response: *In general, cleanup and the costs of cleanup of radioactive material from accidents involving the transportation of materials to and from the proposed EREF, or any other industrial facility in the State of Idaho or elsewhere in the U.S., would be the responsibility of the carrier and potentially the responsible facility (shipper or receiver, as would be pre-determined for each shipment). The IDEQ, in cooperation with the ITD and local authorities (e.g., law enforcement and the fire department), would be involved in emergency response and cleanup oversight.*

Comment: The following comments suggest that transportation risks and accidents, including emergency response, are not covered in the Draft EIS.

[025-02, Hon. Sue Chew] So, you know, when I look at the fact that we have an aquifer, and we have potential waste that would be created upstream, I want to make sure that we have a good plan there when we look at transportation into Idaho and out, that those things are considered.

[027-03, Sara Cohn] And finally, we are concerned with the transportation analysis in the draft EIS, that it does not appropriately account for the hazardous and radioactive materials that will be transported to and from the site. Analyzing traffic impacts alone does not adequately encompass the potential impacts to public health, and the environment, associated with such cargo. Perhaps that will be addressed in the safety analysis. I have not yet seen that. I don't believe it's been out for public comment.

[027-07, Sara Cohn] Transportation: The ICL is very concerned about the transportation of hazardous and toxic materials to and from the project site. Based on the size of the facility and the number of trips expected to transport hazardous and toxic materials, the possibility of accidental spills and subsequent contamination is high. Transportation risk analysis should be provided within the final EIS to ensure that the transport of hazardous materials to and from the site will not result in the pollution of Idaho's waters and air, or endanger public health. More information is needed to understand the size and scale of the enrichment facility, the amount of waste produced and transported from the site, and the amount of hazardous and toxic materials imported and exported from the site. We also request information regarding the methods of transport and the types of containment vessels that will be used to transport materials.

Detailed plans should be prepared to reduce contamination and public health risks in the event of a spill or accident during transport.

[050-02 Joanie Fauci] One of the areas I feel is under-emphasized in the DEIS is the Safety issue.

• There will always be safety issues with transportation, even of non-toxic substances. Nuclear material (uranium) involves additional safety measures for transport and possible emergency response.

[068-03, Anne Hausrath] I am opposed to the transport of radioactive waste. I believe this risk has not been addressed.

[105-04, Eve McConaughey] The most glaring question, not addressed or answered concerned the transportation risks and ultimate unresolved problem of waste disposal.

[136-01, Susan Rainey] No uranium enrichment facility outside Id Falls by AREVA!!! The transport of radioactive material and the storage of nuclear waste are my biggest concerns. There are safety issues! We will be at risk. How will the waste be disposed of? Snake River Alliance did an excellent job explaining. NRC sounded like bureaucratic babble ignoring the real dangers and concerns. How is this really going to help us here in Idaho, USA? Let's look at other options. Not worth the risk.

[153-08, Andrea Shipley; 197-08, Andrea Shipley, on behalf of the Snake River Alliance; 184-11, Kitty Vincent] Accidents happen and there are risks associated with the transportation of radioactive materials. The EIS should fully evaluate the safety threats posed by the transportation of radioactive material into and out of the EREF. The accident scenarios should include an analysis of the potential environmental and public health effects of an accident on roadways in the event of a spill of the various radioactive materials that will be transported to and from the facility.

[169-02, Margaret Stewart] And there has been inadequate addressing in the EIS of wildfire threats, and transportation of nuclear material accidents.

[191-31, Liz Woodruff] Transportation. The EIS should fully evaluate the safety threats posed by the transportation of radioactive material into and out of the EREF. The accident scenarios should include an analysis of the potential environmental and public health effects of an accident on roadways in the event of a spill of the various radioactive materials that will be transported to and from the facility: uranium hexafluoride; enriched uranium, and depleted uranium.

[192-16, Lisa Young] Indeed, I hope to see further examination of accident scenarios involving large wildfires around the facility, as well as accident scenarios involving the transportation of radioactive substances to and from the facility on our roads and highways.

Response: *The public health impacts from the transportation of radioactive and nonradioactive materials, including the release of radioactive materials and other chemicals following a transportation accident severe enough to rupture a cargo container, are addressed in Section 4.2.9 and Appendix D of the EIS. Public health impacts from incident-free transportation of materials to and from the facility would be SMALL, and public health impacts from transportation accidents would also be SMALL.*

The transportation of radioactive cargo is subject to both DOT and NRC shipping regulations as discussed in Section D.3 of the EIS. Safety measures in the regulations include the proper packaging of the material for shipment. Information about the containers that would be used to transport radioactive cargo is included in Section D.3.2.

Emergency response plans for transportation accidents are not within the scope of the EIS, but are addressed in the SER (NRC, 2010b). Cleanup for accidents involving the transportation of materials to and from the proposed EREF, or any other industrial facility in the United States, would be handled by the carrier, the responsible facility (shipper or receiver), and the appropriate Federal, State, and local agencies.

I.5.17 Public and Occupational Health

Comment: The following comment requests information related to the exposure of the public to toxic, radioactive, and/or harmful pollutants from operation of the proposed EREF.

[027-18, Sara Cohn] Public Health. The ICL is concerned that operation of this facility may expose Idahoans to toxic, radioactive, and/or harmful pollutants. Further detail and analysis must investigate risks associated with water and air contamination from enrichment operations. We request detailed information regarding the amounts and types of materials used, produced, and stored onsite. We would like detailed information about how these materials may be released and how releases may endanger public health. Detailed plans to contain releases as well as alert and protect the public will be essential in the final EIS. Additionally, further analysis must ensure no air releases during transportation of both uranium product and waste to and from the site. The health of Idahoans is of primary import and should not be compromised by enrichment product, waste, or transport.

Response: *The NRC staff believes that the EIS presents sufficient detail on the potential impacts of exposures to toxic substances from proposed EREF operations. As reported in Chapter 6 of the SER, NUREG-1951 (NRC, 2010b), UF_6 is the only chemical of concern with regard to potential occupational or public health exposures that will be used at the proposed EREF due to exposures to HF and uranium compounds produced in the interaction of UF_6 with moisture. As shown in Section 4.2.10.2 and Appendix E, the EIS analyzes potential exposures of members of the public to these substances via the air pathway during the proposed EREF operations. The analysis shows that such exposures would be below regulatory limits and would not harm members of the public. There would be no exposures to any toxic substances by way of any water pathway; the facility would have no offsite waterborne effluent streams, as discussed in Sections 2.1.4.2 and 4.2.6.2. Section D.3.2 in Appendix D discusses the packaging requirements which preclude any releases of material during routine transportation operations.*

Comment: The following comment asks why the ALARA (As Low As Reasonably Achievable) constraint on air emissions of radioactive material to the environment is not addressed in the EIS.

[066-08, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 6. Several places in the draft EIS reference the 100 millirem per year dose limit to any member of the public. The draft EIS does not discuss the ALARA constraint on air emissions of radioactive material to the environment of 10 millirem per year as stated in 10 CFR 20.1101(d). Please explain why this is not addressed.

Response: *A comparison of estimated doses associated with air emissions to the limits in 10 CFR 20.1101 has been added to Section 4.2.10.2.*

Comment: The following comment questions the NRC's use of the high-pressure ion chamber (HPIC) exposure in air measurement to derive a hypothetical soil concentration.

[066-09, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 7. Chapter 3: pp. 3-83 Line 12 discusses an average HPIC exposure rate in units of curie per kilogram with micro roentgen per hour in parenthesis and cites IDEQ INL Oversight Program (2008). The IDEQ INL Oversight Program only reports HPIC results in units of exposure per hour (micro roentgen per hour). Activity per unit mass is typical of a soil concentration measurement. If NRC has somehow used the HPIC exposure in air measurement to derive a hypothetical soil concentration, they need to subtract the contribution from cosmic sources from this measurement. Either way, the reference to IDEQ INL Oversight Program should only include the micro roentgen per hour units and any inferences should be clearly stated.

Response: *Section 3.11 of the EIS has been revised. The concentration units have been corrected and changed from curie (Ci) per kilogram to coulomb (C) per kilogram*

Comment: The following comment requests evaluation of potential elevated releases from the proposed EREF that would result in higher impacts than the ground level releases evaluated in the Draft EIS.

[066-19, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 17. Appendix E: pp. E-7, Line 45 through pp. E-8 Line 3 states "Since the exact height layout of the release points was not available and the CAP88-PC computer code does not account for building wake effects, releases were assumed to take place at ground level. Ground-level releases result in larger concentrations of radionuclides in air for receptors near the source than do elevated releases." This statement is true and is more conservative for hypothetical public at the fence, but underestimates the dose to the nearest actual resident which is 8 km (5 mi) away. Additionally, pp. 6-16 lines 14-17 state an approximate elevation of 40 meters (132 feet) for the effluent emission points. This approximation could be used to run the CAP88-PC code. DEQ requests clarification in the EIS and evaluation of this potential impact.

Response: *The CAP-88-PC computer code was run for both ground level and 40-meter (m) releases. For conservatism, the maximum values of the two runs were chosen for the dose estimate. For the nearest resident, the maximum dose was associated with the ground level release, while the maximum population dose was associated with the 40-m release. The text and tables in Section 4.2.10.2 and Appendix E in the EIS have been modified to reflect these changes.*

Comment: The following comment expresses concerns about worker safety at the proposed EREF and the need for safety procedures in general.

[036-02, Christina Cutler, on behalf of the Shoshone-Bannock Tribes] Safety procedures, protecting human health and the environment, for the storage facility as well as the processing facility need to make clear. Including but not limited to worker safety. Worker safety is always a concern and should be thoroughly characterized and described in the proposal.

Response: *The proposed EREF would operate under a facility Health and Safety Plan administered by a Health and Safety Organization that would implement the health and safety requirements of the NRC and U.S. Occupational Safety and Health Administration (OSHA), as specified in the relevant portions of 10 CFR 20 and 29 CFR 1910, respectively, cited in Section 4.2.10 of the EIS. Procedures in the Emergency Plan for the proposed EREF would be designed to protect workers under emergency conditions.*

Comment: The comment suggests that impacts to the public from air releases would be small.

[133-04, Richard Provencher] There appears to be only a small amount of air discharge of radioactivity which results in virtually no impact to the nearest public receptor.

Response: *The NRC acknowledges the comment and appreciates the public participation.*

Comment: The following comment expresses a concern that impacts from fluoride exposure could be underestimated.

[141-03, Peter Rickards] The SENES fluoride documents on underestimating fluoride impact at Oak Ridge was not answered, despite acknowledging “someone” asked about it. The SENES team does work for CDC, and underestimating the fluoride is unacceptable.

Response: *The SENES Oak Ridge Inc. fluoride documents concern releases of tens of thousands of pounds of HF on an annual basis and are not directly applicable to the proposed EREF. This is because HF releases from the proposed EREF are estimated to be less than 4.4 pounds per year, as stated in Section 4.2.10.2 of the EIS, a difference of about 1000 to 10,000 times less than those considered at Oak Ridge, resulting in much lower environmental concentration levels than considered harmful in the SENES documents. Section 4.2.10.2 of the EIS discusses the potential air concentrations of HF for workers and the public as a result of the proposed EREF. For workers, the potential estimated concentrations would all be below OSHA and National Institute for Occupational Safety and Health (NIOSH) standards. For members of the public, estimated concentrations would be about 1000 times below State of Idaho regulations.*

Comment: The following comment expresses concerns regarding risks due to uranium materials due to the preconstruction exemption granted to AES by the NRC.

[147-07, Joey Schueler] 3. Contamination potentials are not being discussed or considered in the environmental impact assessment process due to “exemptions” and were missing from the public comment phase of the assessment and when asked to speak directly to this point by myself, NRC / EIS representatives refused to comment. Yet, the NRC website acknowledges

that risks exist for this plant: “Hazards: The primary hazard in gaseous diffusion plants include the chemical and radiological hazard of a UF_6 release and the potential for mishandling the enriched uranium, which could create a criticality accident (inadvertent nuclear chain reaction). Sited source: http://www.nrc.gov/materials/fuel-cycle-fac/ur-enrichment.html

Response: *AES would not be authorized to handle, store, or process uranium materials at the proposed EREF until a license is granted by the NRC. The exemption to which this comment refers allows preconstruction activities to be conducted by AES, such as site preparation activities, before the license is granted, as discussed in Section 1.4.1 of the EIS; however, those activities do not involve uranium materials. Therefore, there are no risks due to uranium compounds associated with the preconstruction exemption. Risks associated with UF_6 at the proposed facility, including those from operations, accidents, and potential terrorist acts, are covered in Sections 4.2.10, 4.2.15, and 4.2.18.*

Comment: The following comment points out that enriched uranium is more hazardous than depleted uranium.

[147-13, Joey Schueler] 9. Enriched Uranium is far more hazardous than the “Depleted Uranium” used in Gulf military operations, even though many Desert Storm veterans fell prey to cancer after their exposure to depleted Uranium in clearing bombed Iraqi vehicles, strongholds and implements of war, deemed “safe” by our military leaders (sound familiar?). http://en.wikipedia.org/wiki/Gulf_War#Effects_of_depleted_uranium

Response: *The EIS evaluates the potential doses to workers and members of the public associated with UF_6 in storage and uranium releases associated with normal operations (see Section 4.2.10), finding that the impacts would be SMALL.*

Comment: The following comment states that the public health risks of temporary storage of depleted uranium should be addressed in the EIS.

[181-11, Roger Turner] Public Health risks of “Temporary” Storage of depleted Uranium should be addressed in EIS. The draft EIS by the NRC significantly errs by minimizing the human health and environmental risks in the risks of the storage of uranium in above-ground pads in eastern Idaho. The EIS is flawed in its apparent assumption that another location will be certified for off-site storage. The EIS fails to acknowledge that these casks may be breached by handling or corrosion. Here is an excerpt of the EIS, under the Public Health section:

> During peak operation, the proposed EREF is expected to generate 1222 cylinders of depleted UF6 annually, which would be temporarily stored on an outdoor cylinder storage pad in approved Type 48Y containers before being transported to a DOE-owned or private conversion facility.

The above paragraph, under the Public Health Section, in fact, does not even discuss public health. The EIS must assume that the casks of depleted Uranium will remain for some time at the site, as the treatment facility to convert UF6 to the more stable oxide is behind in schedules and experiencing budget problems affecting production. Anytime heavy equipment is operated

there is a risk that accidents will occur. In fact, casks of UF6 were damaged by heavy equipment at Oak Ridge, so the risk to workers and public health is real. The EIS needs to define "temporary" and fully assess health and worker risks, for longer term storage at the site.…

The characteristics of UF6 pose potential health and environmental risks.DUF6 in cylinders emits low levels of gamma and neutron radiation. Also, when released to the atmosphere, DUF6 reacts with water vapor in the air to form hydrogen fluoride (HF) and uranyl fluoride (UO2F2), both chemically toxic substances. Consequently, spills and air releases of this material is potentially a significant adverse impact on the environment as defined by NEPA.

Response: *The EIS considers the dose to workers and the public associated with stored UF_6 cylinders in Section 4.2.10.2. The cylinder management program to minimize cylinder corrosion is covered in Section 4.2.11.2. Accidents with potential impacts that bound those involving heavy equipment and full cylinders are analyzed in Section 4.2.15. The consequences of the accidents analyzed encompass those of a storage pad cylinder release.*

Comment: The following comment requests that information be added to the EIS regarding certain filtering and ventilation systems and the associated risks that would be part of the proposed EREF.

[181-16, Roger Turner] Inadequate description and risk evaluation of the first step in the process. Sublimation of the solid UF_6 into the gas phase. How is this done? What is the size of facility to accomplish this? What temperatures and pressures are required to sublimate UF6? The EIS describes, on page 2-19 a system of pre-filters before the "cleaned gases would be discharged to the atmosphere via rooftop stacks". The EIS needs to describe this system and how it functions. What systems would be in place to monitor these filters and their integrity? What are the "clean gases" that will be discharged to the atmosphere and how are these gases monitored? Are continuous stack samplers employed for this? Please describe them in the EIS. What is the annual volume of gas produced and what are the safeguards?

The Section on SBM notes that a ventilation system will be in place: "The Gaseous Effluent Ventilation System would be used to remove uranium and other radioactive particles and hydrogen fluoride from the potentially contaminated process gas streams."

The final EIS needs to go into some detail about the ventilation system. If there is a release of UF_6, or HF, how does the ventilation system capture it? Once captured how is it specifically treated and how does it provide protection to the workers and protection from release into the atmosphere, or in the case of liquid or solid phases of it, protection from contact to workers?

Response: *Presentation of detailed information regarding the sublimation process and the ventilation system of the EREF is beyond the scope of this EIS. However, Section 4.2.10.2 of the EIS discusses the doses associated with the potential routine airborne release of uranium from the proposed EREF; Section 4.2.15.2 discusses accident impacts including the rupture of a Centrifuge Test Facility feed vessel; Section 4.2.15.3 discusses mitigation measures in place to prevent this accident; and Section 5.2, Table 5-2, identifies mitigation measures associated with the release of UF_6 and related compounds during operations. Sections 6.1.1 and 6.1.2 discuss ambient air monitoring activities and reporting requirements.*

Comment: The following comments raise the issue of thyroid cancer in Elmore County and state that this risk needs to be addressed in the EIS.

[016-02, Manley Briggs] However, a really interesting thing that I noticed was that Elmore County had a statistically increased rate of thyroid cancer in those born after 1958. That means they weren't affected by the nuclear bomb tests. But why do they have it? And it is pertinent, I think, at least needs to be looked into, that Elmore County is the first county down-river from the discharge of the Snake River aquifer at the Thousand Springs into the Snake River. So I think that at least needs to be addressed by the Environmental Impact Statement.

[016-04, Manley Briggs] One last observation that I would like to point out is the high incidence of thyroid cancer in Elmore County. Elmore is the first county below the Thousand Springs, which is where the Snake River Aquifer empties into the Snake River. This was noted in the 1999 NCI Report regarding the Nuclear-Bomb test fallout. This increased incidence occurred only in individuals born after 1958 and thus could not be attributed to the Bomb fallout. Could it be due to leaching of radioactivity into the aquifer from previously stored nuclear materials? This would certainly have bearing on Areva's proposal, and should be examined by the Areva EIS.

Response: *Increased thyroid cancer rates are associated with exposure to radioactive iodine produced in nuclear fission, the characteristic chain reaction that occurs in a nuclear reactor or a nuclear bomb. Thyroid cancer rates are not an issue related to the proposed EREF because operations at the proposed EREF would not involve nuclear fission and would not produce radioactive iodine. For reasons discussed in Section 4.2.6.2 of the EIS, operation of the proposed EREF would not contaminate the Snake River Aquifer.*

Comment: The following comments express concern regarding the exposure risks as a result of the proposed EREF.

[147-01, Joey Schueler] This is a very serious decision that we've entrusted to a very few people, and I'm not convinced from this meeting -- cause you're convincing us as much as we're trying to convince you tonight, right? I'm not very convinced that this is unbiased.

I'm extremely concerned about that, and the implications just are dire to me. And I have to ask: What is the risk? Not the impact. What is the risk?

I've heard a lot of statements about what the impact is. And the economic impact is, yes, I'm sure tremendous, and I think she put it well, that there's a dollar sign to this. But I'm not here to hear about impact, whether it be pro or against. I want to know what the risk is to me and my family, because that's what this is about. I know there's many environmental factors, but I think if there's one thing we should be concerned about in Idaho, is our safety.

[147-03, Joey Schueler] I do not feel that any summary statement on impact of nuclear enriched uranium plant that does not account for any statement on the potential risk of exposure is a sound or unbiased summation on environmental impact. This concerns me greatly and presents a basic failure on the part of the NRC, whether unintentional or planned.

Response: *In the EIS, the NRC staff analyzes the environmental impacts associated with the construction, operation, and decommissioning of the proposed EREF. As part of its analysis, the staff has considered the impacts – both positive and negative – that the proposed EREF may have on members of the public. Further, the staff has considered how members of the public may be affected by the proposed EREF both during normal operations and as a result of certain abnormal events. The impacts that the staff analyzed in detail are listed in Section 1.4.3 of the EIS. These impacts include impacts related to public and occupational health, as well as a variety of other impacts potentially affecting the quality of life. In Chapter 4 of the EIS, the NRC staff discusses these impacts in detail. In EIS Sections 2.4 and 2.5, the staff provides a summary of its analysis. Applying the impact scale outlined in Council on Environmental Quality regulations, the staff has determined that all impacts related to the long-term safety of the public would be SMALL.*

In addition to analyzing environmental impacts potentially associated with the EREF, the NRC staff conducted a rigorous safety review of AES's application. The staff conducted its safety review to determine whether AES's application meets NRC regulations designed to protect public health and safety. For example, NRC regulations in 10 CFR Part 20 prescribe radiation dose limits for individual members of the public. The staff has determined that AES's application satisfies all applicable safety-related criteria in NRC regulations. The staff's safety findings are presented in its Safety Evaluation Report.

Comment: The following comments discuss increasing radiation from stored depleted UF_6 and the potential for accidental release.

[032-05, Cindy Cottrell] The problem with depleted uranium is that it becomes more radioactive over the course of 1,000,000 years. Where would we store this knowing it will become more radioactive?

[103-05, Karen McCall] Depleted uranium becomes more radioactive as it ages leaving an ever increasing toxic legacy.

[157-02, Hon. Erik Simpson] Another issue related to the production of depleted uranium, that has been overstated, to a great extent, deals with the radioactive level of the material over time. It is true that depleted uranium tails from enrichment become more radioactive. The real question is whether that presents a problem to anyone's future health and safety of the environment. We all know that uranium is a naturally occurring radioactive element as found in nature. Uranium also contains all of the naturally-occurring decay products of the uranium decay chain.

After going through chemical purification and enrichment, the depleted uranium tails are stripped of those other materials that are actually much less radioactive than the form of uranium normally found in nature. So it is the build-up of those normal decay products in the depleted uranium that give reason for the position that it becomes more radioactive, with time. Truth be told, the uranium is actually building back up to its natural balance of uranium and decay products. The ultimate question we need to address was storage and disposal of depleted uranium, is can it be done safely and does this increase in radioactive, back to normal

levels, create a future problem for the environment? The answer to that -- uranium can be very -- or it can be very safely stored and disposed.

[168-03, Lon Stewart] What does Idaho get out of this? We get highly radioactive waste that increases in intensity over time, we get a chance to pollute the Eastern Snake River Aquifer, the main source for water for all of Southeast Idaho and then pollute the Snake River which flows through the Southwest portion of the state. We will probably get 350,000 tons of uranium waste over the life of the facility that no one currently knows how to dispose of. And when an accident occurs, which sooner or later it will, how many people will be affected? Doesn't sound good to me.

[171-06, John Tanner] As far as disposal of decayed uranium is concerned, an honest comparison of the radioactivity between depleted uranium and uranium ore would compare equal amounts of uranium, not equal amounts of dirt. And on that basis, ore is far more radioactive than depleted uranium. It's simply that in the depleted uranium, they've concentrated the uranium, and it would make no sense to dilute it by mixing it with dirt just so we can say well now it's ore. It should be buried, as is, and shallow, because some day we're going to need it.

[180-06, Kaye Turner] Is it true that depleted uranium becomes more radioactive over time?

[193-05, Liz Woodruff, on behalf of the Snake River Alliance] So once it is deconverted, after treatment, if they come up with a solution for this, is the problem solved? Well, there is less of it. But the funny thing about depleted uranium is that it becomes more radioactive. Over time, as it decomposes, it exposes radon gas. And it's most radioactive in its millionth year.

[192-13, Lisa Young] The storage of the depleted uranium waste, which will likely not be deconverted in any reasonable timeline, poses a serious risk to our health and safety as Idahoans, and to the residents of any other region where the waste will be stored in the future. Even after proper deconversion of this waste, the remaining waste, which cumulatively becomes more of a radioactive threat over time, has nowhere to go for acceptable long-term storage, and will continue to plague our waste storage sites with more and more barrels of poison, creating more and more of a health and safety risk for the surrounding communities. Producing this waste is irresponsible, and licensing a facility that will do just that is undeniably irresponsible.

Response: *While uranium isotopes in depleted UF_6 continue to decay at a constant rate after the enrichment process is complete, daughter products from their decay build up and increase the total radiation emitted from the material, which would be similar to that associated with naturally-occurring uranium ore. For illustrative purposes, the dose rate at 1 meter from a storage cylinder containing 10,000 kg of solid depleted uranium oxide would be expected to increase from 0.26 mrem/hour in the first year to 1 mrem/hour at 10,000 years and 30 mrem/hour at 1 million years. As noted in Section 3.11.1 of the EIS, the average person in the United States receives approximately 310 mrem per year from natural background radiation sources.*

Accident scenarios involving stored cylinders of depleted UF_6 at the proposed EREF are encompassed by the accident analysis of more severe accidents presented in Section 4.2.15.2 and analyzed in greater detail in the SER (NRC, 2010b). The consequences of the analyzed accidents bound accidents involving stored depleted UF_6 cylinders on the storage pad, including

routine handling scenarios. The NRC staff concludes that through the combination of plant design, engineered controls, and administrative controls, accidents at the facility pose a low risk to workers, the environment, and the public.

I.5.18 Waste Management

Comment: The following comment expresses support for the project and a desire for more information on the storage and disposal of wastes.

[006-01, Anonymous] I am supportive of the AREVA project but would like to have heard more from the NRC on how waste from the process will be stored and ultimately disposed of.

Response: *Storage and management of waste is discussed in Sections 2.1.4.2, 2.1.4.3, and 4.2.11 of the EIS.*

Comment: The following comment concerns the storage of SNF.

[007-02, Arnold Ayers] You talk about associated with that, another is storage of fuels. People are worried about storage. Well, I've got tell you, we did the testing on the storage for the spent fuels that are actually being stored in power plants today, and found no discharges anywhere. If we can do it for that, I see absolutely no reason why such facilities cannot be developed and built for AREVA to be able to handle the waste products that they have over an indefinite period of time.

Wait a minute, we're talking waste products. The reality is that that fuel has a very strong potential under the right circumstances to become more fuel. It's not a waste product, it is actually a potential energy resource.

Response: *As reflected in the comment, no SNF would be generated or stored at the proposed EREF. Section 4.2.11.2 of the EIS addresses the disposal of waste that will be generated during operations at the proposed EREF.*

Comment: The following comment expresses concern that there would be long term storage of "spent uranium" at the proposed EREF site.

[019-02, George Buehler] I see this as the narrow end of the wedge to create long term storage of spent uranium, since the process of establishing a permanent repository for nuclear waste has been hopelessly grid-locked for decades.

Response: *The United States is still in the process of considering a permanent repository for high-level waste and SNF. Neither of these waste types would be generated by the proposed EREF or stored at the EREF site. Furthermore, AES has stated that depleted UF_6 cylinders would not be stored at the proposed EREF site beyond the licensed lifetime of the facility (AES, 2010a).*

Comment: The following comment asserts that the Draft EIS does not contain adequate information regarding hazardous materials existing or proposed for storage at the proposed EREF site.

[027-19, Sara Cohn] Hazardous Materials: The EIS does not contain adequate information regarding hazardous materials existing onsite. Additionally, it is unclear how hazardous materials will be stored during operation of the proposed project, and as mentioned above, no adequate rules exist for disposal of such materials. The final EIS must provide detailed information with regard to any hazardous materials existing or proposed for storage onsite and any cumulative risk associated with the storage, transport, and use of hazardous materials during project operations. The final EIS must include a Management Plan for Toxic and Hazardous Materials. This document should be available for public comment and should address health and accident risks associated with toxic and hazardous materials onsite as well as accident prevention and management strategies. This information is incredibly important to protect the health and lives of emergency responders and communities such as Idaho Falls, Pocatello, and others that would potentially be harmed by facility operations. The ICL is concerned that a hazardous materials analysis was not included in the draft EIS and that the Safety Report for this facility has yet to be released. The Safety Report- an important document that will evaluate the safety of the proposed facility and potential threats to public health – must be released for public comment and evaluation before the final EIS is approved and the NRC seeks a licensing decision.

Response: *For the purposes of responding to this comment, the NRC staff assumes that the commenter's definition of "hazardous materials" includes hazardous and radioactive raw materials and waste. The public and occupational health impacts of storing radioactive and hazardous materials onsite are addressed in Section 4.2.10.2 of the EIS. The impacts of transportation accidents involving the release of hazardous materials are addressed in Section D.2.2.2, and the impacts of hazardous waste disposal are addressed in Section 4.2.11.2. Specific details about the onsite storage of hazardous materials at the proposed EREF will not be available until the facility design is finalized; and development of plans for management of toxic and hazardous materials and for emergency response is not within the scope of the EIS. The quantities of hazardous materials to be stored onsite are considered sensitive information and were taken into account as part of the safety evaluation in the NRC's SER, NUREG-1951 (NRC, 2010b).*

Comment: The following comment requests additional detail about waste from the Gaseous Effluent Ventilation System (GEVS) at the proposed EREF, including the use and disposal of filters.

[027-14, Sara Cohn] The environmental documents mention the use of Gaseous Effluent Ventilation Systems. We are concerned about the waste associated with the ventilation system and would like more detail with regard to the use and disposal of any filter-like product that may contain pollutants.

Response: *The impacts associated with the waste from the GEVS are addressed in Section 4.2.11.2 of the EIS. Additional information about use and disposal of filter-like products used in the GEVS has been added to that section, including the types of filters and the processing of filters after removal from service.*

Comment: The following comment asks about who will pay for waste storage at the proposed EREF site and eventual removal.

[050-11, Joanie Fauci] Who will pay for waste storage and eventual removal?

Response: *AES is responsible for all costs of preconstruction, construction, operation, and decommissioning of the proposed EREF, including waste storage and removal.*

Comment: The following comment expresses concern that the Draft EIS does not evaluate toxic waste impacts following decommissioning.

[077-03, Larry Hyatt] The most serious flaw in the EIS for Eagle Rock is that the evaluation of impacts end at the decommissioning of the facility where as the toxic contaminants of the enrichment process will be a serious environmental hazard for thousands of generations into the future. Both the depleted Uranium and the centrifuged product are a poison to humans and the proposal shows no assured containment of this material nor a method of rendering it safe. You cannot show adequate stewardship to manage this dangerous byproduct for its life of toxicities.

Response: *Waste management impacts at the proposed EREF site following the conclusion of decommissioning are not addressed in the EIS, because residual environmental hazards are not anticipated. All waste and contaminated materials would be shipped to a licensed disposal facility. The NRC license, as well as the AES Decommissioning Funding Plan, would require the decontamination or removal of all materials from the site which prevent release of the facility and site for unrestricted use as defined in 10 CFR 20.1402 (NRC, 2010b). The NRC staff has found that AES's plans for financial assurance for decommissioning and AES's plan for chemical process safety and controls meet the requirements in 10 CFR Part 70 and provide reasonable assurance that public health and safety and the environment will be protected (NRC 2010b).*

The long-term impacts of the disposed waste are covered under the licenses (and their supporting environmental analyses) that have been, and would in the future be, issued to commercial radioactive waste disposal facilities. These facilities are licensed by the Commission or designated Agreement States according to the requirements specified at 10 CFR Part 61 or compatible Agreement State regulations. Further, the NRC is currently engaged in rulemaking to specify a requirement for a site-specific analysis for the disposal of low-level radioactive wastes, including large quantities of depleted uranium (NRC, 2009). In the interim, compliance with the performance objectives specified in Part 61, Subpart C, continues to provide reasonable assurance that low-level radioactive waste can be safely disposed at licensed facilities. On April 13, 2010, NRC staff summarized existing policy and guidance to assist Agreement States in making informed decisions regarding compliance with the performance objectives for land disposal of significant quantities of depleted uranium until a new regulation is implemented (NRC, 2010a).

Comment: The following comment expresses concern regarding the integrity of storage containers for depleted UF_6.

[125-01, Holly Paquette] Having all that been said, I think the perfect picture for me, that described what my worries are about this, with the storage of the uranium that we saw up there. Now Representative Simpson from Idaho Falls came up and said -- which actually did not make me feel better. I think he hoped that that would -- that those rusted containers are actually highly regulated, checked, and meet all of the standards that are needed to be keeping the people around it safe. For me, that was a shock, that that's considered perfectly regulated, and I think that that brought to mind what's going on in the Gulf right now. We have a lot of trust in our government, that they are regulating things, and that things are perfectly okay. If that means that depleted uranium is being stored in rusted metal containers, that we have no way of getting rid of, that frightens me.

Response: *As noted in Section 4.2.11.2 of the EIS, DOE has stored depleted UF_6 in Type 48Y or similar cylinders outdoors since the mid-1950s, and cylinder leaks due to corrosion led DOE to implement a cylinder management program. Proper and active depleted UF_6 cylinder management, which includes routine inspections and maintaining the anticorrosion layer on the cylinder surface, has been shown to limit exterior corrosion or mechanical damage and provide for safe storage. AES has committed to the implementation of a similar cylinder management program (see Section 4.2.11.3 of the EIS), which would help ensure safe storage of depleted uranium at the proposed EREF site.*

Comment: The following comment concerns the transport of radioactive materials and waste through Idaho and the storage of these materials in the State.

[147-05, Joe Schueler] 1. Nuclear compounds will be shipped to Idaho and the byproduct waste of the process as well as enriched Uranium will be either shipped through our state or stored in Idaho.

Response: *As discussed in Section 4.2.11 of the EIS, low-level radioactive waste from operation of the proposed EREF would be transported from the proposed EREF site to licensed, out-of-state TSDFs. Depleted UF_6 from the enrichment process would be stored at the proposed EREF site until shipment to a DOE-owned or commercial conversion facility. AES has stated that depleted UF_6 cylinders would not be stored at the proposed EREF site beyond the licensed lifetime of the facility (AES, 2010a).*

No radioactive waste would be transported into Idaho as a result of the proposed EREF project. The only radioactive materials transported to the proposed EREF would be UF_6 feed for the enrichment process.

Comment: The following comment discusses potential uses for depleted uranium tails.

[157-04, Hon. Erik Simpson] Lastly, depleted uranium tails themselves are not considered waste. The tails contain residual value in both the remaining uranium and fluorine that it contains. In fact, the Idaho Company, International Isotopes, is in the process of licensing and building a $100 million facility in New Mexico specifically designed for the chemical deconversion of depleted uranium from enrichment. The facility will extract the valuable fluoride and sell that on the commercial market place.

Response: *As stated in the text box in Section 2.1.5 of the EIS, depleted uranium is source material as defined in 10 CFR Part 40, and, if treated as a waste, falls under the definition of low-level radioactive waste per 10 CFR 61.2. After conversion from hexafluoride to a more stable oxide form, the depleted uranium could potentially be used in various materials or products. However, DOE currently plans to dispose of most of the depleted uranium oxide as low-level radioactive waste (DOE, 2009). Should any depleted uranium generated at the proposed EREF be sent to the proposed International Isotopes facility in the future, the fluoride in the depleted UF_6 would be recovered and sold on the commercial market.*

Comment: The following comment ask about depleted uranium generation as a result of enriched uranium production.

[180-05, Kay Turner] Is it true that for every ton of enriched uranium produced there will be seven tons of depleted uranium?

Response: *On an annual basis at full production, the proposed EREF is anticipated to produce approximately 2252 metric tons (2482 tons) of low-enriched UF_6 and 15,270 metric tons (16,832 tons) of depleted UF_6 as stated in Section 2.1.4.2. The resulting ratio between the enriched product and depleted tails is about 1.0 to 6.8 or about 1 to 7.*

Comment: The following comment criticizes the classification system for radioactive wastes and states that the EIS should evaluate risks to the public from radioactive wastes.

[181-19, Roger Turner] NEPA requires a hard look at environmental impacts even if waste classification system is flawed. Classification of radioactive wastes in the U.S. errs because waste categories are based on the origin of the waste, not on the physical, chemical, or radiological properties that determine the hazards of the waste, and hence its safe and proper management. Hence the system does not take into account actual radioactivity levels of waste either overall or per unit volume. Thus, so-called “low-level waste” can contain materials more radioactive than those classified as “high-level waste.” However, the NEPA requires that risks to the public be evaluated, in addition to simply repeating the waste classification system employed in the U.S.

Response: *Discussion of the waste classification established by the NRC in 10 CFR Part 61 is not within the scope of the EIS. Section 4.2.10 of the EIS presents the evaluation of the radiological risks to workers and the public as a result of the proposed EREF.*

Comment: The following comment states that the Draft EIS fails to recognize UF_6 as a Resource Conservation and Recovery Act (RCRA)-permitted material, and requests that the permit section of the Draft EIS be revised.

[181-15, Roger Turner] EIS Fails to recognize UF_6 as a RCRA permitted material. Depleted Uranium was determined to be a Solid Waste as defined by RCRA and the EIS in Tennessee, and the EIS fails to recognize the possibility that Idaho DEQ will similarly require a RCRA permit for this material. Please revise Permit Section.

Response: *Classification of waste by the State of Tennessee has no bearing on the handling, storage, and transport of wastes generation at the proposed EREF. To date, no States other than Ohio and Tennessee have expressed interest in regulating UF_6 as a RCRA waste. IDEQ has not indicated that UF_6 will be regulated as a RCRA waste in Idaho. Therefore, no change to Section 1.5.2 in the EIS is necessary.*

Comment: The following comment asks whether solid waste generated at the proposed EREF would require a Toxic Substances Control Act (TSCA) or RCRA permit, and states that the EIS should describe the current status of mixed waste treatment acceptance criteria and shipping requirements.

[181-18, Roger Turner] Also, this section reports that the final solid material would be shipped off-site. This raises the issue of whether it would require a TSCA or RCRA permit. The EIS should describe the current status of mixed waste treatment acceptance criteria, shipping requirements.

Response: *Hazardous waste (RCRA) permits are required for the treatment, storage, or disposal of hazardous wastes, and IDEQ implements RCRA within the State of Idaho. Text has been added to Section 4.2.11.2 of the EIS to clarify that the proposed EREF would not treat, store, or dispose of hazardous or mixed wastes in a manner that requires a RCRA permit. However, as noted in Section 1.5.3, the proposed EREF would request a hazardous waste generator number.*

TSCA is designed to regulate the introduction of new chemical substances or the significant new use of an existing chemical substance. Neither applies to the proposed EREF, so TSCA does not apply.

Section 4.2.11.2 states that hazardous wastes generated at the proposed EREF would be collected at the point of generation, classified, packaged, and shipped offsite to a licensed TSDF in accordance with Federal and State environmental and occupational regulations. Additional text has been added to Section 4.2.9.2 to clarify that the transportation of hazardous wastes is subject to U.S. Environmental Protection Agency (EPA) and DOT regulations. The current status of mixed waste treatment acceptance criteria is not within the scope of the EIS.

Comment: The following comment asks where the perfluoropolyether (PFPE) oil waste will be stored at the proposed EREF site. The comment also asks for the kilowatt rating of each of the four standby diesel generators, and how much diesel fuel will be stored on the site.

[187-01, John Weber] After reviewing the safety analysis report and the EIS, I have a few questions and comments to present to NRC at this time. Because no Bobin (phonetic) oil recovery system will be used, where will the PFPE oil waste be stored?
What is the kilowatt rating of each of the four standby diesel generators, and how much diesel will be stored on the site?

Response: *Specific details about the storage location of PFPE oil waste and diesel fuel at the proposed EREF will not be available until the facility design is finalized. The quantities of hazardous materials stored onsite, including diesel fuel, are considered to be sensitive information.*

However, such information was taken into account during the safety evaluation in the NRC's SER, NUREG-1951 (NRC, 2010b).

As noted in Section 4.2.4.1 of the EIS, the development plan for the proposed EREF states that each of the four diesel-fueled emergency generators will be rated at 2500 watts (i.e., 2.5 kilowatts).

Comment: The following comments note that radioactive waste would remain in the United States.

[032-04, Cindy Cottrell] I'm against a foreign country making the profit from this plant and leaving the contamination in our Country.

[187-04, John Weber] In section 10.1, it states that: "DOE is entitled to take title to and dispose of the waste." So the French citizens take the profits and the U.S. citizens get the waste.

Response*: To ensure domestic uranium enrichment services, the generation of depleted uranium tails and uranium-contaminated waste that would need disposal in the domestic arena would be expected.*

Comment: The following comments express concern over radioactive waste being left in the State of Idaho.

[014-03, William Blair] Idaho does not need to add to its radioactive waste problem.

[015-07, Beatrice Brailsford] So, that's the proposal to meet the need of a domestic supply of enriched uranium. A uranium factory without any national purpose will produce fuel for everywhere in the world but here in Idaho, send its profits to France, and leave us with the waste.

[061-02, Nancy Greco] I am also worried about the threats to our beautiful environment, not only from the construction and production of this plant, but also from the tons of waste which will be left behind. Idaho is not the armpit of the nation, and should not be seen as the perfect repository for more waste.

[110-01, John and Susan Medlin] As the Snake River Alliance presentation pointed out, there is no current need for this facility, no compelling evidence that a nuclear renaissance is coming (or inevitable), no rationale for a French company building a nuclear facility in Idaho that purports to promote US energy security while importing inputs and exporting outputs, no provision for the deteriorating and dangerous waste that will haunt us for decades or maybe forever, no concern for yet another threat to the Snake River aquifer, the lifeblood of Idaho agriculture.

So how can the NRC conclude that building this facility is vital, and that the most problematic outcome to be evaluated is construction dust?

[104-01, Carolyn McCollum] There's little advantage to us Idahoans when Areva's nuclear fuel would be sent worldwide and its profits back to France while we are left with its radioactive waste, compounding INL's nuclear activities that have plutonium-contaminated the aquifer.

Response: *As discussed in Sections 2.1.3 and 4.2.11.2 of the EIS, all waste from operations at the proposed EREF, including the depleted UF_6 tails cylinders, would be transported out of Idaho for treatment and disposal. Until a depleted UF_6 conversion facility is available, cylinders containing depleted UF_6 would be temporarily stored on an outdoor Cylinder Storage Pad. Storage of depleted UF_6 cylinders at the proposed EREF would occur for the duration of the facility's operating lifetime and before final removal of depleted UF_6 from the proposed EREF site. However, AES has stated that depleted UF_6 cylinders would not be stored at the proposed EREF site beyond the facility's licensed lifetime (AES, 2010a).*

Comment: The following comments are concerned with the costs of waste management and disposal.

[050-11, Joanie Fauci] Who will pay for waste storage and eventual removal?

[083-04, Diane Jones] Assuming that the project goes forward, and the enriched uranium is used in the United States, there's an assertion in the EIS that this would be an economical source of enriched uranium. My question is: Does that economy include the cleanup of the waste that's generated? It seems clear that the NRC has not yet figured out how this waste should be, could be disposed of, and it's the -- who bears the cost?

[096-02, Arjun Makhijani] The cost of -- and I'm not saying do it, or don't do it here -- I'm just commenting on the Environmental Impact Statement, and what will be at risk, and what taxpayers might have to do if a private corporation unloads this DU under the Department of Energy, as it can do by law, and it has said it might do. And the Department of Energy takes it, and you're requiring them to put two or two and a half billion dollars out, and my estimate for what it would cost to dispose of 300,000 metric tons of depleted uranium is closer to eight or ten billion dollars. So, who's going to pay that? It's going to come -- everybody who is complaining about the deficit should at least pay some attention to the potential cost of this.

[171-07, John Tanner] Now, as for who pays for disposal, so far the nuclear industry has been paying for all nuclear waste disposal, not the taxpayer. They certainly haven't been getting their money's worth as the saga at Yucca Mountain shows.

Response: *AES is responsible for all costs of preconstruction, construction, operation, and decommissioning of the proposed EREF, including waste storage, removal, and disposal. In the case of the depleted UF_6, the DOE would be required to take the material from the proposed EREF, but AES would still be responsible for the costs associated with transport, conversion, and disposal. Text has been added to Section 2.1.5.1 of the EIS for clarification.*

Comment: The following comments concern wastewater permitting and regulatory issues.

[066-23, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 21. Subsurface Sewage Disposal Requirements The wastewater system for the Visitor Center was not discussed in the draft EIS. The Visitor Center will be located adjacent to Highway 20 approximately 1.5 miles from the enrichment facility. The exact site location has not been determined. The wastewater system for the Visitor Center will be an onsite subsurface disposal system with a projected flow of approximately 1500 gallons per day (gpd). Subsurface sewage disposal is governed by the subsurface sewage rules (58.01.03) and permitting has been delegated to the local Health District. DEQ participates in plan and specification review for collection systems with more than 2 connections and large soil absorption systems. We expect that AES will comply with all applicable regulations, licensing and operating requirements of both DEQ and the local Health District related to this facility.

[066-22, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 20. Wastewater System Requirements The Proposed Eagle Rock Enrichment Facility wastewater system consists of a collection system, private municipal wastewater treatment plant, and two (2) total containment lined wastewater lagoons. The system will be classified as a Public Wastewater System and subject to the requirements of the Wastewater Rules (IDAPA 58.01.16). DEQ expects that AES will comply with all applicable requirements.

Response: *Approvals and permits, such as those pertaining to municipal wastewater, must be obtained by AES from other regulatory agencies. Table 1-1 in Section 1.5.1 of the EIS lists the applicable requirements, including those for wastewater at the proposed EREF. Table 1-2 in Section 1.5.2 lists the agencies to which AES must submit the appropriate applications.*

A row for IDAPA 58.01.03 has been added to Table 1-1. The regulation is already listed in Table 1-2, but the entry has been modified to note that a permit may be required for the Visitor Center.

Comment: The following comments note that little byproduct waste would be produced by the proposed EREF.

[133-03, Richard Provencher] It includes an enclosed system that has virtually no byproduct waste generated through the flow sheet.

[133-06, Richard Provencher] The facility does not require a large amount of water to operate. This is good from an aquifer conservation and a waste minimization standpoint.

Response: *The NRC acknowledges the comments and appreciates the public participation.*

Comment: The following comments express concern about the operation of the Liquid Effluent Collection and Treatment Systems at the proposed EREF.

[027-15, Sara Cohn] We also concerned that hazardous materials will be concentrated in retention basins prior to and after evaporation of any water. These materials have the potential to settle in sediments and be released into the air with other dust particles.

[100-01, Wendy Matson; 191-17, Liz Woodruff] Are the filtration systems set up to decontaminate water prior to evaporation adequate, to ensure that containments will not be released in the air?

[181-18, Roger Turner] Liquid Effluent Systems needs addressed. This section of the EIS (Page 2-20) describes a process where contaminated liquids would be processed for uranium removal through several precipitation units, filtration units, microfiltration units, and evaporation units. These units need to be described in detail and evaluated with respect to human and ecological risks. How are liquid contaminants collected and what is the risk to workers during these spills? Also, this section reports that the final solid material would be shipped off-site. This raises the issue of whether it would require a TSCA or RCRA permit. The EIS should describe the current status of mixed waste treatment acceptance criteria, shipping requirements.

[184-13, Kitty Vincent] In addition we are concerned that the filtration systems set up to decontaminate water prior to evaporation adequate to ensure that contaminants will not be released in the air?

Response: *The proposed Liquid Effluent Collection and Treatment System is described in Sections 2.1.4.2 and 4.2.6.2 of the EIS. Additional information about these systems has been added to Section 4.2.11.2, including the processes for sampling and treating the various liquid effluent streams.*

As discussed in Sections 2.1.4.2 and 6.1.3 of the EIS, liquid effluent would be routed to collection tanks and treated through a combination of precipitation and filtration to remove radioactive material prior to evaporation.

As described in Sections 4.2.6.2 and 6.1.4, most stormwater runoff would be discharged to a detention basin for evaporation to the atmosphere and ground infiltration. Treated sanitary effluent and stormwater runoff from the cylinder storage areas would be discharged to lined retention basins for evaporation to the atmosphere. Although the retention basins would not receive process-related effluents and would not be expected to contain radioactivity or hazardous constituents from other sources, stormwater and sediment from these basins would be sampled periodically as part of the site environmental measurement and monitoring program (as described in Chapter 6).

The public and occupational health impacts from operations of the proposed EREF are addressed in Section 4.2.10, and the environmental impacts of the proposed Liquid Effluent Treatment Systems are addressed in Section 4.2.6.2. As noted in Section 9.3.1.3 of the SER (NRC, 2010b), the NRC staff has concluded that the proposed controls will ensure that radiation levels to the public remain within regulatory limits and that as low as reasonably achievable (ALARA) liquid effluent goals are met.

Comment: The following comments deal with the safety of long-term storage of depleted UF_6 at the proposed EREF site, the availability of the DOE conversion facilities, and ultimate disposition.

[006-01, Anonymous] I am supportive of the AREVA project but would like to have heard more from the NRC on how waste from the process will be stored and ultimately disposed of.

[014-01, William Blair] Idaho does not need more radioactive waste placed over the Snake Plain Aquifer in an active earthquake area. Until a safe method of handling and storing radioactive waste for thousands of years is devised, NO new facilities should be approved.

[015-05, Beatrice Brailsford] The most domestic part of the proposal is that the waste will, in fact, stay here. The plant would produce 320,000 tons of depleted uranium hexafluoride over its licensed lifetime, and the door is already ajar for the license to be extended. That waste might be stored on outdoor concrete pads above the Snake River aquifer until the plant is decommissioned.

It's worth noting that New Mexico sharply limits how much, and how long waste can stay at the plant there. The waste has to be treated before it can be disposed of. Two government-owned treatment plants are under construction, over budget, and behind schedule. Waste the U.S. has already accumulated will take a combined 43 years to process.

[015-14, Beatrice Brailsford] The EREF will produce more than 350,000 tonnes of depleted uranium hexafluoride (DUF6) over its licensed lifetime, and the door is already ajar for the license to be extended. That waste would be stored in 25,718 cylinders on outdoor concrete pads above the Snake River Aquifer as long as the plant operates. DUF6 is both radioactive and chemically toxic and has to be treated before it can be disposed of. The DOE has built two plants to treat depleted uranium hexafluoride waste the US has already accumulated. That treatment will take a combined 43 years to process. A private US corporation is seeking a license for its own treatment plant. The draft EIS cavalierly dismisses any potential bottlenecks by stating that the waste could simply be sent to the DOE treatment plants before they're ready to process it and then their operating lives extended. But it is at least as likely that the DUF6 will be stored in Idaho for an uncertain length of time above the Snake River Aquifer, a sole source aquifer for nearly 300,000 people. Storage under these conditions must be fully evaluated under NEPA.

[030-04, Kerry Cooke] The nuclear waste quagmire is not going to go away any time soon - not during licensing of this project; not during construction; not during operation; and not during decommissioning. The depleted uranium and low level waste the Areva plant will create will be added to the nuclear waste burden Idaho already carries. This plan should go no further until realistic plans are in place that address the need to take care of nuclear waste for centuries to come.

[032-02, Cindy Cottrell] If Idaho allows this to happen, it will be the storage of all the waste forever, long after the plant has closed. There is no site established for waste to go to and will become the State of Idaho's problem for generations to come.

[045-01, Joan Drake] I write to oppose the construction of the Areva nuclear power plant. I am very concerned that the proposed plant would produce an estimated 320,000 tons of depleted uranium hexafluoride over its licensed lifetime. In view of this, and the fact that its license might well be extended, indications are that this waste would likely be stored in or near Idaho until the plant's decommissioning. Even after its removal and treatment, there is no certain disposal

pathway. The Areva plant should not be licensed until regulations are in place for the environmentally safe disposal of large quantities of depleted uranium.

[048-02, Genevieve Emerson] The EIS fails to consider the influence of wild fires in the region and also fails to adequately address the issue of waste storage and disposal, considering that there are no viable methods yet in existence for safely storing hexafluoride and depleted uranium.

[050-03, Joanie Fauci] One of the areas I feel is under-emphasized in the DEIS is the Safety issue…

•The storage of radioactive waste is also a safety concern. There is no current repository for the waste so how long it will stay in Idaho is unknown. Areva says it will get it out once the project is complete, but what guarantee do we have of that. Maybe the NRC can put some rules in as former governor of Idaho, Phil Batt, tried to institute with DOE waste at INL.

[066-03, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 2. Depleted Uranium Hexafluoride (DUF6) Waste Disposal Path Section 2.1.5.

Section 2.1.5 acknowledges that long term storage of DUF6 presents a chemical hazard and that direct disposal is likewise prohibited because of this hazard.

> *The Defense Nuclear Facilities Safety Board (DNFSB) has reported that long-term storage of depleted UF6 in the UF6 form represents a potential chemical hazard if not properly managed (DNFSB, 1995). For this reason, the strategic management of depleted uranium includes the conversion of depleted UF6 stock to a more stable uranium oxide (e-g., triuranium octaoxide [U308]) form for long-term management (OECD, 2001). Also, the DOE evaluated multiple disposition options for depleted UF6 and agreed that conversion to U308 was preferable for long term storage and disposal of the depleted uranium in its oxide form, clue to the chemical stability of 11308 (DOE, 2000). Therefore, the disposal option considered in the EIS is the conversion of the depleted UF6 to U308 at either a DOE-owned or commercial conversion facility followed by disposal as U308. Direct disposal of depleted UF6 was ruled out because of its chemical reactivity (DOE, 1999b).*

For this reason the Draft EIS further acknowledges that DUF6 must be converted at one of two facilities currently under construction.

> *DOE is currently constructing two conversion plants to convert the depleted UF6 now in storage at Portsmouth, Ohio, and Paducah, Kentucky, to US08 and hydrofluoric acid. AES would transport the depleted UF6 generated by the proposed EREF to either of these new facilities and pay DOE to convert and dispose of the material. The proposed EREF would generate approximately 321,235 metric tons (354,101 tons) in total over its operating lifetime (AES, 20IOa). The depleted UF6 would be processed in a DOE operated conversion facility and then shipped off site for disposal.*

Based on estimated capacity for depleted UF6 (DUF6) conversion at the Department of Energy (DOE) facilities in Paducah, Kentucky, and Portsmouth, Ohio, DEQ understands that it may take

DOE approximately 25 years to address the current backlog of DUF6 stored at these facilities. Based on this timetable, it will take additional time to convert the 25,718 cylinders (345,000 tons) of DUF6 projected to be generated during the licensed life of the Eagle Rock enrichment facility (EREF). Accordingly, it can be expected that DUF6 will be stored at the Eagle Rock enrichment facility for a period significantly in excess of the operating life of the facility and potentially for a period of time which creates the "long term storage hazard" identified by DNFSB.

[070-02, Virginia Hemingway] These statistics do not even begin to address the dangerous impact of 350,000 tons of depleted uranium that will be stored in more than three--30,000 cylinders, which will be on cement pads above ground. Idaho is already a dumping ground for nuclear waste, and there is no place for it to go. There will be no place for it to go, because there are no plans for this waste to go anywhere.

[071-05, David Hensel] And I think that the -- once again, forgive me, but I just sort of feel like well, the EIS says something is going to happen, and I don't think that's an adequate way to address it. I mean, I think that there should be a more concrete analysis of what's going to happen to that waste, how long it's going to be here, and what the likelihood, and what the cost of that's going to be.

[078-05, Hon. Wendy Jaquet] Disposal of waste which is huge appears to still be a problem and safety concerns loom.

[086-03, Paula Jull] Areva's plant would produce 320,000 tons of depleted uranium hexafluoride over its licensed lifetime, and its license might well be extended. All this waste might be stored in Idaho until the plant was decommissioned.

[103-04, Karen McCall] This plant would produce 350,000 metric tons of depleted uranium which would be stored above ground. Depleted uranium has to be treated before it can be disposed of. Currently there are two treatment plants being constructed which are over budget and behind schedule with an enormous backlog of waste already needing to be treated.

[111-03, Robert Meikle] And I can tell you that when we see these slides of this nuclear waste being stored, the way it was stored, there's no question – that's going to scare "the heck" out of people. But that's not the way we do it now, folks. It's much better technology for the storage of nuclear waste, and it's been proven for many, many years.

[036-01, Christina Cutler, on behalf of the Idaho Department of Environmental Quality] I am still questioning how they plan to dispose of the by-products/waste from the enrichment process. What type of storage facility do they plan to have? How long do they plan to store the waste? And what are they going to do with it eventually, long term storage at the facility or move it somewhere else?

[128-06, Bob Poyser] Fourth. AREVA has a safe plan to temporarily store depleted uranium material during the life of the facility and safely transport that material, as stipulated by law, to a facility for deconversion.

While shipments of depleted uranium to a deconversion facility may occur throughout the life of the project to reduce the total inventory, there will be no -- I say again -- no depleted uranium left at the site when enrichment activities are completed and the NRC license is terminated.

[133-07, Richard Provencher] The byproduct that is generated as a result of the operation-depleted uranium-is solid and stable and can be stored safely for a long period of time without incident.

[136-01, Susan Rainey] No uranium enrichment facility outside Id Falls by AREVA!!! The transport of radioactive material and the storage of nuclear waste are my biggest concerns. There are safety issues! We will be at risk. How will the waste be disposed of? Snake River Alliance did an excellent job explaining. NRC sounded like bureaucratic babble ignoring the real dangers and concerns. How is this really going to help us here in Idaho, USA? Let's look at other options. Not worth the risk

[147-02, Joey Schueler] And so I want you to address that, and look at that more seriously, because I hear your statements and they didn't really speak to me about nuclear waste. And you all know that's why we're here. It's not -- and the sagebrush is important, and the dust is important, and economy is important. But we wouldn't be having public meetings if it weren't for the fact that you're going to put something that's highly toxic into our state, and there is no real solution. You've not given me one that I feel merits that choice.

So my real--what seems like the follow-up question, ends up being after we talk about risk, is: What is your price? And I don't think there's a price for putting my family at risk. And I want you to recognize that. And I want you -- can you -- I know this is public comment.

Can you answer me? Do you — can you tell me there is no risk to placing depleted uranium in Idaho? Can any of you answer that in the affirmative or negative? Is there no risk? Or maybe are you not at liberty to answer?…

Yes. And based on your statement, I'm not convinced that you can answer to me that there's no risk. And if that is the answer that I'm to take away from this meeting, then the meeting should not be about a process. To me, it should involve some element of outrage, to me, at the audacity of non-Idahoans, whether they be French, or otherwise -- and in fact, now that I've this testimony, Idahoans themselves, putting me, my family, my little nephews who are two and five, at risk, cause you haven't -- you haven't really proven to me that isn't risk.

So I'm going to have to go with that, because that's a safety issue to me. So tell me the pros of putting my family at risk, and why in Idaho, if there is risk, because I think we all know there is? Is it because there's low population here? Is it a lesser target for terrorism, which is an issue, hasn't been discussed? These mitigations, which I keep hearing, we're mitigating things, left and right here, do they make my family less safe, and all of these people's families more or less safe? Yeah. So your environmental requirements. You know, high -- we've had -- we've always mitigated environmental consequences since the dawn of this country, and, you know, like we see it in high obesity rates and things.

The FDA can write off whatever they want; it doesn't make it right, or okay. And so we're not talking about impact. We're talking about what's right. We're not talking about what's in our best interest, financially. We're talking about what's right.

So I hope you make a decision with that element in mind, knowing that people in Idaho are aware of that, and are watching that.

[147-11, Joey Schueler] 7. I know this sounds obtuse, but enriched Uranium and the byproduct of creating enriched Uranium (spent fuel) is extremely hazardous and brings a level of instability to the area, especially considering the storing methods (see link): http://www.nrc.gov/waste/spent‐fuel‐storage.html

[157-03, Hon. Erik Simpson] Now in the photograph that was showed, you saw the uranium safely stored. I must confess, a little rust on the container is not a problem, and what isn't stated is that that material is regularly monitored and inspected per federal guidelines. That was not stated.

[157-07, Hon. Erik Simpson] Second, waste. In the Sun Valley area, a claim was made uranium will be stored in Idaho, or depleted uranium will be stored in Idaho indefinitely, and the storage of the material is a danger. Not true. Depleted uranium is stored safely daily throughout the United States without incident. In fact, companies that store this product are required to regularly monitor and inspect the waste containers. Depleted uranium can be deconverted to remove the fluoride for use by a multitude of industries. International Isotopes, an Idaho Falls-based company, is planning to construct a deconversion facility in New Mexico. And it was announced today, Uranium Disposition Services, LLC was recently selected to conduct hot functional testing of a conversion plant at Paducah, Kentucky, so there are plans for the waste that will be generated by this facility.

[168-06, Lon Stewart] The Areva plant is not needed in the United States or the world. We would be adding to a waste that we currently have more than we know what to do with, do not know how to safely store it, and have no idea if what we think will work will actually work for 1 million years. This doesn't sound good to me.

[181-03, Roger Turner] The Draft EIS by the NRC significantly errs by minimizing the human health and environmental risks in the long-term and short-term storage of uranium. The EIS is flawed in its apparent assumption that another location will be certified for offsite storage, and that the waste is categorized as low-level.

Here is an excerpt of the EIS that is directed under the title of "Public Health." "During the peak operation, the proposed EREF is expected to generate 1,222 cylinders of depleted uranium hexafluoride annually, which would be temporarily stored on an outdoor cylinder storage pad in 26 approved type 48-wide containers before being transported to a DOE-owned or private conversion facility." That's their public health assessment of the project. But what facility are they referring to?

In fact, this is not an EIS that carefully weighs the likelihood of another state stepping up to accept this waste, especially if there are problems in treating the uranium. This is an EIS that fails to follow the NEPA requirement to analyze realistic cumulative impacts.

We've seen these types of examples in this, and the fact that no state wants a certified spent nuclear fuel site to accept commercial fuel. So, for now, all of these sites that create the waste temporarily store this waste at their locations. And this was the -- this was an enabled legislation that the Nuclear Waste Policy Act established in 1982, but they're still being stored temporarily.

[181-05, Roger Turner] The EIS is also fatally flawed in its assumption that a treatment facility will be available to convert the depleted uranium. The depleted uranium must be treated before stored.

[181-11, Roger Turner] Public Health risks of "Temporary" Storage of depleted Uranium should be addressed in EIS. The draft EIS by the NRC significantly errs by minimizing the human health and environmental risks in the risks of the storage of uranium in above-ground pads in eastern Idaho. The EIS is flawed in its apparent assumption that another location will be certified for off-site storage. The EIS fails to acknowledge that these casks may be breached by handling or corrosion. Here is an excerpt of the EIS, under the Public Health section:

> During peak operation, the proposed EREF is expected to generate 1222 cylinders of depleted UF6 annually, which would be temporarily stored on an outdoor cylinder storage pad in 26 approved Type 48Y containers before being transported to a DOE-owned or private conversion 27 facility.

The above paragraph, under the Public Health Section, in fact, does not even discuss public health. The EIS must assume that the casks of depleted Uranium will remain for some time at the site, as the treatment facility to convert UF6 to the more stable oxide is behind in schedules and experiencing budget problems affecting production. Anytime heavy equipment is operated there is a risk that accidents will occur. In fact, casks of UF6 were damaged by heavy equipment at Oak Ridge, so the risk to workers and public health is real. The EIS needs to define "temporary" and fully assess health and worker risks, for longer term storage at the site.

[181-21, Roger Turner] As mentioned above, the temporary storing of depleted and enriched uranium and at the Areva facility, is not a good idea, and the NRC should, if this project is approved, evaluate an alternative that limits the inventory of it to a bare minimum, immediately shipping it to the facilities to convert it to the more stable oxide, or for fuel fabrication.

[180-07, Kaye Turner] Is it true that depleted uranium has to be treated before it can be disposed of?

Is it true the U.S. is building two treatment plants and both are behind schedule, over budget and will have decades of already stored waste to treat?
Is it true Areva's waste will stay in Idaho as long as Areva operates here?

[183-01, James Vincent] Since the two US de-conversion facilities are not operational, and if they do become operational they will first process already existing depleted uranium waste for 60 plus years of existing waste, from the 100 plus nuclear energy producing plants here in the US, the timeline for the removal of the on site storage of Uranium hexafluoride DUF6 from Idaho is in doubt. I have a problem with storing this waste above ground and possible leaching of contaminants into the aquifer for our state

Their figures are that these are increasing to 2,000 metric tons per year. And, in addition, there's like 12 million cubic feet of low-level waste from these plants. Supposedly, we have around 60,000 metric tons of waste in this country that we have to get rid of one way or another.

[183-07, James Vincent] Since the two US de-conversion facilities are not operational, and if they do become operational they will first process already existing depleted uranium waste for 60 plus years of existing waste, from the 100 plus nuclear energy producing plants here in the US, the timeline for the removal of the on site storage of Uranium hexafluoride DUF6 from Idaho is in doubt. I have a problem with storing this waste above ground and possible leaching of contaminants into the aquifer for our state.

[191-12, Liz Woodruff] • The draft EIS assumes that depleted uranium hexafluoride will not be stored on site beyond the licensed life of the facility. But the draft EIS also acknowledges that Areva may well apply for a license extension. The NRC must discuss the length of a potential extension and whether or not cumulative waste storage would be allowed….

• Any newly operating deconversion facilities in the US will first process already existing depleted uranium waste, the time-line for the removal of DUF6 from Idaho is therefore uncertain and verifiably in excess of the time-line specified by Areva in the draft EIS.

[193-04, Liz Woodruff, on behalf of the Snake River Alliance] So once again the waste, rusty cylinders. The U.S. already stores nearly 700,000 metric tons of depleted uranium. That's in Paducah, Kentucky, Portsmouth, Ohio, and Oak Ridge, Tennessee. And all of that waste has to be disposed of first, before the waste produced by a commercial, new commercial reactor -- or excuse me -- new commercial enrichment factory, like AREVA, could be disposed of. So we are behind, we're back in line behind these other wastes.

So why is that waste just sitting there? Why has it been sitting there for so long? Well, hexafluoride is highly reactive with water. So none of this waste can be disposed of until it's treated in deconversion plants.

Those plants are under construction, over budget, and behind schedule. So this waste has nowhere to go, nowhere to be deconverted before it can be disposed of, and it's the concern of the Snake River Alliance, that that means this depleted uranium waste will be stored above the aquifer for 300,000 people, the sole source aquifer in Idaho, for decades.

[192-03 and 192-09, Lisa Young] Also, it is not likely that the waste will be deconverted in a timely manner, as the U.S. has no operational deconversion facilities, and even with those that are up-and-coming, the current stockpile of around 704,000 tons of depleted uranium waste will take several decades at least to fully deconvert, with our current capabilities. This facility is estimated to produce an additional 320,000 tons of depleted uranium waste over the course of its lifetime. When it comes time to decommission this facility, all of this waste will need to be relocated, and, as the deconversion process looks limited, it will likely be transported elsewhere for further storage.

[192-04 and 192-10, Lisa Young] The storage of the depleted uranium hexafluoride, which reacts with water, water vapor, to produce two dangerous, corrosive, and soluble compounds, UO_2F_2 and HF, is extremely unstable. The production of these compounds presents huge risks in the storage timeline, as the corrosion of storage cylinders and the possibility for leaks is a very real reality. Even *after* proper deconversion of this waste, the remaining waste, which cumulatively becomes *more* of a radioactive threat over time, has nowhere to go for acceptable long-term storage, and will continue to plague our waste storage sites with more and more

barrels of poison, creating more and more of a health and safety risk for the surrounding communities. *Producing this waste is irresponsible*, and licensing a facility that will do *just that* is undeniably irresponsible.

Response: *The onsite management of depleted UF_6 generated by the proposed EREF, including details and impacts of temporary onsite storage, is addressed in the EIS, in Sections 2.1.3 (facility description), 2.1.5 (depleted uranium management), 4.2.10.2 (radiological exposures), and 4.2.11 (waste management) of the EIS. It was determined that all impacts would be SMALL.*

The management of other (non-UF_6) wastes generated by the proposed EREF is addressed in Section 4.2.11. Temporary storage of non-UF_6 wastes at the proposed EREF would be conducted in accordance with license conditions.

As discussed in Section 2.1.5.1, the DOE has completed construction of two depleted uranium conversion plants. The Portsmouth conversion plant is expected to begin full operations in summer 2011, and the Paducah plant is expected to begin operation later in the year. As noted in Section 4.2.11.2, the conversion of the existing DOE inventory of depleted uranium hexafluoride to depleted uranium oxide is expected to consume the first 18–25 years of operation at these two facilities. Depending on the timing of shipment to a conversion plant (DOE or private), depleted UF_6 generated by the proposed EREF may continue to be stored in a safe manner until conversion is possible.

The inventory of depleted UF_6 for conversion does not include any other form of LLRW or SNF from commercial nuclear power plants. SNF from commercial nuclear power plants requires a permanent high-level waste repository and would not be treated or processed at a depleted uranium conversion plant. Similarly, LLRW that does not require conversion is eligible for disposal at licensed disposal facilities.

Under the USEC Privatization Act, DOE is obligated to accept depleted UF_6 waste from the proposed EREF (see Section 2.1.5.1). Depleted UF_6 from the proposed EREF would be stored in steel containers and would not require treatment at the proposed EREF prior to shipment to a conversion facility.

As noted in Section 4.2.11.2, proper and active depleted UF_6 cylinder management, including routine inspections and maintaining the anticorrosion layer on the cylinder surface, has been shown to limit exterior corrosion or mechanical damage and provide for safe and long-term storage of depleted UF_6. AES has committed to the implementation of such a cylinder management program as discussed in Section 4.2.11.3.

While awaiting shipment to a conversion facility, some amount of depleted UF_6 will be stored at the proposed EREF for the operating life of the facility. If DOE is not able to take possession of the depleted UF_6 as it is generated, the potential exists that some of the depleted UF_6 generated over the facility lifetime will be stored onsite until license termination. However, AES has stated that depleted UF_6 cylinders would not be stored at the proposed EREF site beyond the licensed lifetime of the proposed facility (AES, 2010a).

DOE intends to reuse the conversion product to the maximum extent possible or package it for disposal at an appropriate disposal facility (DOE, 2004a; DOE, 2004b; DOE, 2007a; DOE, 2007b; 72 FR 15870).

Comment: The following comments express concern that disposal of depleted uranium is currently not a viable option because NRC is in the midst of rulemaking on the disposal of large quantities of depleted uranium.

[012-01, Janice Berndt] The Areva factory would produce 320,000 tons of waste materials (depleted uranium hexafluoride) over its licensed lifetime. This waste could be stored in Idaho until the plant is decommissioned. Even if it is removed and treated, there is no certain disposal pathway. The draft EIS essentially ignores the fact that the U.S. does not have guidelines on how the treated waste will be disposed. Areva's factory should not be licensed until regulations are in place for disposal of large quantities of depleted uranium.

[014-01, William Blair] Idaho does not need more radioactive waste placed over the Snake Plain Aquifer in an active earthquake area. Until a safe method of handling and storing radioactive waste for thousands of years is devised, NO new facilities should be approved.

[015-06, Beatrice Brailsford] The draft EIS essentially ignores the fact that the U.S. does not have guidelines on how large quantities of the treated waste will be disposed of, but it will most certainly be disposed of in the United States.

[015-15, Beatrice Brailsford] The draft EIS essentially ignores the fact that the U.S. does not have guidelines on how the treated waste will be disposed of. This failure is egregious. The NRC is in the midst of a multi-year rulemaking process to establish guidelines for depleted uranium disposal. The NRC is aware that the rulemaking has already stirred some controversy, and the outcome is not certain. The NRC must fully discuss the disposal options under NEPA and must not issue a record of decision or a license until the disposal rules are in place.

[022-01, Judy Carroll] I am strongly opposed to Areva's plan to build a plant here because I do not believe that the radioactive waste will be handled appropriately and taken out of Idaho. Areva is taking advantage of Idaho in the fact that the unemployed and poor need jobs. What they don't say is that Areva will also be bringing sickness and death to Idaho. We may seem like a simple people but we do know in this state how important clean water and land are to our way of life. Idahoans are the ones who are able to enjoy beautiful wilderness, rivers and wildlife. If Areva needs uranium enriched, let them enrich it in France!

[027-01, Sara Cohn] As the Federal Register announcement for this proposed rulemaking suggests, NRC does not currently provide adequate guidance for the type of waste streams that will be created by the proposed Eagle Rock facility and stored on site. Until regulations are in place governing disposal of depleted uranium, and disposal facilities have implemented those regulations, ICL believes it is inappropriate to license any new uranium enrichment facility. NRC should consider the creation of adequate rules to guide the safe disposal of depleted uranium as paramount to permitting individual facilities.

[027-06, Sara Cohn] Waste Storage: ICL has provided public comments on the scoping analysis for the proposed AREVA Enrichment facility in Idaho Falls, Idaho (see Attachment A) and provided comments on the Potential Rulemaking for the Safe Disposal of Unique Waste Streams Including Significant Quantities of Depleted Uranium (see Attachment B). As the Federal Register announcement for the potential rulemaking states, NRC does not currently provide adequate guidance for disposal of the type of waste streams that will be created by the proposed Eagle Rock enrichment facility and stored onsite. We are very concerned the lack of appropriate regulations for the safe disposal of depleted uranium will facilitate unsafe storage of such materials within the project site and above a sole source aquifer. Until rules are in place to govern the disposal of depleted uranium and existing disposal facilities have implemented those regulations, ICL believes it is inappropriate to license any new uranium enrichment facility in Idaho. NRC should consider the creation of adequate rules to guide the safe disposal of depleted uranium as paramount to permitting individual facilities.

From Attachment B:

- More clarity is needed with regard to the scope of the potential rulemaking.
- Until regulations are in place governing disposal of depleted uranium and disposal facilities have implemented those regulations, it is inappropriate to license any new uranium enrichment facility.
- The NRC should coordinate with appropriate federal agencies, such as the U.S. Environmental Protection Agency (EPA) and others, to ensure comprehensive analysis of potential disposal sites and to protect natural resource, human health, ICL Comments on NRC public workshops and proposed rulemaking – depleted uranium and national security.

[030-02, Kerry Cooke] Depleted uranium is adding to a waste burden that Idaho already suffers with, and I believe that you owe it to the people of the United States to not license any facility that is going to increase, make any more depleted uranium, until this question is thoroughly solved, not proposed, not suggested, not theoretical, but solved. Just needs to stop.

[032-05, Cindy Cottrell] For ever ton of uranium enriched enough for use in a nuclear power reactor creates 7 tons of depleted uranium waste. No Country that enriches uranium has figured out how to dispose of this waste. The problem with depleted uranium is that it becomes more radioactive over the course of 1,000,000 years. Where would we store this knowing it will become more radioactive?

[045-01, Joan Drake] I write to oppose the construction of the Areva nuclear power plant. I am very concerned that the proposed plant would produce an estimated 320,000 tons of depleted uranium hexafluoride over its licensed lifetime. In view of this, and the fact that its license might well be extended, indications are that this waste would likely be stored in or near Idaho until the plant's decommissioning. Even after its removal and treatment, there is no certain disposal pathway. The Areva plant should not be licensed until regulations are in place for the environmentally safe disposal of large quantities of depleted uranium.

[066-04, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] Moreover, the PEIS assumes that once converted the low-level radioactive waste would be disposed of at a commercial low level waste disposal facility:

The Commission has stated that depleted uranium in any form (e.g., UF6, U308) is considered a form of low-level radioactive waste (NRC, 2 005a). However, the chemical reactivity of depleted UF6 precludes it from being a stable waste form, and thus makes it unsuitable for direct disposal without conversion (DOE, 19996). As discussed in Section 2.1.5.1, AES has requested the DOE to accept all depleted UF6 generated at the proposed EREF for conversion to the oxide form for disposal (AES, 2010a) After conversion of depleted uranium tails (depleted UF6) to U308, disposal of this U308 at a commercial low-level waste disposal facility would be a viable option if the disposal facility meets the requirements of 10 CFR Part 61.

However, because this waste will be generated in Idaho it must be shipped to the Northwest Compact facility at Hanford Washington. It is Idaho understands that the Hanford facility is nearing its source term limit and would need an expansion license to accept the ERAES waste. It is possible that this license might not be granted or that the facility might otherwise be unavailable at the time waste is ready for disposal. Moreover Idaho understands that the Energy Solutions facility in Clive Utah, which might otherwise accept the waste, currently will not do so

In light of the current situation at DOE facilities and the potential unavailability of licensed low level radioactive waste disposal facilities, DEQ requests NRC provide more clarity on the environmental risks associated with long term storage and further explain in detail how AES/NRC plans to meet this commitment for DUF6 off site treatment/disposal.

[070-02, Virginia Hemingway] These statistics do not even begin to address the dangerous impact of 350,000 tons of depleted uranium that will be stored in more than three -- 30,000 cylinders, which will be on cement pads above ground. Idaho is already a dumping ground for nuclear waste, and there is no place for it to go. There will be no place for it to go, because there are no plans for this waste to go anywhere.

[078-05, Hon. Wendy Jaquet] Disposal of waste which is huge appears to still be a problem and safety concerns loom.

[083-05, Diane Jones] How can we expect the company to -- whose financial future is uncertain, to be able to guarantee that they will bear the cost of treating all that waste and disposing of all that waste, when the process for disposing of the waste is not even known? This seems highly reckless to me, and not a very sound economical calculation.

[083-07, Diane Jones] And then I think, myself, along with, I think, many members of this audience, wonder how the generation of 350 metric tons of waste, of depleted uranium, for which no known disposal route has been proposed, accepted, whatever, can be regarded as a small impact.

[086-04, Paula Jull] Areva's plant should not be licensed until regulations are in place for disposal of large quantities of depleted uranium.

[088-05, Stan Kidwell] Areva's plant should not be licensed until regulations are in place for disposal of large quantities of depleted uranium.

[095-05, Linda Leeuwrik] Areva's plant would produce 320,000 tonnes of depleted uranium hexafluoride over its licensed lifetime, and its license might well be extended. All this waste would likely be stored in Idaho until the plant was decommissioned. Even after it is removed and treated, there is no certain disposal pathway.

[096-01, Arjun Makhijani] Depleted uranium in large amounts from enrichment plants is not covered by any U.S. environmental rule. The NRC has ruled, as stated in the EIS, that depleted uranium from enrichment plants is low-level waste. However, the low-level waste rule itself, the impacts of large amounts of depleted uranium have not been considered under the low-level waste rule. According to the rule itself, and now according to the U.S. Nuclear Regulatory Commission, which has admitted in October of 2005, and in 2009 started a process of rulemaking as to how and under what conditions disposal of depleted uranium in large amounts from enrichment plants should be carried out.

What does large amounts mean? Large means more than small, and small has been defined as a few metric tons. This facility will produce 300,000 metric tons, approximately, I did a rough addition from the EIS. That is definitely very large amounts of depleted uranium.

I want to read to you what the U.S. National Academy has said about depleted uranium, and its concentrations of radioactivity, which are much, much higher than uranium ore. In fact, they're quite a bit like the transuranic waste you have here in Idaho that the state government has insisted be sent to the Waste Isolation Pilot Plant, and the National Academy, in considering the question of depleted uranium, also shares my own opinion of quite longstanding, which has been presented to the NRC in expert testimony on more than one occasion, that depleted uranium is like the transuranic waste you have here in Idaho, that you don't want in this state, and that you're sending to New Mexico because it is more than 100 nanocuries per gram of alpha emitting long-lived radionuclides that grow in radioactivity over time, because you get Thorium-230 and radium-226. And it's many, many times more radioactive than uranium ore, including its radium and thorium that is present in uranium ore.

The Environmental Impact Statement does not consider the impacts of depleted uranium disposal. And, in my opinion, it does not conform to the NRC regulations, 10 CFR Part 51.71, and it does not conform to the regulations of the Council on Environmental Quality, and it does not conform with the National Environmental Policy Act. And I will read it, but you can find on page 224 that they, essentially, say, if the licensing requirements for land disposal of depleted uranium can be met, then it be disposed of. However, every calculation of disposal of large amounts of depleted uranium but one that has been done has shown that disposal of large amounts in shallow land burial would grossly violate existing regulations by as much as 1,000 times over the radiation dose limit or more, including official calculations, except one done by the NRC in 2009, which did not calculate doses according to the regulation; that is, it did not calculate organ doses.

I won't detain you for long. I am going to submit for the record the comments I have already given the NRC, as an invitee of the NRC to the deliberations on the rulemaking. And I will observe that this particular EIS, the drafters of it have not talked to their counterparts, or appear not to have talked to their counterparts in the section of the NRC that are actually currently engaged in making the rule as to how the depleted uranium should be disposed of. And the author of that paper, SECY 0187, by coincidence, himself, said that calculating doses the way he did for a million years in shallow land burial was "silliness." And then the NRC moderator, like

you, said the other day that silliness is perhaps not an appropriate regulatory term, but I take it in that spirit. We could invent some other regulatory equivalent of silliness, but NRC's own invited geochemist agreed that even calculating shallow land burial doses for 10,000 years is not appropriate. This stuff needs to be disposed of in deep disposal. The cost of -- and I'm not saying do it, or don't do it here -- I'm just commenting on the Environmental Impact Statement, and what will be at risk, and what taxpayers might have to do if a private corporation unloads this DU under the Department of Energy, as it can do by law, and it has said it might do. And the Department of Energy takes it, and you're requiring them to put two or two and a half billion dollars out, and my estimate for what it would cost to dispose of 300,000 metric tons of depleted uranium is closer to eight or ten billion dollars. So, who's going to pay that? It's going to come -- everybody who is complaining about the deficit should at least pay some attention to the potential cost of this.…

[105-04, Eve McConaughey] The most glaring question, not addressed or answered concerned the transportation risks and ultimate unresolved problem of waste disposal.

[122-01, Kathy O'Brien] I do not want the waste from this plant here in Idaho or anywhere. It is not clean energy because of the waste both from this plant and from nuclear power plants. Areva's plant would produce 320,000 tonnes of depleted uranium hexafluoride over its licensed lifetime, and its license might well be extended. All this waste might be stored in Idaho until the plant was decommissioned. Even after it's removed and treated, there is no good way to dispose of it.

[150-02, Katie Seevers] The draft EIS assumes that the depleted uranium hexafluoride will not be stored on the site past the license life of the facility. However, it also acknowledges that Areva may apply for a license extension. I find the lack of a fully developed rule on disposal of depleted uranium problematic, especially when coupled with the prospect of seismic activity in the area and the potentiality for a license extension.

[174-01, Christopher Thomas; 198-01, Vanessa Pierce] The classification of depleted uranium for disposal purposes has been a contentious issue that the State of Utah, the Nuclear Regulatory Commission, and other key-stakeholders have worked on for years, and relevant rule-making to govern the disposal of this unique waste is still underway. As such, the assumption in the draft EIS that there will be a disposal pathway for the depleted tails from the AES facility is unfounded.

The draft EIS states that "[t]he depleted UF_6 would be sent to a DOE conversion facility, and then shipped offsite for disposal" (2-25). Given the current NRC rule-making to develop a site-specific analysis for the disposal of large quantities of depleted uranium, and the State of Utah's own requirement for a site-specific analysis for DU disposal, it is premature to assume that depleted uranium will be found suitable for disposal at EnergySolutions' Clive facility or any other facility. Indeed, the standards by which any site could be found "suitable" for the safe, long-term disposal of DU have yet to be codified.

The draft EIS does not explicitly identify any specific site for the final disposal of the converted DU waste. We believe this is in part because no disposal site will currently accept depleted uranium waste for disposal. For instance, note that DU oxide waste from DOE's Savannah River Site (SRS) currently has no disposal pathway

Although there has been some effort to move this waste from South Carolina to the Waste Control Specialists site in Texas, the waste would only be stored there on a temporary basis rather than permanently disposed. Furthermore, the single trainload of SRS DU waste that made its way to the Clive site is also being held in temporary storage until the completion of a site specific analysis in accordance with Utah Rule R313-25-8 - Technical Analyses.

If disposal at a DOE site were indeed a "plausible strategy" as noted in the EIS (2-25), the DOE would simply send this DU waste to one of its other disposal sites. The fact that DOE has been forced to look at temporary storage options for the SRS DU appears to be prima facie evidence that DOE has no disposal option. In light of recent events, the NRC Commission's decision that disposal of DU waste at a DOE site is a "plausible strategy" must be re-evaluated.

We believe the Draft EIS is deficient because it assumes that converted DU tails will have a disposal pathway, when in reality the most recent evidence indicates that this waste could indeed become an orphan waste stream, similar to the SRS DU. We believe that the final EIS should assess what would happen if there is not a disposal pathway for the converted DU tails. This assessment should address at least the following issues: how the DU tails would be managed, the health and environmental risks of such management, who would manage them, and at what cost. We believe these are critical issues that must be considered and addressed, given that DU disposal is not currently feasible, and may not be feasible for the next many years, especially if most or all near-surface disposal sites are eventually found to not be protective of human health and the environment in the long-term.

[136-01, Susan Rainey] No uranium enrichment facility outside Id Falls by AREVA!!! The transport of radioactive material and the storage of nuclear waste are my biggest concerns. There are safety issues! We will be at risk. How will the waste be disposed of? Snake River Alliance did an excellent job explaining. NRC sounded like bureaucratic babble ignoring the real dangers and concerns. How is this really going to help us here in Idaho, USA? Let's look at other options. Not worth the risk.

[148-01, Eric Schuler] Taken as a whole, the EIS suggests that this facility will have a relatively low impact on the environment. Of course several aspects of this, of the — have been overlooked in making this conclusion. For instance, as others have already noted, it does not consider the impact of the exempted preconstruction activities, the high risk of wildfires in the area, or the lack of an appropriate disposal pathway for depleted uranium. Accordingly, the true impact of this facility is certainly larger than the DEIS suggests.

[150-03, Katie Seevers] I find the lack of a fully developed rule on disposal of depleted uranium problematic, especially when coupled with the prospect of seismic activity in the area and the potentiality for a license extension.

[153-07, Andrea Shipley; 197-07, Andrea Shipley, on behalf of the Snake River Alliance] This is not to mention the lack of a fully developed rule on disposal of depleted uranium in the US, leaving no pathway for disposal of this waste, and a line of already existing depleted uranium hexafluoride waiting for deconversion.

[169-01, Margaret Stewart] And aside from AREVA's greed, grim, and very, very devastating global environmental and human rights record around the world, particularly in Africa, I

vehemently oppose the NRC licensing of this facility on grounds that the facility has not been proven necessary, a huge amount of dangerous radioactive waste that would be created has no disposal place, the nuclear reactors that the EIS says will need AREVA's product more than likely will never be built.

[168-03, Lon Stewart] …We will probably get 350,000 tons of uranium waste over the life of the facility that no one currently knows how to dispose of….

[168-06, Lon Stewart] The Areva plant is not needed in the United States or the world. We would be adding to a waste that we currently have more than we know what to do with, do not know how to safely store it, and have no idea if what we think will work will actually work for 1 million years. This doesn't sound good to me.

[171-05, John Tanner] The question of disposal of depleted uranium I suppose was left out of the Environmental Impact Statement because that's not really going to be an AREVA, or an Idaho problem. The depleted uranium that we produce will not be in the form that's suitable for disposal; that is, if the nation wants it disposed of, it will have to be shipped out of state to a conversion plant to convert the fluoride form to the oxide form, which, by the way, is the form that it is when it's an ore. And then it will be a problem for the Department of Energy, and possibly for the conversion plant which will be out of state.

[175-04, Ellen Thomas] Areva's plant would produce 320,000 tonnes of depleted uranium hexafluoride over its licensed lifetime, and its license might well be extended. There is no certain disposal pathway.

[180-08, Kaye Turner] Is it true the NRC has stated a whole new regulatory scheme has to be developed to guide in the disposal of depleted uranium?
Is it true that no country on earth that enriches uranium knows how to dispose of the depleted uranium?

[181-01, Roger Turner] So now comes a proposal to create and store 350,000 tons of uranium compounds at eastern Idaho. Setting aside the radiation risk, uranium compounds exhibit a similar heavy metal toxic characteristics as does mercury. So, why now is there support for uranium enrichment project, for which there is no repository outside of Idaho?

[191-13, Liz Woodruff] The lack of a fully developed rule on disposal of depleted uranium creates great uncertainty about the disposal pathway for this waste

[192-13, Lisa Young] The storage of the depleted uranium waste, which will likely not be deconverted in any reasonable timeline, poses a serious risk to our health and safety as Idahoans, and to the residents of any other region where the waste will be stored in the future. Even after proper deconversion of this waste, the remaining waste, which cumulatively becomes more of a radioactive threat over time, has nowhere to go for acceptable long-term storage, and will continue to plague our waste storage sites with more and more barrels of poison, creating more and more of a health and safety risk for the surrounding communities*. Producing this waste is irresponsible, and licensing a facility that will do just that is undeniably irresponsible.*

[193-03, Liz Woodruff, on behalf of the Snake River Alliance] And we believe that the storage of this radioactive waste, on site, in Idaho, poses an insurmountable risk to the licensing of this facility. The enriched uranium then travels to a conversion facility, once again transported, and then it's transported again to a reactor, where high-level radioactive waste in the form of spent fuel is the result.

So how much waste is produced in the enrichment of uranium? Well, for one ton of enriched uranium, seven tons of depleted uranium waste are produced, and this is a picture of depleted uranium hexafluoride waste stored in Piketon, Ohio. You can see in the rusty cylinders on concrete slabs. It's been sitting there for decades because the NRC has not established an adequate disposal pathway for depleted uranium….

And the NRC has recently acknowledged this fact, and started a rule making process around the disposal of depleted uranium meant to reclassify it, essentially, and find an adequate disposal pathway.

So what have they decided? The NRC still wants to dispose of depleted uranium in shallow dumps designed for a few hundred years. This is an inadequate disposal pathway. It has not yet been an established rule it's a waste stream that becomes more radioactive, over time. There are no deconversion facilities, and thus, it will be sitting above the Snake River aquifer for decades.

Areva would add 320,000 metric tons of DUF6 to the current amount.

Response: *As discussed in Sections 4.2.11 and 4.13.4 of the EIS, AES intends to transport depleted UF_6 to DOE facilities after temporary onsite storage for conversion and disposition by the DOE (AES, 2010a), pursuant to Section 3113 of the 1996 USEC Privatization Act, 42 U.S.C. 2297h-11. On January 18, 2005, the NRC stated that, pursuant to Section 3113 of the USEC Privatization Act, disposal at a DOE facility represents a plausible strategy for the disposition of depleted uranium tails (NRC, 2005).*

As stated in Section 4.13.3.5, DOE intends to reuse the conversion product to the maximum extent possible or package it for disposal at an appropriate disposal facility (DOE, 2004a; DOE, 2004b; DOE, 2007a; DOE, 2007b; 72 FR 15870). DOE wastes disposed at DOE owned and operated facilities are not subject to NRC or Agreement State licensing authority.

According to DOE Directive 435.1-1, if a non-DOE facility (e.g., a commercial facility) is used for disposal of low-level radioactive waste, an exemption from DOE's policy of using only DOE disposal facilities to manage radioactive wastes must be obtained (DOE, 2001). To obtain the exemption, it must be shown that the non-DOE disposal facility complies with applicable Federal, State, and local requirements, and has the necessary permits, licenses, and approvals for the specific wastes to be disposed.

Commercial radioactive waste disposal facilities, in contrast to DOE disposal facilities, are licensed by the NRC or designated Agreement State according to the requirements specified at 10 CFR Part 61 or compatible Agreement State regulations. Currently, the NRC is engaged in rulemaking to specify a requirement for a site-specific analysis for the disposal of low-level radioactive wastes, including large quantities of depleted uranium (NRC, 2009). In the interim,

compliance with the performance objectives specified in 10 CFR Part 61, Subpart C, continues to provide reasonable assurance that low-level radioactive waste, including depleted uranium, can be safely disposed at licensed facilities. On April 13, 2010, NRC staff summarized existing policy and guidance to assist Agreement States in making informed decisions regarding compliance with the performance objectives for land disposal of significant quantities of depleted uranium until a new regulation is implemented (NRC, 2010a).

I.5.19 Socioeconomics

Comment: The following comment asserts that economic risk should be given a higher priority in the EIS.

[050-13, Joanie Fauci] The economic risk should be given a higher priority in the EIS.

Response: *The extent of the analysis of each resource area considered in the EIS is dependent on its overall impact. As shown in Section 4.2.12 of the EIS, the NRC staff has determined that the socioeconomic impacts of the proposed action would be SMALL. Therefore, additional review is not warranted.*

Comment: The following comment outlines AES's position on the funding of the EREF project.

[128-08, Bob Poyser] Finally, let it be made clear. The Eagle Rock enrichment facility is being fully funded through direct investment by AREVA, and like any major capital project, the balance will be financed through a loan accompanied by interest charges, repayment schedules, and certain protections for the lender.

AREVA will bear the full cost of construction and operation of the Eagle Rock enrichment facility. Even the removal of depleted uranium from the site is accompanied by a payment to the deconversion facility for its services.

In the final analysis, AREVA will bear the full cost of construction and operation.

Response: *The NRC acknowledges the comment.*

Comment: The following comment expresses EPA's interest in any information on how Tribes' economic conditions would be enhanced because of the project.

[138-09, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] Since the project would result in economically beneficial impacts to the region, EPA would be interested in any information on how Tribes' economic conditions would be enhanced because of the project.

Response: *The socioeconomic impacts, beneficial or otherwise, on the Shoshone-Bannock Tribes was included with the socioeconomic benefits to the citizens of Bannock, Bingham, Caribou, and Power Counties, in which the tribes' reservation is located and most of the tribal members in the region are believed to reside. It would be difficult to predict the specific benefits*

to, or enhancement of economic conditions of, the Tribes because of the difficulty in predicting such factors as the number of tribal members who might be employed in some capacity by the project.

Comment: The following comment asserts that the Socioeconomics part of the EIS has not been given enough weight.

[146-02, Doug Sayer] So I want to point out in your EIS, when it comes to the socioeconomical portion, that there is a piece that I don't think carried enough weight. You know, in the history of nuclear energy in the last few years in the United States, the supply chain has broken down. As we haven't had construction projects, it's deteriorated. I want to assure you, that's not the case in Idaho. That network of suppliers is accredited, that understands the Code of Federal Regulations, that understands safety significance, is alive and well. We encourage you to pursue this license and approve it, so that we can get back to work and build these nuclear projects like our country needs them.

Response: *The NRC staff acknowledges this comment and the technical expertise located in the project area. The site selection process used by AES, as discussed in Section 2.3.1.3 of the EIS, took the available construction and operations workforces into consideration as well as the available technical resources. The analysis of the socioeconomic impacts took into account the occupations likely to be required during construction and operation of the facility, and compared them to the number of workers present in these occupations in the 11-county Region of Influence (ROI) surrounding the site of the proposed facility. This information was then used to estimate the number of in-migrating workers and their families likely to reside in this ROI, and the potential impact in-migrants may have on housing, and on public and educational services. The relatively small number of in-migrants likely to move into the ROI during these phases of the project, and the likelihood that most in-migrants and their families are likely to live in urban areas in this ROI, where there are good housing and educational choices and adequate existing public service provision, will likely mean that the incremental impact of worker in-migration on the provision of these resources in the ROI would be SMALL.*

Comment: The following comment expresses disagreement with the conclusions in the Draft EIS on the socioeconomic effects of the proposed project.

[150-08, Katie Seevers] This concerns me, as does the prospect of an artificial local economy supported by an unsustainable factory. In reference to table 2-6 of the draft EIS, I would like to contest the conclusions drawn on the socioeconomic effects of the facility. Once it is decommissioned, this area could very well resemble, economically speaking, so many of Idaho's logging towns once the mill has been closed down. Tax dollars will be long gone, the local area will quite probably be left with waste from the facility, and jobs that supported local residents will be nonexistent.

Response: *In-migration of workers and their families associated with preconstruction, construction, and operation of the proposed facility may require more teachers and other local public service employees. However, the relatively small number of in-migrants likely to move into the 11-county ROI during these phases of the project, and the likelihood that most in-*

migrants and their families are likely to live in urban areas in this ROI, where there are good housing and educational choices and adequate existing public service provision, will likely mean that the incremental impact of worker in-migration on the provision of these resources in the ROI would be SMALL, and unlikely to create "boom-bust" conditions. These impacts are described in Section 4.2.12 of the EIS.

Comment: The following comment questions the science and environmental research supporting the analysis of impacts in the Draft EIS, including socioeconomic impacts.

[181-02, Roger Turner] And what is the science and environmental research behind the endorsement of the AREVA project? Well, science and environmental risks are being downplayed on this proposed project, because of job creation, and economic development.

Response: *The NRC staff believes it has provided an objective analysis in the EIS for all resource areas, based on the requirements of NEPA and the NRC regulations for implementing NEPA in 10 CFR Part 51. In the case of job creation and economic development, the socioeconomic impacts, beneficial and adverse, were found to be SMALL as presented in Section 4.2.12 of the EIS. Such a finding does not downplay the adverse impacts found in other resource areas with SMALL-to-MODERATE or MODERATE impacts.*

Comment: The following comment expresses concern about the negative impact of the proposed project on opportunities for hunting and fishing, due to the influx of people into the area.

[183-05 and 183-12, James Vincent] My other main concern is personal. I live to hunt and fish in Idaho. It is the main reason I love this state. I believe my opportunities to hunt and fish will be severely limited if 1000 new residents are brought into Idaho Falls to work at this facility. There will be many less opportunities to successfully apply for big game permits, and my favorite rivers will be impacted with crowding. Already, there is talk of limiting the number of boats on the South Fork of the Snake River. I am not the only resident who values Idaho outdoor activities, and sustained controlled growth for the quality of Idaho life. I believe many of my neighbors also live in Idaho Falls for the same reason.

Response: *Two hundred and sixty-six new temporary residents are expected in the 2-county ROI, consisting of Bonneville and Bingham Counties, during the construction and 199 permanent residents are expected during operation of the proposed EREF, as discussed in Sections 4.2.12.2 and 4.2.12.3 of the EIS. In general, the resulting impacts from the additional residents would be SMALL, and the impact of these residents on the total number of big game licenses issued by the State would also likely be SMALL.*

Comment: The following comments suggest that jobs and economic impacts should not be considered in the EIS.

[008-01, Carol Bachelder] I know that this was an attempt to limit the discussion to the environmental impact, but we have strayed, haven't we? Into jobs and economic projection.

[087-04, Dennis Kasnicki] Comment 3: This was a meeting on the Draft EIS…. I think ALL of the attendees who commented in favor of this facility (perhaps in particular the "dignitaries" or their representatives who commented) spoke from the standpoint of the potential economic benefits of this plant to the area. Those comments were "off subject" and therefore distracting and very inappropriate. I suppose this was a forum where anyone is free to say mostly anything, but that IS a serious distraction and therefore a problem.

[106-05, Ted McConaughey] I think -- and as for jobs, I feel this is a fallacious argument that should not be entertained in the environmental review process, because this is not a hearing on jobs. As far as jobs goes, I think that any time we dedicate ourselves to building one facility, especially something as massively expensive as this, we deprive ourselves of the opportunities to build alternative facilities. That money is not going into research, and wind, or solar, or biomass, or whatever. It's going into a single source, and we don't have that money back, so -- and any one of those sources would produce jobs. So I really would like to take the jobs issue off the table. That's not to say it's unimportant, but it is to say that whatever we do, we will be creating those jobs, and they will not be lost.

Response: *The economic impacts, including any benefits such as job creation, of the proposed EREF are considered in the EIS analysis as presented in Section 4.2.12. While it is true that other endeavors may produce jobs, the creation (or loss) of jobs is an integral part of the socioeconomic impact analysis, as required under NEPA and the NRC's NEPA-implementing regulations in 10 CFR Part 51, and is not "off subject."*

Comment: The following comments address the issue of the influence of the proposed EREF on future economic activity.

[147-16, Joey Schueler] 12. Even if one cannot accept that nuclear waste in Idaho could prove hazardous, the sheer notion that a nuclear plant exists and nuclear waste resides and is transported in our borders is a deterrent to other commercial interests and could hamper other major industries from choosing Idaho as a site to locate their business, due to poor "livability" incentives for their employee base.

[184-04, Kitty Vincent] They say the project will create jobs. Well, what might be lacking are creative entrepreneurs who can help the Idaho Falls job market as my husband and I did when we moved a fly line company to the city in the late 1990s. Idaho Falls has the potential to be a major center for green energy products and projects. I have heard that most of the supposed 1000 jobs will actually be for people who are brought in to work on the project whose qualifications meet the unique technical level of skill needed. Also, I truly believe property values will be damaged by the presence of this facility as will the influx of new business. Who in their right mind would come to a city that has a nuclear facility eighteen miles to the West at the foot of one of the most active seismic areas in the country? Especially a facility that is owned and managed by a company that has a history of problems?

Response: *In addition to the 590 direct jobs created at the proposed facility during the peak year of construction, and the 550 direct jobs created during operations, the proposed EREF is expected to produce 1097 indirect jobs in the 11-county ROI during the peak year of construction and 2739 indirect jobs in this ROI during operations. On the other hand, while*

there is no clear evidence to suggest that industrial and commercial plants and facilities are averse to locating in areas with existing or proposed nuclear facilities, there is some evidence to suggest that the perception of nuclear facilities may affect local property values, providing an incentive for entrepreneurs and employees in some companies to look elsewhere for locations for new plants and facilities. Text has been added to the EIS in Section 4.2.12 to summarize these findings.

Comment: The following comments express concern that the economic boost given to the region is only temporary and that long-term impacts to the citizens of Idaho could be adverse.

[032-06, Cindy Cottrell] The jobs that this plant will produce will be few in comparison to the cost of allowing it here. Maybe 300 people will get jobs that will not last forever, but only for the lifetime of the plant. Right now it will cost tax payers would have to loan Areva $2 billion. Other types of energy would be much more worth the taxpayer's money. That's a lot of money for 300 jobs and waste to manage forever. Other kinds of energy that is less risky would be better to invest in.

[050-05, Joanie Fauci] Another area I am very concerned about is economics.

• Many testifiers at the hearing were from the Idaho Falls area. They want jobs. They want jobs now. They don't care about the future and their children's future in that area. Bringing nuclear material to that area, with unknown future removal of it, is very short sighted. We should not be sacrificing jobs now for a ruined environment for the rest of human life.

[184-06, Kitty Vincent] The idea that this will boost the economy of Idaho is short sighted. Affected could be the lives of the future citizens in Idaho and the West.

[189-01, Josh Well] These jobs are temporary and nuclear waste is forever.

Response: *In addition to the 590 direct jobs created at the proposed facility during the peak year of construction and the 550 direct jobs created during operations, the proposed EREF is expected to produce 1097 indirect jobs in the 11-county ROI during the peak year of construction and 2739 indirect jobs in the 11-county ROI during operations. On the other hand, in Section 4.2.10 of the EIS, the NRC staff determined that impacts on human health from preconstruction, construction, and operation of the proposed EREF would be SMALL. It was determined in Section 4.2.11 that impacts from waste management, including the removal of all radioactive material and waste from the proposed EREF by the end of the license period, would also be SMALL.*

Comment: The following comments address the magnitude of the impact of employment, income, and tax revenues, suggesting that the positive impacts are larger than those presented in the EIS.

[041-02, Hon. Tammy de Weerd; 156-02, Robert Simison, on behalf of Hon. Tammy de Weerd] We do feel that taking the "no action alternative" is not a viable option for the State of Idaho, and believe, just by looking at the socioeconomic impacts, as others have stated, is valid

reasons why we should move this project forward. I just want to specifically point out that, you know, while the draft EIS does list it as a small impact, due to the criteria that was used, in the State of Idaho, that part of the region, the 11 counties over there, it is really not a small impact. It has a tremendous impact, here, in the state, and we believe, as a city, that this will also impact this side of the state, here, in the Treasure Valley, as we try to work more and more with the products and services that are coming out of INL, and hope that there will be partnerships that will come from the private industry as well as the research that's currently being done at INL, that may answer questions that many people still might have about nuclear energy and depleted uranium in the future. I think this could be a good partnership for the area.

[098-03, Linda Martin] The Regional Development Alliance has done several impact studies, which have been noted in previous instances, and the positive local impact of diversifying the tax base in Bonneville County is significant. Whereas the current annual tax rolls may reflect an annual property tax income of a few hundred dollars, the Eagle Rock Enrichment Facility would bring in approximately $4 million.

We are looking forward to the thousands of jobs during the various phases. While all human jobs and endeavors are subject to risk, this risk outweighs, by far -- I mean, this risk is outweighed, by far, by the benefits of this project.

As an economic development agency, we are already receiving inquiries from projects interested in this project, seeking to open new offices, and train and hire new employees.

This is a great thing for the economic health of our community and the State of Idaho. Quoting testimony from the December 08 hearing in Idaho Falls: "We don't need a bailout. We need AREVA."

[098-10, Linda Martin] The Regional Development Alliance conducted an IMPLAN economic impact study regarding AREVA's Eagle Rock Enrichment Facility decision to locate in eastern Idaho. The combined phases, for the purposes of this analysis, are expected to cover a multiyear period (30-35 years) across three phases of development (design, construction, operation) and would number in excess of $5 Billion in total output.

The positive local impact of diversifying the tax base in Bonneville County, is significant. Whereas the current annual tax rolls may reflect an annual property tax income of a few hundred dollars, the Eagle Rock Enrichment Facility would bring in approximately $4 Million.

As an economic development agency, we are already receiving inquiries from companies interested in this project, seeking to open new offices, and train and hire new employees. This is a great thing for the economic health of our community, and the state of Idaho. We are looking forward to the thousands of jobs during the various phases of the project. And while all human jobs and endeavors are subject to risk, this risk is outweighed by the benefits of the project.

Quoting previous testimony in December, 2008 from Rich Cartney "We don't need a bailout, we need AREVA!"

[124-02, Lane Packwood] There is one -- I'd like to echo the comments of some of the other speakers here tonight. We are somewhat surprised that the EIS finds that the economic and

fiscal benefits associated with the project to be small, and I think I just -- we -- we disagree that it's small. It is, in fact, enormous. And just to put some perspective on the impact of this project, just taking the numbers from peak facility construction alone, direct employment, 590 jobs, that would decrease unemployment in the two county ROI by 10 percent. There's only 5100 unemployed workers in Bonneville and Bingham County. 590 jobs is an enormous impact. In fact, the roll-up of all the jobs of the four phases examined nearly 3300 jobs. Just this project alone would move Idaho unemployment by one-half a percent. So that is non-negligible impact on employment in this state. The same with income generated by the project.… So, for example, just the income generated by the 11 years leading up to full operation, just the construction phases, is half a billion dollars, and that's almost five and a half times what the estimate here, in Table 4-27, lists. The same with property taxes. Just a tremendous impact on the economy. 2.8 million in income taxes generated, 6 million in sales and use taxes, 5.3 million in property taxes. When the facility is operational, it'll be paying something like 3.5 million in property taxes. Now Bonneville County only collects 23.8 million now, and just put that in some perspective. What does that mean to a local economy? You know, 3.5 million is 58 teachers, each year, year after year, just the average -- and that's the average salary, that's not starting salary of teachers in Idaho. Fifty-eight. So I guess our point here tonight is just to encourage the NRC to take a look at the economic impact, and to understand what a -- what a -- the scale of the project, and we've heard various estimates of the overall cost, the capital expenditures, 2, 3, 4 million. Let's just say it's 3.5 billion. Let's just say that's the cap X of the project. Well, the economy of the State of Idaho, the GDP is only 52 billion. That's 6.6 percent of our state GDP. On a federal level, if we were to compare that to what size federal project would represent 6.6 percent of federal GDP, AREVA is to Idaho what a $947 billion project out be to the national economy. And that's bigger than the stimulus. So certainly not small in its impact.

[164-01, Timothy Solomon] The Regional Development Alliance is experienced in doing economic impact analysis, and I want to congratulate you on the socioeconomics portion of the EIS, which I'm going to address throughout my comments. We subsequently ran an additional analysis based upon your numbers in the EIS, to see how those came out, and those job numbers are "right on" in our estimation.

The job creation numbers for a region of this size are quite substantial. They are not an insignificant impact on the state and on our region. 308 preconstruction jobs and 1,687 construction jobs will impact Idaho, in a very positive way, over the years in which those activities take place. 3,289 direct, indirect, and induced jobs are also very, very significant throughout the operational period.

The direct output effects of more than 315 million in the first full year of operations is not a small impact, and provides a substantial base of potential business for local suppliers, service providers, and sole proprietors, a very important part of our economy. Even if the output remains static over a 20 year period, using the numbers in the EIS, the region would have a base of 6.3 billion in total direct East Coast activity from which to draw for those business opportunities over that operational period.

We do urge the NRC to take another look at your labor income numbers. We think they may be slightly less than a project of this size, and a region of this size merits. However, if you just take the 92.4 million that is outlined in the EIS, if you take that out over a 20 year operating history,

assuming no year-to-year change, we estimate nearly $2 billion of labor income along on that side of it.

The economic impact of AREVA's $2 billion investment in Idaho is driven by capital investment that leads to job creation. The Eagle Rock enrichment facility location in eastern Idaho is absolutely critical to the economic vitality of the region. Real property has improved and begins yielding tax revenues at a much higher level. New investments are made in tangible personal property that keeps our manufacturing and processing capabilities and our job infrastructure on the leading edge. Jobs are created; dollars are spent in the local economy. Business to business and business to consumer transactions increase, real per capita income increase, tax revenues throughout the area of impact, both direct and indirect, to the investment, increase, and the general economy of the entire state is strengthened. And with that, we highly encourage you strongly support the issuance of a license.

[165-01, Hon. Lee Staker] I won't get into a lot of details, other than to say the tax base of Bonneville County is about $5.9 billion, and you start looking at this as a tax base. Even though the full taxes won't be from that, it is significant to Bonneville County.

Response: *Although the employment, income, and tax revenues created by the preconstruction, construction and operation of the proposed facility may appear to be large, when compared to the size of the economic and fiscal baseline of the 11-county ROI, the employment impacts are SMALL. As discussed in Section 4.2.12 of the EIS, changes in total (direct and indirect) employment during the peak year of construction would amount to less than 1 percent of total employment in the 11-county ROI. While the commenter is correct that impacts are presented for discrete intervals for construction, preconstruction impacts occur only in one year (2012), and operations impacts would be the same in each year beginning in 2022. Chapter 7 of the EIS (Benefit-Cost Analysis) provides the total (i.e., summed over all years of the project) employment, income, and fiscal impacts of the project. Labor income data and assumptions used in the analysis of impacts have been verified.*

Comment: The following comments address the issues of financial incentives, including tax breaks and the highway overpass grant, provided by the State of Idaho.

[050-08, Joanie Fauci] The State of Idaho has had to cut budgets everywhere. Yet somehow they found money to loan to Areva and also provide tax breaks. This is wrong! I am mad that my tax dollars have already been given to this project.

[180-02, Kaye Turner] Is it true the state of Idaho, i.e., the taxpayers are giving this company huge tax breaks to build this nuclear plant?

[098-02, Linda Martin] Under economic impacts, there are no Idaho taxes directly going to support the construction of this facility. As a group which encouraged the grassroots statewide support of the legislation, it should be noted that it not only applies to AREVA, but to any other new capital investment of similar magnitude. These are earned benefits to any company which chooses to invest in Idaho, of similar monetary amounts. The DOE issued a federal loan guarantee, not a federal loan. This was based on the technical ability and the creditworthiness of AREVA, currently a U.S. corporation.

[098-09, Linda Martin] Economic Impacts: There are NO Idaho taxes directly going to support the construction of this facility. As a group which encouraged the grassroots statewide support of the legislation, it should be noted that it not only applies to AREVA, but to any other new capital investment of similar magnitude. These are *earned* benefits to companies choosing to invest in Idaho. The DOE issued a federal loan guarantee – not a federal loan. This was based on technical ability and financial credit worthiness from AES, and American corporation.

[106-03, Ted McConaughey] Another concern I have here is this idea that government should subsidize these industries, and we have Bob Poyser from AREVA saying, in quotes here: "AREVA will bear full costs." And so far, they have not. So far, the state throws in money for the 'interchange for nowhere' and there's other subsidies that come, right and left. And I think that even the Tea Party people ought to be upset about these government facilities for this construction here. We all ought to say no--AREVA should be funding this stuff, not the government.

[150-06, Katie Seevers] My final concern I would like to address tonight are the economic implications associated with this facility. The company who is creating this facility is French, and its production of enriched uranium in the United States does not result in domestic control of that product as addressed in the draft EIS, section 2-17. In spite of this, the State of Idaho has "bent over backwards," awarding tax exemptions funded by Idaho taxpayers. Additionally, the Department of Energy has provided a $2 billion loan guarantee with more of our tax dollars, and then, to top all of this off, Idaho Department of Labor and Commerce granted $750,000 towards an overpass. Perhaps we could just write everybody in Bonneville County a check. All the same, a substantial portion of our state and federal tax dollars are being allocated towards a facility which will be decommissioned within 30 years.

[182-03, Brianna Ursenbach] Assuming that the U.S. uranium fuel supply is insecure, it is clear that the EREF will not fix it, and although it is not specifically related to the EIS, it is worth noting that the federal and state tax dollars are being used to subsidize this project. Thus EREF provides no tangible security improvements to the American people, but it does lay a financial burden on them.

[183-04, James Vincent] My other issue is about estimates of uranium throughout the world. The research I have done shows that there's somewhere between 50 years at the low end, and 100 years on the optimistic side. Why would we utilize a technology that costs literally billions of dollars to implement, with public tax dollars for a loan guarantee, and I realize that it is a guarantee, and Idaho tax incentives for a limited time technology? Even 100 years is not very long, as far as reserves.

[183-11, James Vincent] My research has found known estimates world wide of uranium somewhere between 50 years on the low end and 100 years on the optimistic side. Why would we utilize a technology that costs literally billions of dollars to implement with public tax dollars for a loan guarantee and Idaho tax incentives for a limited time technology, Even 100 years is not very long as far as reserves.

[184-07, Kitty Vincent] Areva's proposed Eagle Rock Enrichment Facility (EREF) will store radioactive waste above the sole source aquifer for nearly 300,000 people; impact sensitive species; require the transport of radioactive materials; impair the Hell's Half Acre National

Monument; support destruction of the John Leopard homestead, which has been recommended for the National Register of Historic Places; devour billions of dollars in state and federal largess; and obliterate farmland that is potentially protected by the federal government. The Alliance is here to say it is not worth the risk.

[191-25, Liz Woodruff] State and federal largess. • In 2008, the state of Idaho showered Areva with huge tax breaks funded by Idaho taxpayers, including a cap on property tax valuation at $400 million and unnecessary sales tax exemptions….

• Not convinced the state had already done enough, the state Departments of Labor and Commerce gave Areva $750,000 to help offset the cost of a highway interchange at its site, even though the project hadn't been approved by the NRC and sidestepping traditional Idaho Transportation Department review.

Response: *The NRC staff acknowledges these comments. However, the tax issues discussed in the comment above are not issues in which the NRC is involved.*

Comment: The following comments concern the DOE loan guarantee.

[032-06, Cindy Cottrell] The jobs that this plant will produce will be few in comparison to the cost of allowing it here. Maybe 300 people will get jobs that will not last forever, but only for the lifetime of the plant. Right now it will cost tax payers would have to loan Areva $2 billion. Other types of energy would be much more worth the taxpayer's money. That's a lot of money for 300 jobs and waste to manage forever. Other kinds of energy that is less risky would be better to invest in.

[050-07, Joanie Fauci] • The State of Idaho has had to cut budgets everywhere. Yet somehow they found money to loan to Areva and also provide tax breaks. This is wrong! I am mad that my tax dollars have already been given to this project.

• I have read that loan guarantees are frequently defaulted on. With the existing track record of these, the US government/NRC, should not be offering any to Areva or any other company.

[098-02, Linda Martin] Under economic impacts, there are no Idaho taxes directly going to support the construction of this facility. As a group which encouraged the grassroots statewide support of the legislation, it should be noted that it not only applies to AREVA, but to any other new capital investment of similar magnitude. These are earned benefits to any company which chooses to invest in Idaho, of similar monetary amounts. The DOE issued a federal loan guarantee, not a federal loan. This was based on the technical ability and the creditworthiness of AREVA, currently a U.S. corporation.

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[103-06, Karen McCall] Areva wants US Federal loan guarantees in the amount of $2 billion dollars. US taxpayers would get far more energy for that money spent on renewables. An analysis by Idaho Power shows that nuclear power would cost significantly more per megawatt hour than wind, geothermal and biomass.

[145-02, Ann Rydalch] I urge the NRC to continue to listen to scientific facts and to disregard untruthful or scare tactic statements, statements such as DOE is giving $2 billion loan guarantee, a misleading statement, because no money exchanges hands. DOE is not giving AREVA the 2 billion dollars. However, by it being included in the Loan Guarantee program, AREVA and other companies in that program will be able to possibly receive lower interest rates. It's like the Good Housekeeping Seal of Approval.

[154-03, Diana Shipley] They are asking for loan guarantees from the United States government and I wonder who will be left to clean up the waste and pay the bills if they bail out?

[157-06, Hon. Erik Simpson] I'd like to address some misconceptions I've read in Idaho's newspapers, and read on the internet about this project. First, financing. AREVA was recently awarded a $2 billion loan guarantee by the Department of Energy. First, a federal loan guarantee is not a taxpayer loan. It is not a bailout. A federal loan guarantee allows a company like AREVA to secure a loan from a lender with the credit backing of the United States Government. This arrangement allows a company to secure a better interest rate.

[168-02, Lon Stewart] Areva, a French government owned company, should not be subsidized by the United States to build and operate a plant in the United States. What logical business person would loan a foreign company $2 billion dollars to build a plant that WILL have cost overruns while under construction, where similar projects have a loan default rate of 50%, where the company can declare bankruptcy and just leave the US., and the company does not pay any royalties to the US? Doesn't sound good to me.

[180-01, Kaye Turner] I have nothing but questions that I hope will be answered honestly and accurately before Areva is given permission to build their plant. Is it true the U.S. government, is giving this company a $2 billion loan guarantee to build this nuclear plant? And if Areva fails, we the tax payers pick up the tab?

[182-03, Brianna Ursenbach] Assuming that the U.S. uranium fuel supply is insecure, it is clear that the EREF will not fix it, and although it is not specifically related to the EIS, it is worth noting that the federal and state tax dollars are being used to subsidize this project. Thus EREF provides no tangible security improvements to the American people, but it does lay a financial burden on them.

[183-04, James Vincent] My other issue is about estimates of uranium throughout the world. The research I have done shows that there's somewhere between 50 years on the low end and 100 years on the optimistic side. Why would we utilize a technology that costs literally billions of dollars to implement, with public tax dollars for a loan guarantee, and I realize that it is a guarantee, and Idaho tax incentives for a limited time technology? Even 100 years is not very long, as far as reserves.

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[187-05, John Weber] Also, the US citizens bear most of the risk by giving the French company multiple tax benefits and loan guarantees. Is it true the estimated cost of decommissioning the plant is 3.5 billion U.S. dollars?

[191-26, Liz Woodruff] Warned by Areva that it probably wouldn't build the enrichment factory without US taxpayer support, the Department of Energy reached into your pockets to grant the French-owned company a $2 billion loan guarantee.

Response: *Section 1703 of Title XVII of the Energy Policy Act of 2005 authorizes the DOE to support innovative clean energy technologies that are typically unable to obtain conventional private financing due to high technology risks. In addition, the technologies must avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases. Technologies considered include: biomass, hydrogen, solar, wind/hydropower, nuclear, advanced fossil energy coal, carbon sequestration practices/technologies, electricity delivery and energy reliability, alternative fuel vehicles, industrial energy efficiency projects, and pollution control equipment. DOE's mission is to accelerate the domestic commercial deployment of innovative and advanced clean energy technologies at a scale sufficient to contribute meaningfully to the achievement of national clean energy objectives. A loan guarantee is a contractual obligation that the Federal Government will cover the debt obligation in the event of a default. In May 2010, the DOE issued a conditional commitment for a Federal loan guarantee to AES for the proposed EREF. The award of the loan guarantee is contingent on a number of conditions being met prior to loan closure, including issuance of the NRC license for the EREF. More information on the DOE loan guarantee program is available at http://lpo.energy.gov/?page_id=29.*

Comment: The following comments stress the importance of the economic boost that the proposed EREF would have on the Idaho Falls area and the region.

[026-02, Rob Chiles] Over the last few years, the business community, and members of the Chamber of Commerce, have shown tremendous support for this important economic development project. The positive impacts are obvious. With so many America manufacturing jobs going out of the country, we welcome AREVA's investment and the creation of jobs for U.S. workers.

[026-03, Robb Chiles] I appreciate your time and the opportunity to speak to you on this truly important project. We support your recommendation to grant a license for this project. As Mr. Packwood so eloquently put in his -- regarding economic benefits, it just makes good business sense.

[034-07, Greg Crockett] We do, however, disagree on the scoring of the socioeconomic impacts. We believe that when you combine the four phases of the project over 30-35 years of prospective operations, the total economic benefit to the region and state will be much higher than stated in the Draft EIS.

[038-01, Brian Davidson] That plant will help Idaho stay on the forefront of nuclear power technology and add as well as attract badly-needed good-paying jobs to our area of the state.

[039-03 and 039-06, Kreg Davis] Second, the Areva project is good for the economy, both in the short and long run. In the short run, it will create many Idaho jobs, both in Idaho Falls and Boise. A modest estimate of jobs created will number in the thousands. In addition, many more jobs will be saved. In my industry—my company, my customers, my suppliers, my competitors even the State of Idaho's DBS — I am aware of many Treasure Valley jobs that depend on Areva's success.

I ask every Boise/Treasure Valley elected official to speak directly with your business community and especially with anyone in the construction business. We have been among the hardest hit during these difficult economic times. Ask these businesses and their employees — your constituents — if Areva's project will save and create Boise jobs. If you have doubts, call me. I can introduce you to many Boise/Treasure Valley based businesses and employees who hope this Areva project is a success.

[041-02, Hon. Tammy de Weerd; 156-02, Robert Simison, on behalf of Hon. Tammy de Weerd] We do feel that taking the "no action alternative" is not a viable option for the State of Idaho, and believe, just by looking at the socioeconomic impacts, as others have stated, is valid reasons why we should move this project forward..

I just want to specifically point out that, you know, while the draft EIS does list it as a small impact, due to the criteria that was used, in the State of Idaho, that part of the region, the 11 counties over there, it is really not a small impact. It has a tremendous impact, here, in the state, and we believe, as a city, that this will also impact this side of the state, here, in the Treasure Valley, as we try to work more and more with the products and services that are coming out of INL, and hope that there will be partnerships that will come from the private industry as well as the research that's currently being done at INL, that may answer questions that many people still might have about nuclear energy and depleted uranium in the future.

[043-01, Rocky Deschamps] I am going to speak just a little bit, and I won't take much time. I'm going to talk a little bit about, I spent six years on the Bingham County Planning and Zoning Commission, the last two years as chairman of that Commission, and there's one area here on the Environmental Impact Statement that I'd just like to maybe touch just a little bit of base on, and it talks about, it's anticipated the number of workers moving into the area during each phase of the proposed project they call them migration workers, that might have some impact on the schools, health care, law enforcement, availability, cost of public utilities, such as electric, water,

sanitary, road, number of migrating workers expected during the construction and operations might impact the housing.

My time on the Bingham County Planning and Zoning, we encourage businesses because our schools are crying out, we need more students. We're actually declining in our number of youth in our schools. Our roads are very adequate. Our schools are adequate. We have an infrastructure here in southeast Idaho because we are so used to having INL, we have the colleges here that can train the workers. We have the high schools that are there that are ready to accept anything new that we might have in this area in the schools. We have multiple, multiple infrastructure in place because of the INL, and the experience we have with the INL out there.

Also, I've been involved with the supply side. We have contractors in this area that are so familiar with the requirements to build a facility like this, that it's just -- you don't find that in a lot of areas. We also have suppliers that are used to supplying the specifications, the ASTM specifications that are required on a nuclear facility to do that, so we are very able to take on a facility like this, and take care of it, and do what we need to do.

[047-01, Mark Dunham] I'm excited about the positive impact of the AREVA project. We believe this will be a major boost to Idaho's employment base, and my members are ready to be a part of this project, and to assist in any way that we can.

I have 840 member companies in Idaho, with close to 200 in Eastern Idaho alone. Idaho's contractors are ready to help with the construction of necessary infrastructure and facilities for this important project.

On Saturday, Ken Simonson, who's the chief economist of the Associated General Contractors of America, was in Idaho speaking to my members about the dismal state of the economy. He told my members that Idaho's construction employment rate is at the same level as it was in December of 1994. In my industry, it is about jobs, and it is about money, because that translates into helping your families stay in Idaho, raise their future generations in Idaho. So we think this will be helpful.

As a result, the importance of projects like the AREVA Eagle Rock enrichment plant cannot be underestimated. Not only will the plant help with our nation's energy situation; it will have a significant impact on Idaho's economy in terms of jobs.

Analysis of this project shows that the project will have economic benefits such as creating almost 5000 direct, and indirect, jobs through the life of the project. It will also result in billions of dollars in additional investment into Idaho's economy, and families, at a time the state would benefit from increased economic development.

A George Mason University study commissioned by the AGC of America about infrastructure investment, in general, says, indicates the construction jobs created would have significant other impacts on the economy.

There would be indirect jobs from supplying construction materials and services. Most jobs would be in the State of Idaho. There would also be additional jobs created when the

construction and supplier workers, and owners, spend their additional incomes throughout the state's economy.

[054-01, Paul Fullmer] Areva is good for the community and economy just because for the simple fact that it is cheaper on the electricity and it produces more jobs for Idaho.

[062-01, Trevor Grigg] And, you know, I want the same opportunity of prosperity that my parents have had, and I know that these acquaintances and these friends, they want the same opportunity of prosperity, and I think that this economic benefit that comes to our state through this project is huge, and it gives us that opportunity.

[065-02, Hon. Ida Hardcastle] I spend a large amount of time in the city among the residents and it is exciting to feel the enthusiasm most have for this project coming to Idaho Falls. Of course the main interest is the economic impact it will have on the area, in other words - jobs. Also the community supports the fact that there will be a very small environmental impact from this facility. We thank the NRC again for their efforts in this particular concern. We have a top notch workforce here which was recognized by AREVA in the beginning. The community as a whole supports energy being produced by nuclear power. We simply have to address our independence on foreign oil.

[073-02, Mark Holzmer] The Areva project has the potential to significantly improve the economic base in southeast Idaho – impacts which are not small to moderate, but will have immediate positive effects on our economy.

[080-01, Don Johnson] And I would just have to say that I represent a lot of people that this job would really help. I've lived here all my life. I've raised my family. I've got five grandkids, and I hope that this would help them in the future find employment, because God knows that we all need more jobs in this state. So, I would highly recommend that you accept this application.

[098-03, Linda Martin] The Regional Development Alliance has done several impact studies, which have been noted in previous instances, and the positive local impact of diversifying the tax base in Bonneville County is significant. Whereas the current annual tax rolls may reflect an annual property tax income of a few hundred dollars, the Eagle Rock Enrichment Facility would bring in approximately $4 million.

We are looking forward to the thousands of jobs during the various phases. While all human jobs and endeavors are subject to risk, this risk outweighs, by far -- I mean, this risk is outweighed, by far, by the benefits of this project.

As an economic development agency, we are already receiving inquiries from projects interested in this project, seeking to open new offices, and train and hire new employees.

This is a great thing for the economic health of our community and the State of Idaho. Quoting testimony from the December 08 hearing in Idaho Falls: "We don't need a bailout. We need AREVA."

[123-03, Hon. Butch Otter; 090-03, Paul Kjellander, on behalf of Hon. Butch Otter; 195-03, Hon. Jeff Thompson, on behalf of Hon. Butch Otter] First, the Eagle Rock project will

provide a much-needed stabilizing economic force in Idaho Falls, and the southeastern Idaho region. Second, the facility will create much-needed high-quality jobs for the dedicated workforce in the area. Eagle Rock will create thousands of construction and contractor jobs, and in 30 years of operation, hundreds of long-term, high-end positions.

[128-01, Bob Poyser] We welcome this opportunity to provide factual information about our project to Boise and the surrounding communities. Assuming we are granted a license next year, those in Boise, who make the trip to Idaho Falls by way of Highway 20, will see the beginning of an important step towards our nation's energy independence, the development of a significant investment in Idaho, and construction of an American facility which will provide jobs to American workers, and strength to the local economy.

[128-07, Bob Poyser] Eagle Rock will have a significant impact on the local and regional economy. This facility will create much-needed jobs for Idaho workers. During construction, we'll create about a thousand jobs locally, and support thousands more regionally. This is a construction effort that will run for nearly seven years. Within two years from today, AREVA will begin to hire and train a workforce that will eventually exceed 400 people, to operate and maintain the Eagle Rock facility over the next 30 years of operating life.

We believe this is a positive, is positive news to the many hard-working people in Idaho who are struggling with difficult economic conditions.

[133-10, Richard Provencher] For the community of Idaho Falls, the pursuit of this facility will help bring jobs to the area, and potentially help with workers being displaced from the highly successful Idaho Cleanup Project as it completes cleanup work. Studies have been performed on jobs in the area which shows for every new job there is a secondary benefit of 1.8 to the surrounding community-this will result in even more benefit to the community.

[135-02, Hon. Dave Radford] We're happy with the prospects. We're optimistic about the jobs. Serving my third term, and recently running for re-election for my fourth term, the people that I talked to on the street, it was all about jobs, jobs, jobs. That's what they were interested in, and how can we promote that, how can we keep the quality of life that we have here in eastern Idaho, but still further enhance our energy independence?

[137-01, Ralph Reeves] 1. This plant will add to our exports, which is desperately needed.

[137-03, Ralph Reeves] 3. This plant will result (in time) in a well trained work force with skills that can be transferred to other jobs.

[137-04, Ralph Reeves] 4. This plant will likely foster support establishments which will likely result in exports and well trained workers.

[155-02, Jerry Shivly] It was going to help Idaho Falls, because it was going to produce jobs. And at that time, even in 2008 jobs were starting to fall off. And it's going to energize Idaho Falls because every time new people come, they bring some of themselves. And we get together and find out that we are better, and that we have a better product amongst us. The arts thrive, the schools thrive, and we all thrive. And I am very much in favor of AREVA coming to Idaho Falls.

[185-01, Wade Virgin] What would AREVA do? My understanding is, and I hope my figures are correct, it would bring 800 to 1,000 jobs to this area for construction, with several hundred other jobs coming afterwards. I spent some time not long ago on the internet, and looked at some of their jobs, and how well they pay. There would not only be jobs, there would be secondary jobs that would be brought to this area.

I guess I can only say, and be brief in saying it, but I fully support, in fact, I strongly encourage the application be approved for AREVA located here in the Idaho Falls area.

[163-01, Cindy Smith-Putnam] On behalf of Grow Idaho Falls, and although you and others have already done a good job capturing it in the process leading up to the Draft EIS, I simply cannot overstate the positive socioeconomic impacts this project would bring. Even now in this very early stage, we are already seeing transportation improvements easing the flow of current traffic along U.S. Highway 20 corridor, and that's because we've asked our officials to anticipate, plan for, and assess these future needs, and to address them in advance. But when it comes to economic development, this project's significance reaches far beyond the obvious direct impact of jobs creation, dramatic expansion of tax revenues for our cash strapped state, infrastructure development, and the multiplier effect of all of those dollars.

[164-01, Timothy Solomon] The Regional Development Alliance is experienced in doing economic impact analysis, and I want to congratulate you on the socioeconomics portion of the EIS, which I'm going to address throughout my comments.

We subsequently ran an additional analysis based upon your numbers in the EIS, to see how those came out, and those job numbers are "right on" in our estimation.

The job creation numbers for a region of this size are quite substantial. They are not an insignificant impact on the state and on our region. 308 preconstruction jobs and 1,687 construction jobs will impact Idaho, in a very positive way, over the years in which those activities take place. 3,289 direct, indirect, and induced jobs are also very, very significant throughout the operational period.

The direct output effects of more than 315 million in the first full year of operations is not a small impact, and provides a substantial base of potential business for local suppliers, service providers, and sole proprietors, a very important part of our economy.

Even if the output remains static over a 20 year period, using the numbers in the EIS, the region would have a base of 6.3 billion in total direct East Coast activity from which to draw for those business opportunities over that operational period.

We do urge the NRC to take another look at your labor income numbers. We think they may be slightly less than a project of this size, and a region of this size merits. However, if you just take the 92.4 million that is outlined in the EIS, if you take that out over a 20 year operating history, assuming no year-to-year change, we estimate nearly $2 billion of labor income along on that side of it.

The economic impact of AREVA's $2 billion investment in Idaho is driven by capital investment that leads to job creation. The Eagle Rock enrichment facility location in eastern Idaho is absolutely critical to the economic vitality of the region.

Real property has improved and begins yielding tax revenues at a much higher level. New investments are made in tangible personal property that keeps our manufacturing and processing capabilities and our job infrastructure on the leading edge.

Jobs are created; dollars are spent in the local economy. Business to business and business to consumer transactions increase, real per capita income increase, tax revenues throughout the area of impact, both direct and indirect, to the investment, increase, and the general economy of the entire state is strengthened.

And with that, we highly encourage you strongly support the issuance of a license, and I thank you, once again.

[176-03, Hon. Jeff Thompson] It is estimated the local region will see more than $5 billion in economic impact, and 5,000 in direct and indirect jobs will be created throughout the United States for this contract.

[178-02, Randy Trane] This is a project that will serve two purposes. It will allow nuclear power to serve the world and it will help the economy in the Eastern Idaho area with much needed employment. I have several friends who are experts in the nuclear power industry and they are telling me that this project will not have any negative impact on the environment in this area.

[190-01, Dave Whaley] The Idaho State AFL-CIO, representing approximately 24,000 affiliates across the State of Idaho, would like to go on record in support of the AREVA Enrichment Service's proposed gas centrifuge uranium enrichment plant being built in Eagle Rock, Idaho.

Idaho, like the rest of the United States, is experiencing record high unemployment. The jobs this site will provide for-the construction industry as well as future operation jobs when the facility is complete will be instrumental in Idaho's economic recovery

Response: *The NRC acknowledges these comments and appreciates the public participation.*

I.5.20 Environmental Justice

No comments were received on the Environmental Justice section of the Draft EIS.

I.5.21 Accidents

Comment: The following comment expresses concern regarding worker safety associated with accidents at the proposed EREF.

[049-01, Victoria Everett] But I'm concerned about the workers. It says you're providing jobs. How safe are these jobs? You know, coal mines provide jobs, but they're not very safe jobs,

and, you know, it wasn't addressed, on the safety of the workers. If there is an accident, how safe are these workers? Who pays for, you know, the damage done to them, and taking care of their families?

Response: *The proposed EREF will be designed with a number of features that would protect workers and mitigate the effects of accidents, as described in Section 4.2.15.3 of the EIS. In addition to physical design features such as barriers, ventilation systems, and alarms, an Emergency Plan would be implemented to minimize the consequences of accidents to workers. Liability for payment for damages to workers would depend on the particular circumstances of an accident. AES would be liable for cleanup costs for accident consequences at the proposed EREF.*

Comment: The following comment asks if AES's Integrated Safety Assessment (ISA) addresses all credible accident scenarios whereby depleted uranium (or other contamination) could get into the Snake River Aquifer.

[087-02, Dennis Kasnicki] Comment 2a: Many attendees expressed concern regarding contamination, especially depleted uranium, getting into the Snake River Aquifer; *that*, by far, seemed to be the biggest concern, and rightfully so. Does AREVA's Integrated Safety Assessment address ALL CREDIBLE accident scenarios whereby depleted uranium (or other contamination) could get into the Snake River Aquifer? Are the "probabilities" of all such scenarios deemed at least "highly unlikely", or otherwise meet the requirements of 10 CFR 70? If so, or if not, this should be loudly and clearly "called out" in the Draft EIS.

Response: *AES's ISA (AES, 2010b) considered all credible accidents at the proposed EREF. The analysis considered the consequences and the likelihood of each accident sequence. Consequences included offsite impacts on the public and on the environment from airborne releases of UF_6 and other forms of uranium resulting from an accident. Only accidents involving an airborne release can conceivably result in significant quantities of uranium being released because of the physical properties of the uranium materials used in the process. The environmental consequences of UF_6 releases are analyzed in more detail in Section 4.2.18.2 of the EIS. This section analyzes the consequences of a UF_6 release resulting from a terrorism event and concludes that areas contaminated by deposition of airborne plumes of uranium would be cleaned up to levels that would be protective of human health. Cleanup levels would be determined though a risk analysis that would include analysis of a groundwater exposure pathway. Cleanup of surface contamination would minimize possible migration of uranium to the Eastern Snake River Plain Aquifer. Even in the absence of cleanup, it is unlikely that uranium at levels of health concern could reach the aquifer from the surface in the vicinity of the proposed EREF due to adsorption of uranium by soils of greater than 200 m (660 ft) thick overlying the aquifer (see EIS Section 3.7.2.2).*

Comment: The following comment states that sensitive population exposure scenarios need to be developed and addressed, not just from a worker standpoint but also from a member of the public standpoint.

[036-04, Christina Cutler, on behalf of the Shoshone-Bannock Tribes] Sensitive population exposure scenarios need to be developed and addressed, not just from a worker stand point but also from a member of the public stand point.

Response: *As presented in Section 4.2.15 of the EIS, doses to members of the public are evaluated ranging from a person at the site boundary to the entire collective population within 80 kilometers (50 miles) of the proposed EREF site. Health effects from potential exposures were evaluated using State of Idaho or NRC reference values. These values included Idaho's ambient air quality standard for HF (for routine emissions) and radiological exposure limits from 10 CFR Part 20. For accidents, the NRC staff used threshold consequence levels for exposure to uranium and HF given in 10 CFR 70.61 and EPA's Acute Exposure Guideline Levels (AEGLs). The NRC staff believes that the reference values used are appropriate for evaluating potential health impacts from operation of EREF on potentially impacted populations, including workers, members of the public, and sensitive subpopulations.*

Comment: The following comment asks about how AES will respond to accident scenarios on the proposed EREF site and how the public will be informed.

[129-01, Willie Preacher, on behalf of the Shoshone-Bannock Tribes] A question arose on safety issues, how AREVA will respond internally to accident scenarios on the proposed site, and how the public will be informed.

Response: *AES would respond to an accident in accordance with the EREF Emergency Plan implemented by the EREF Emergency Management Organization. The public would be informed through alert and notification procedures employed by local emergency management organizations, such as fire and police departments, after these organizations are notified of an emergency by the facility.*

Comment: The following comment is about the SER not being included in the Draft EIS.

[141-03, Peter Rickards] In addition...

1) We are not able to double check the downplaying of accidents and terrorism dose to the public. The Safety Analysis Report (SER) is NOT included in the DEIS! Instead vague summaries were used touting they would meet legal requirements.

In my history of 23 years of being lied to in EIS's, specifics are needed to demonstrate where you are misinforming the public to the potential REAL environmental impacts of the proposed plant. It is unacceptable to have an official draft comment period while withholding the MOST important details!

What the DEIS says on webpage 66 of 430 is:
"As noted in Section 1.4, some of these issues are analyzed in detail in the NRC's SER and are only summarized in the EIS. For example, within the area of safety and security, the SER analyzes the probabilities and consequences of various accidents at the proposed EREF, as well as measures to prevent those accidents and mitigate their effects. This EIS does not go

into the same level of detail, but provides, in Section 4.2.15, an accident analysis for the purpose of assessing the potential environmental impacts of accidents."

Response: *The SER (NRC, 2010b) documents the NRC's safety review of the proposed EREF. Most of the issues addressed in the SER are not within the scope of the EIS. As pointed out in the comment, the safety review, as opposed to the environmental review covered in the EIS, goes into much more detail on safety-related matters, including potential accidents, as discussed in Section 1.4 of the EIS. Section 4.15 of the EIS provides a summary of the accident analysis in the SER.*

Comment: The following comment pertains to certain information in the Draft EIS regarding doses due to accidents.

[141-05, Peter Rickards] 3) While assuming the HEPA filters contain most of an accident nuclear criticality, the DEIS does admit that a citizen at the fenceline could receive a 570 mrem dose, way above the 10 mrem annual limit! (Table 4-30, p 372/430). This dose seems not used when dismissing transport accidents in metropolitan areas.

Response: *The 10 mrem/yr dose constraint is only applicable to routine facility operations. It is not applicable to accident scenarios. In addition, the criticality event analyzed in Section 4.2.15 of this EIS is not applicable to the impacts of transportation of UF_6 or low level waste analyzed in the EIS.*

Comment: The following comment requests certain information on accidents and problems at the Metropolis, Illinois, Honeywell facility.

[141-07, Peter Rickards] 5) While I have found some great contradicting documents on the NRC website, I was unable to find details on accidents and problems at current uranium enrichment plants, including the Metropolis, Illinois Honeywell facility.

Please address the statement of Hydrogen explosions recently at the Honeywell uranium enrichment facility from the article pasted below. Page 370/430 lists only 5 accident types analyzed, which all seem to qualify for ignoring by probability math tricks. However, this article mentions locals hospitalized from inhalation problems from Dec 2003. While NRC likes to dwell on estimated death rates, the public needs to know ALL the potential impacts on their health, including these scenarios. The article mentions a long problem with compliance at Honeywell, which appears unaddressed as a potential REAL AND PROBABLE health impact. (See red highlights) On the NRC website I could see references to Honeywell problems, but the searches lead to long lists that obscured me finding the details.

Response: *The Metropolis, Illinois, Honeywell facility is a uranium conversion facility and not a uranium enrichment facility. As such, the processes and events at the Honeywell facility may not be applicable to the processes at the proposed EREF; a hydrogen fire is specifically not relevant to the proposed EREF enrichment process. Hydrogen use would occur only in laboratories at the proposed EREF where it would be used in small quantities under controlled conditions. The NRC review focused on the processes at the proposed EREF.*

The NRC reviewed potential accident sequences that the applicant evaluated as part of the facility ISA. The ISA is performed by the applicant to identify those accident sequences which may have notable consequences (see the performance requirements in 10 CFR 70.61) including long-lasting health effects resulting from exposure to those chemicals associated with NRC-licensed materials. In addition, the NRC independently evaluated certain accident analyses to both verify the adequacy of the evaluations performed by the applicant and to determine the potential impact to the public as pertinent to the EIS. A summary of the ISA was submitted to the NRC as part of the license application and reviewed by staff to provide reasonable assurance that the proposed operations will be conducted in a manner that assures public health and safety and protects the environment. That review is not part of the EIS, but was performed as part of the application review and documented in the Safety Evaluation Report (NUREG-1951) (NRC, 2010b).

Comment: The following comment asserts that there are certain issues that the criticality analysis does not address.

[141-02, Peter Rickards] Specifically, the criticality analysis does not address the microscopic particle size problem from criticalities, nor the "alpha recoil" problem with HEPA filters for normal operations, nor the fire problems with HEPA filters.

Response: *With regard to the criticality analysis, as reported in Chapter 5 of the SER (NRC, 2010b), NRC staff used dose conversion factors for particulates consistent with both 10 CFR Part 20 and International Commission on Radiological Protection (ICRP) Publication 30. ICRP 30 recommends use of a 1 micron activity median aerodynamic diameter (AMAD) particle size when the particle size is unknown. Dispersion modeling of releases is consistent with NUREG/CR-6410 and previous evaluations.*

With regard to alpha recoil problems, the staff recognizes that enriched uranium is a low specific activity material and there have been no apparent issues with alpha recoil for uranium materials.

Fire hazards and the potential consequence of fires are addressed in the facility ISA. NRC staff reviewed the ISA summary and found the risks to be adequately controlled. The NRC staff concluded that there is reasonable assurance that the proposed operations will be conducted in a manner that ensures public health and safety and protects the environment, as reported in Chapter 7 of the SER (NRC, 2010b).

Comment: The following comment expresses concern about the threat to air quality in the event of an accidental release of radioactive material.

[100-02, Wendy Matson; **184-12, Kitty Vincent; 191-18, Liz Woodruff]** The amount of radioactive material that will be present on the proposed site represents an implicit severe threat to air quality in the event of an accidental release of radioactive toxins.

Response: *The human health consequences of representative accidents that involve releases of UF_6 to the atmosphere are analyzed in Section 4.2.15.2 of the EIS. Releases from high-*

consequence accidents, which involve the greatest releases of UF_6 to the atmosphere, were analyzed. The analysis concludes that operation of the proposed EREF would pose an acceptably low risk to workers, the environment, and the public from accidents. Air concentrations of uranium and HF would subside quickly after an accident and would not produce lasting effects on air quality.

Comment: The following comments express concern about the cleanup costs following an accident at the proposed EREF.

[049-02, Victoria Everett] And also, in the case of an accident, who plays for the cleanup? Who's responsible for that? The State of Idaho? Or is it AREVA? You know, that wasn't clarified. And in transportation, a truck gets in a wreck, it spills all over the ground. You know, such cases as that. Say there is a fire, and there's a major disaster at the plant. Who pays for that? And who pays the doctor bills of the families that have cancer?

[050-10, Joanie Fauci] Who will pay for all accidents which occur?

Response: *AES would be liable for cleanup costs for accidents at the proposed EREF. Liability for payment for damages to workers or members of the public, such as cancer-related claims, would depend on the particular circumstances of an accident.*

Comment: The following comments note the hazardous nature of uranium hexafluoride and the potential risk from breached containers.

[181-14, Roger Turner] EIS fails to realistically evaluate container breaches. Moving, stacking and unstacking cylinders has breached the containers, at the Oak Ridge Facility. The EIS needs to be realistic about risks, where heavy equipment is in use because accidents and spills will happen. Inspections are subject to human error and constrained by budgets. Inconsistent pressure levels in containers are well known. Excess pressure in containers may make them more susceptible to breaching or corrosion. Corrosion has been found on these containers at Oak Ridge. The combination of problems were not adequately considered in the draft EIS.

The EIS fails to acknowledge toxicity of Uranium (both enriched and depleted) and the risks to workers and the public when released. As mentioned above, the EIS also failed to consider extended storage of containers, with additional risk of breached containers, as a result.

[192-04 and 192-10, Lisa Young] The storage of depleted uranium hexafluoride, which reacts with water (gas or liquid) to produce two dangerous, corrosive, and soluble compounds, UO_2F_2 and HF, is extremely unstable. The production of these compounds presents huge risks in the storage timeline, as the corrosion of storage cylinders and the possibility for leaks is a very real reality.

Response: *The cylinder management program to minimize cylinder corrosion is described in Section 4.2.11.2 of the EIS. Risks to workers and the public of exposure to breached cylinders are encompassed by the accident scenarios considered in the accident analysis in Section 4.2.15 of the EIS. The accident analysis considers all credible accidents at the*

proposed EREF. The EIS evaluates several representative accident scenarios with intermediate to high consequences. The scenarios analyzed in the EIS encompass the consequences of cylinder handling accidents and releases due to cylinder corrosion and over-pressurization. Regarding the toxicity of uranium, health effects from radiological exposure are presented in Section 3.11.3.2 and from chemical exposure in Section 3.11.3.3.

Comment: The following comments are concerned with wildfires in the vicinity of the proposed EREF. Some commenters believe wildfires could have a major impact while others note the conditions that would mitigate any major impacts.

[004-01, Anonymous] I am astonished you are not considering fire in the EIS review. I suggest you revise your hurried considerations! http://www.aolnews.com/world/article/thinking-the-unthinkable-russian-fires-fan-nuclear-fears/19589710?sms_ss=email.

[015-21, Beatrice Brailsford; 088-09, Stan Kidwell; 122-05, Kathy O'Brien; 127-02, Sheila Plowman] The NRC should address both Areva's failure to comply with the Federal Farmland Protection Act and its own failure to fully analyze the environmental effects of a large range fire at the Areva site.

[027-04, Sara Cohn] Similarly, we are concerned that fire is not addressed as a potential threat, when fuels exist on site and fires have recently been burning in the region.

[048-02, Genevieve Emerson] The EIS fails to consider the influence of wild fires in the region and also fails to adequately address the issue of waste storage and disposal, considering that there are no viable methods yet in existence for safely storing hexafluoride and depleted uranium.

[066-05, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 3. Wildfires on the Snake River Plain and specifically the Idaho National Laboratory (INL) occur with surprising regularity and typically burn tens of thousands of acres before being extinguished (two such fires in 2010). Wildfires have threatened DOE facilities and caused facility shutdowns due to particulate clogged air exchange filters; low visibility and destruction of overhead power lines. The EIS should discuss the risk, potential environmental impacts from wildfires, and safety procedures to be implemented to guard against potential releases as they relate to the enrichment facility and the depleted UF6 storage cylinders.

[067-09,Mike Hart] With respect to the half-acre lava field, I think it actually protects this facility's location from fires, because fires, typically, are drawn by wind, the wind pushes fire down wind, with a big, huge lava barrier, there's less likelihood of a fire hitting the grounds because it has to go through the lava first.

[070-04, Virginia Hemingway] As has been mentioned, we just escaped a fire that could have totally decimated the INL, which is just almost right next to your facility, that you're -- that the AREVA is planning. And in Russia, they are currently trying to control a fire that is coming very close to where Chernobyl melted down, and, in fact, their emergency minister had this to say about it.

He said that the heat from the fires in the region, which already has nuclear contamination from the Chernobyl disaster, more than 20 years ago, could release harmful radioactive particles into the atmosphere. In the event of a fire there, radionuclides could rise into the air, together with combustion particles, resulting in a new pollution zone. And he said this on state television in Russia.

[152-04, Steven Serr] We have--we've reviewed the issues as far as fire code protection. We expressed concern over the safety on site, have they the ability to fight fires? AREVA has opted to petition in to the fire district. We've had planning meetings with the fire district. We have another planning meeting, this week, to work out responses in case of wildland fires coming in. We've addressed safety setback issues to protect the facility. We don't have any real concerns to be able to protect this facility from wildland fires with the implementation measures that they are planning on putting in place, along with the expansion of the fire service facilities, and staff, and buildings and equipment, to be able to provide that fire protection.

[152-10, Steven Serr] Some of these issues we brought up were regarding fire risk. We had a meeting just yesterday with the fire department to discuss fire safety issues out there, response time, what could be done for defensible space surrounding the operation. We felt we have addressed the needs for making that site very safe, and protected from any fire hazard that might occur from a wildfire issue. And, also, the fire district is addressing the potential increased demand for fire needs, and that they have already acquired land on the west side of Idaho Falls to construction additional fire stations, to provide additional equipment and support facilities for this type -- for this plant.

[148-01, Eric Schuler] Taken as a whole, the EIS suggests that this facility will have a relatively low impact on the environment. Of course several aspects of this, of the — have been overlooked in making this conclusion. For instance, as others have already noted, it does not consider the impact of the exempted preconstruction activities, the high risk of wildfires in the area, or the lack of an appropriate disposal pathway for depleted uranium. Accordingly, the true impact of this facility is certainly larger than the DEIS suggests.

[157-09, Hon. Erik Simpson] Fire. It is my understanding that AREVA is currently securing an agreement for fire protection at the Eagle Rock Enrichment Facility. Although a wildfire is something you have to plan for, it is by no means a showstopper for this project.

[169-02, Margaret Stewart] And there has been inadequate addressing in the EIS of wildfire threats, and transportation of nuclear material accidents.

[184-10, Kitty Vincent] This waste and the facility will be threatened by wildfires at the proposed site. The recent Jefferson Fire at the INL is but the latest example of such threats and the EIS does not provide a detailed analysis of the threats posed by fire.

[191-14, Liz Woodruff] Threat Posed by Fire. The draft EIS fails to even consider the threats associated with wildfires at the proposed site. While the draft EIS looks specifically at the geology and weather patterns at the site, it does not provide a detailed analysis of the threats posed by fire, claiming that fires do not occur east of the Idaho National Lab (INL). *The recent example of the Jefferson Fire at and stretching east of the INL (and within 10 miles of the proposed EREF) demonstrates this is a real hazard which warrants specific analysis.*

[193-22, Liz Woodruff, on behalf of the Snake River Alliance] And my final point before I reach my conclusions are around fire. Fire poses an unacceptable risk to this facility. This radioactive waste, and the facility as a whole, will be threatened by wildfires at the proposed site, yet it is never addressed as an impact relevant to that specific geography in the EIS. The DEIS does not provide a detailed analysis of the threats posed by fire, and some of you might recall that just about, oh, three weeks ago, there was a huge fire over at the lab. The draft EIS specifically says fires often don't occur east of the lab. Well, whoops -- let's go back.

Here's the lab and this is east, and that's the fire. So I'm pretty sure that fires occur east of the lab. 150,000 acres just burned there over Superfund sites. This is the proposed facility. Actually, if you looked at their map, it might even be a little closer. But this is about 10 miles. The EIS evaluates earthquake risk specific to this geography. It evaluates flood risk specific to this geography. It evaluates weather risks specific to this geography. It does not evaluate wildfires specific to this geography. And it absolutely must.

[192-16, Lisa Young] Indeed, I hope to see further examination of accident scenarios involving large wildfires around the facility, as well as accident scenarios involving the transportation of radioactive substances to and from the facility on our roads and highways.

Response: *All credible accidents at the proposed EREF, including those initiated by natural events, were considered in the accident analysis. Although wildfires can occur in areas surrounding the facility, an accident associated with a wildfire was not considered a credible risk to the facility due to the nature of the surrounding topography and vegetation (low density, low height), vegetation management measures used onsite, the distance to the controlled area boundary, and the resistance of UF_6 storage cylinders and process structures to fire by their design and materials.*

I.5.22 Decontamination and Decommissioning

Comment: The following comment expresses concern regarding the future decommissioning of the proposed EREF.

[008-02, Carol Bachelder] And it's interesting to me, that we're already talking about decommission, and this isn't even "off the ground" yet. I mean, the plant is set for 30 years, that's all a nuclear plant can operate, is 30 years, and then you have to take it down, and it sits there, being radioactive, for how many generations? I don't even know.

Response: *The proposed EREF is not a nuclear power plant. The proposed EREF site would be returned to free release conditions following the decommissioning process, as discussed in Section 4.2.16 of the EIS.*

Comment: The following comments relate to the source and adequacy of funding for the cleanup of the EREF site following cessation of operations of the proposed EREF.

[050-09, Joanie Fauci] Who will pay for the cleanup of this site?

[066-02, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 1. Financial Assurance - a. Section 2.1.4.3. states:

Decontamination and decommissioning of the proposed EREF would be funded in accordance with the Decommissioning Funding Plan (DFP) for the proposed EREF (AES, 201Ob). The DFP, prepared by AES in accordance with 10 CFR 70.25(a) and the guidance in NUREG-/757 (NRC, 2006), would provide information required by 10 CFR 70.25(e) regarding AES's plans for funding the decommissioning of the proposed EREF and the disposal of depleted uranium tails generated as a result of plant operations. Funding would be provided by AES by means of a Letter of Credit in accordance with NRC regulations in 10 CFR Part 70 and guidance in NUREG-1757 (NRC, 2006).

However, Section 2.1.4.3 further states:

A complete estimate of the wastes and effluent to be produced during decommissioning would be provided in the Decommissioning Plan that AES would submit prior to the start of the decommissioning.

Please explain how an adequate cost estimate for the Decommission Funding Plan can be prepared in the absence of a complete inventory/estimate of decommissioning wastes.

b. Due to NRC's approval of pre licensing construction activities at the site, DEQ requests NRC explain in this EIS whether Financial Assurance Mechanisms similar to a "Decommissioning Funding Plan" and associated financial assurance mechanisms have been required of the Applicant concerning decommissioning and restoration to unrestricted use should the facility not receive a license or initiate a business based withdrawal of the license application.

[147-10, Joey Schueler] 6. The term of this plant is 30 years, after which time the plant will be decommissioned. This means 30 years of revenues and 50 to 100 to into perpetuity years of cost and impact on Idaho's wilderness and economy. Will Areva still be paying for this cost? No, the cost will fall to Idaho taxpayers.

Response: *AES is required by the NRC's regulations under 10 CFR 20.1402 to fund the cleanup of the proposed EREF site during decommissioning, as discussed in Section 2.1.4.3 of the EIS. A summary breakdown of the estimated decommissioning costs is provided in Chapter 10 of the SAR. The majority of the costs (excluding tails disposal) are associated with the dismantlement, decontamination, processing, and disposal of centrifuges and other equipment in the Separations Building Modules. These estimates are based on the centrifuge manufacturer's prior decommissioning experience and current practices for decontamination and disposal. The DFP must be adjusted periodically at intervals not to exceed three years as required by the NRC's regulations under 10 CFR 70.25(e), thereby ensuring that the funding plan is up-to-date using the latest available information.*

Should the license application be withdrawn or the license not be granted, no nuclear material would have been present onsite. Thus, the site would have always been available for unrestricted use, and no decontamination or decommissioning would be necessary.

Comment: The following comment states that NRC license holders are required to provide financial assurance for decommissioning.

[157-01, Hon. Erik Simpson] Historically, nuclear projects being discussed in eastern Idaho are DOE actions. I just want to remind people, this is not a DOE action. NRC license holders are required to provide financial assurance for decommissioning. They must prove to the NRC that funds will be adequate for decommissioning. They must fund it before operations start. The licensees are required to periodically review and update this funding, and with this license requirement, there is no chance waste will be left behind, or that Idaho will be left with cleanup responsibility for the AREVA facility.

Response: *The information in this comment is accurate.*

Comment: The following comment asks about the location(s) to which equipment that is to be removed from, or replaced in, the proposed EREF would be stored or transported.

[129-05, Willie Preacher, on behalf of the Shoshone-Bannock Tribes] The AREVA Enrichment Project will be in existence for a number of years, how many shutdowns, equipment upgrades, or modifications will be anticipated during the life cycle of this process? Where will equipment that is to be removed or replaced be stored or transported to, will it be left within the facility or will it be transported out of state?

Response: *Shutdowns, upgrades, and modifications would be dependent on equipment performance and future design improvements and cannot be accurately determined at this time. Any equipment with radioactive contamination that is not decontaminated for free release after use would necessarily be transported to, and disposed of, at an appropriately licensed LLRW disposal facility. The locations of such facilities would depend on which facilities are licensed at the times of disposal. Information on anticipated wastes generated during operation of the proposed EREF is presented in Section 4.2.11 of the EIS.*

Comment: The following comments express concern about NRC accepting a letter of credit from AES as the method of assuring funds for decommissioning of the proposed EREF.

[015-16, Beatrice Brailsford] The entire conundrum of storage, treatment, and disposal goes hand in hand with the eventual challenges of decommissioning the EREF. The costs of those activities are pegged at $3.5 billion. The NRC, an agency charged with protecting the interests of US citizens, must not settle for a letter of credit from Areva to cover these costs. At the very least, the NRC must require a surety bond.

[187-03, John Weber] In section 10.0, one difference between the AREVA plant and the National Enrichment Facility is -- this is quoted: “AES will utilize a letter of credit to provide reasonable assurance of decommissioning funding, rather than a surety bond.” Why is that? We all currently know, after the last financial crisis, that a letter of credit is basically a worthless piece of paper. They have many risks a couple of them, including insolvency of the Applicant and insolvency of the bank issuing the letter of credit.

Response: *A letter of credit to assure funds for decommissioning is an acceptable financial assurance method, as indicated in the NRC's regulations in 10 CFR 70.25(e).*

Comment: The following comments express concern that restoring the proposed EREF site to unrestricted use after the end of the license period might not occur because of funding issues.

[083-05, Diane Jones] How can we expect the company to -- whose financial future is uncertain, to be able to guarantee that they will bear the cost of treating all that waste and disposing of all that waste, when the process for disposing of the waste is not even known? This seems highly reckless to me, and not a very sound economical calculation.

[129-04, Willie Preacher, on behalf of the Shoshone-Bannock Tribes] Will the cost amount that has been set aside for the D&D of the facility after the mission is complete be enough and is there a guarantee that it will have be done and not a facility left standing in the desert west of Idaho falls.

[154-03, Diana Shipley] They are asking for loan guarantees from the United States government and I wonder who will be left to clean up the waste and pay the bills if they bail out?

Response: *As part of its license conditions, AES would be required to restore the proposed EREF site to unrestricted use. Funding for decontamination and decommissioning would be provided by AES in accordance with the NRC's regulations in 10 CFR 70.25(e), as discussed in Section 2.1.4.3 of the EIS.*

I.5.23 Greenhouse Gas Emissions

Comment: The comment discusses the importance of enriched uranium in reducing greenhouse gas (GHG) emissions.

[067-06, Mike Hart] Also, they took exception with the cause and need for action. I think there's most definitely a need for this, because there's a need for carbon-free energy. Throughout the world, I think we've seen that global warming is a significant problem that we need to be paying attention to, and there's also a demand for growth in nuclear energy. There's a couple of facts I want to point out why we need nuclear energy, why we need this particular enrichment plant.

Carbon dioxide reflects, or absorbs, infrared energy that does not go back out to space. It makes the planet warmer. That's simply a fact. Carbon dioxide is a greenhouse gas. Levels of carbon dioxide have gone from 288 parts per million in 1850 to 369 parts per million in the year 2000. It doesn't matter where it comes from. That is a greenhouse gas that is increasing in concentration. But I'll give you a hint as to where it's coming from: fossil energy. In 1990s, we annually contribute 6.3 gigatons of carbon dioxide into the atmosphere through fossil combustion. That's annual, 6.3 gigatons. The concern about 300,000 metric tons, 300,000 tons of total waste versus 6.3 gigatons in a single year, I view the problem with carbon as much more significant than the problem with depleted uranium.

So, what is a gigaton? Why is that a concern? Well, 2.3 gigatons is one part per million of carbon dioxide in the atmosphere. So, every year we are steadily increasing carbon dioxide. So, yes, global warming is occurring. Yes, it's our fault. Yes, carbon puts more of that in the atmosphere, and I think nuclear energy is a stopgap that will – is worth pursuing. So, yes, there is a need.

Energy demands are increasing worldwide. Currently, the population of the planet is about 4.5 billion. By 2050, that will double, and people are not less energy consumptive. Populations like China and India used to be in the Third World. They have bought the second world, and they've placed a firm down payment on the first one. So, energy consumption will go up as the population goes up, so even if nuclear energy just holds its own at 15 percent, there will be a need for more nuclear plants, and that means there will be a need for more enriched uranium.

Response: *The NRC acknowledges the comment and appreciates the public participation.*

Comment: The following comment asks about the cumulative impact of greenhouse gas emissions associated with the operation of the proposed facility on air quality and climate change over the 30-year period of the license.

[140-08, Wendy Reynolds, on behalf of the Bureau of Land Management, Upper Snake Field Office] What would be the cumulative impact of greenhouse gases emissions associated with the operation of the facility on air quality and climate change over the thirty year period?

Response: *GHG impacts associated with the proposed EREF are discussed in Section 4.2.17 of the EIS. Impacts from preconstruction and construction are addressed separately from impacts associated with operation. Workforce commuting, truck shipments of feedstocks, finished enriched product and wastes, and onsite fossil fuel consumption in support of operations are all considered for their contributions to GHG emissions during facility operation. Conservative assumptions were applied wherever possible (e.g., it was assumed that the majority of the workforce commuted from Idaho Falls and that no carpools or vanpools would be used) to ensure that a maximum possible GHG emission (i.e., a bounding condition) was calculated. However, for simplicity, all GHG emissions were represented as carbon dioxide (CO_2) equivalents (CO_2-e).*

Tables 4-35 and 4-36 display the estimated annual emissions of carbon dioxide equivalents (CO_2-e) (emissions of all of the GHGs produced, represented as CO_2) associated with workforce commuting and deliveries to and from the proposed facility during operation, respectively. Annual values were calculated, based on the assumptions specified in Section 4.2.17.4. However, although those assumptions collectively represent a feasible condition of operation, the NRC has no basis for assuming that those operational conditions will remain unchanged throughout the life of the facility. Likewise, although the points of origin and destinations of shipments associated with facility operation are feasible for the purpose of defining a bounding condition, the NRC notes that alternative sources of feedstocks as well as alternative destinations for enriched product and wastes also exist. Thus, the NRC staff believes that calculating the cumulative impact of 30 years of operation on the basis of the bounding scenario would be highly speculative and would not yield reliable estimates of cumulative impacts. Further, simply multiplying the values contained in Tables 4-35 and 4-36

by 30 would be an overly simplistic way of estimating lifetime GHG emissions because it would ignore alternative sources of feedstock, alternative customers for enriched product, and the use of alternative waste disposal facilities, as well as operational changes due to changing market conditions over the proposed facility's lifetime. However, because the assumptions used to define the bounding condition were all intentionally conservative, GHG emissions over the proposed facility's lifetime would be no greater than 30 times the values represented in Tables 4-35 and 4-36.

Comment: The following comments raise concerns about the adequacy of the GHG emissions section of the Draft EIS (Section 4.2.17).

[015-22, Beatrice Brailsford] With regard to assertions about EREF's role in reducing greenhouse gas emissions and the claim that EREF will serve as a greenhouse gas "sink," such reasoning omits the environmental and public health threats caused by EREF's operations, from uranium mining to disposal of reactor waste and reactor decommissioning. If the EIS takes the illogical leap of crediting EREF for reducing greenhouse gas emissions, the NRC is compelled to likewise credit EREF for the documented threats posed by the nuclear power industry throughout its fuel and waste cycles.

[113-13, Ken Miller] With regard to assertions about EREF's role in reducing greenhouse gas emissions and the outlandish claim at Draft 4- 136 that EREF will serve as a greenhouse gas "sink," such a tertiary benefit (theoretically reducing the operation of traditional coal plants and as a result their emissions), such reasoning omits the environmental and public health threats caused by EREF's operations, from uranium mining to disposal of reactor waste and reactor decommissioning. If the EIS takes the illogical leap of crediting EREF for reducing greenhouse gas emissions, the NRC is compelled to likewise credit EREF for the documented threats posed by the nuclear energy industry throughout its fuel and waste cycles.

[153-09, Andrea Shipley; 197-09, Andrea Shipley, on behalf of the Snake River Alliance] The draft EIS (4-136) stretches credulity in attaching "Green House Gas sink" attributes to EREF. The reasoning in the EIS is that the project should be considered a greenhouse sink because it would produce enriched uranium for use in nuclear reactors that might replace traditional coal and other fossil fuel plants. By this logic, my car is a GHG sink when I am not driving it. This tertiary GHG benefit is improper particularly in light of the EIS's failure to acknowledge the secondary and tertiary environmental and public health threats created by EREF and its operations, from uranium mining to disposal of reactor waste and reactor decommissioning. If the EIS credits EREF for such greenhouse gas emission reductions due to its contribution to nuclear reactors, it must also credit EREF for the known environmental and health threats that are also attributed to the same nuclear reactors.

[184-14, Kitty Vincent] The draft EIS (4-136) stretches credulity in attaching "greenhouse gas sink" attributes to EREF. The reasoning is that the project should be considered a greenhouse gas sink because it would produce fuel for use in nuclear reactors that *might* replace fossil fuel plants. This tertiary GHG claim is improper particularly in light of the EIS's failure to acknowledge the secondary and tertiary environmental and health threats created by EREF and its operations and the operations of nuclear reactors, from uranium mining to transportation, disposal of reactor waste and reactor decommissioning.

[191-22, Liz Woodruff] The draft EIS (4-136) stretches credulity in attaching "GHG sink" attributes to EREF. The reasoning in the EIS is that the project should be considered a greenhouse sink because it would produce enriched uranium for use in nuclear reactors that might replace traditional coal and other fossil fuel plants. This tertiary GHG benefit is improper particularly in light of the EIS's failure to acknowledge the secondary and tertiary environmental and public health threats created by EREF and its operations, from uranium mining to disposal of reactor waste and reactor decommissioning. If the EIS credits EREF for such greenhouse gas emission reductions due to its contribution to nuclear reactors, it must also credit EREF for the known environmental and health threats that are also attributed to the same nuclear reactors.

Response: *The NRC's analysis of GHG impacts was performed in a manner consistent with the draft Council on Environmental Quality (CEQ) guidance (CEQ, 2010) and addressed only GHG emissions associated directly with production of baseload power. The hypothetical scenario that the NRC staff selected was intended to represent a bounding condition, but is nevertheless feasible because it represents a situation where the entire potential annual output of enriched uranium from the proposed EREF is used to fabricate fuel that is deployed in U.S. reactors. Coal was chosen for comparison because coal currently provides a large percentage of baseload power (in fact, coal combustion for power generation is the largest single source of GHG emissions in the country) and, among the fossil fuels presently used for baseload power production, coal has the greatest GHG footprint (in terms of amount of GHG emitted per kWh of power produced).*

However, the NRC acknowledges here that use of the term "GHG sink" in the EIS was imprecise and a source of confusion. A GHG sink is capable of removing GHGs from the atmosphere and sequestering it indefinitely and not something that prevents the release of GHG. Although objections to the use of the term "GHG sink" may be well founded, the argument clearly made in the EIS text is that use of a nuclear reactor instead of a coal-fired power plant to generate baseload power will avoid the release of GHGs to the atmosphere. Since the NRC cannot control the transmission system operator's use of the generator dispatch queue, the idea that a nuclear reactor would always be selected in deference to a coal-fired plant must remain hypothetical. However, when such a selection of generating source is made, avoidance of GHG emissions will result.

With respect to suggestions that other environmental impacts of the nuclear fuel cycle must be introduced into the analysis, these were not considered because the analysis was not intended to be a complete life-cycle assessment. To expand the argument to a full life-cycle assessment would have obligated the NRC to also introduce other environmental impacts across the entirety of the coal fuel cycle. Instead, the analysis was intended to focus only on the matter of GHG emissions related directly to electricity production in a manner consistent with the CEQ guidance.

To avoid any confusion, NRC has amended the text in Section 4.2.17 to clarify the parameters of its analysis and to focus on a nuclear reactor's ability to avoid the release of GHG rather than its ability to act as a GHG sink.

I.5.24 Terrorism

Comment: The following comment states the Draft EIS did not estimate the probability of terrorism.

[141-04, Peter Rickards] 2) While the DEIS does not address disgruntled employee sabotage, it at least acknowledges that terrorism could happen, during transport and at the facility. On page 396/430 the DEIS actually admits that terrorism would equal the full release of a severe transportation accident. However, the DEIS refuses to estimate the probability of terrorism, allowing licensing by the usual trick of pretending a severe transport accident will never happen, using probability math. By hiding behind probability math, the high doses the public can receive are dismissed as acceptable risk.

While the public decides which energy policy is better for their families safety, windmills/solar/geothermal vs. nuclear power, hiding the profound devastating impacts of these accidents and terrorism is misleading and unacceptable.

Response: *The NRC considered a number of potential terrorist scenarios, including those involving disgruntled employees, in its review. The impacts evaluated are representative of a range of what could occur, as presented in Section 4.2.18.2 of the EIS.*

The consideration of terrorism in the EIS does not include an estimate of probability because, as discussed in Section 4.2.18.2, the likelihood of occurrence of any terrorist scenario is speculative and cannot be determined. Thus, there is no discussion of risk, only the presentation of potential impacts should a terrorist attack occur. Section 4.2.18.3 presents a number of potential mitigation measures, to be imposed by the NRC, which would either help avoid or lessen the consequence of such an event.

Comment: The following comment questions statements in the Draft EIS regarding the public health effects of an HF plume at the proposed EREF.

[141-06, Peter Rickards] 4) Pages 397&8/430 claims an HF plume at the facility may affect 1,900 members of the public, but also claims no fatalities, which seems untrue without detailed explanation to justify the dismissal of severe impact, including death.

Response: *As stated in Section 4.2.18.2 of the EIS, the referred 1900 members of the public is for a different DOE facility used as a reference point in the analysis for the proposed EREF, where up to three irreversible health effects were estimated, of which about 1 percent, or fewer than one (0.03), would result in fatality. The text in Section 4.2.18.2 notes that "it is expected that much fewer than 1900 members of the public could be affected in the vicinity of the proposed EREF because the DOE analysis was for a location with a higher population density (>34,000 people within 16 kilometers [10 miles]) than that of the proposed EREF location, which has no appreciable population within 16 kilometers (10 miles)." The risk of fatality would also be correspondingly lower than this already low level.*

Exposure to HF produces a wide range of health effects ranging from irritation of the eye, nose, and skin to possible death depending on the HF concentration in air and duration of exposure. Low-level exposures produce reversible health effects, as described in Section 3.11.3.3 of the

EIS. The estimated concentrations in HF plumes produced in release scenarios are at sublethal concentrations beyond the proposed EREF site boundary.

I.5.25 Cumulative Impacts

Comment: The following comment points out the need to address impacts from the proposed EREF project in the distant future.

[077-02, Larry Hyatt] I just want to make one point in addition to what I said briefly in Boise, was -- that is, the issue of stewardship. As you all know, human activity has results that we have to live with for years, potentially hundreds, and maybe even thousands of years. But it is critical in an evaluation like this in terms of its environmental impact that we seriously consider the year 5010.

Response: *As required under NEPA, in the EIS, the NRC staff has assessed all reasonably foreseeable activities and impacts associated with the preconstruction, construction, operation, and decommissioning of the proposed EREF project.*

Comment: The following comment asks if a redundant source of electrical power is a requirement for operation of the proposed EREF, if AES has future plans to route a redundant transmission line, and if a redundant source of electrical power is a reasonably foreseeable future action that should be addressed in the cumulative impacts section of the EIS.

[140-01, Wendy Reynolds, on behalf of the Bureau of Land Management, Upper Snake Field Office] 1) A reading of the draft document makes clear that one criterion used to select the enrichment facility site was the presence of a redundant electrical power supply. It is further presented in Table 2-3 that the Bonneville County site passed Phase I screening indicating that there is a redundant power source available for the plant. However, the potential environmental impacts of the construction and use of a redundant power supply is not discussed under Utilities (2.1.3.2) (under the Proposed Action), nor is it discussed in the Environmental Impacts section of the document. The construction and use of a redundant power source is not considered as a reasonably foreseeable future action under the cumulative impacts section either.

These facts lead the BLM to ask: Is a redundant source of electrical power a requirement of the plants operation? If so, where would the redundant source come from? As you know, areas to the west of the plant (where a potential source of redundant power is available) are managed by the Idaho National Laboratory (INL; Department of Energy). Non-mission essential rights-of way (ROWs) on these lands are administered by the BLM, Upper Snake Field Office. Does AES have future plans to route a redundant transmission line across INL and BLM-administered lands?

Response: *The NRC does not require that the proposed EREF have a redundant source of electrical power, and the absence of a redundant source does not raise a safety issue, as determined by the NRC's safety review. The NRC is unaware of future plans that AES may have regarding a redundant source of electrical power.*

Comment: The following comment expresses concerns regarding the cumulative impacts section of the Draft EIS, in particular with regard to the definition of the ROIs for each resource; the limited discussion of past, present, and reasonably foreseeable future actions that may contribute to cumulative impacts (particularly for past actions); and the cumulative impact analysis for the no-action alternative.

[140-05, Wendy Reynolds, on behalf of the Bureau of Land Management, Upper Snake Field Office] 4) The BLM would also like to express some concerns with the cumulative impact analysis section of the document. The NRC is correct in citing the regulations at 40 CFR§ 1508.7 for the definition of what a cumulative impact is and in discussing the fact that ROI's (we assume this is equivalent to a cumulative impact assessment area) can, and most likely, would be different for each resource affected.

The primary concerns from the BLM's point of view is that the ROI's are not defined for each resource, a cumulative impact baseline is not established for each ROI, and there is relatively little discussion of past, present and reasonably foreseeable future actions that may contribute to cumulative impacts (particularly for past actions). Although in some cases past and present actions and their impacts are discussed (although the intensity of the impact is not), the emphasis seems to be on the reiteration of the direct and indirect impact presentation. Further, a cumulative impact analysis should be conducted for each resource affected by the proposed action and no action alternative, which is not evident in this section (for additional guidance, please refer to the Council on Environmental Quality's [CEQ's] 1997 publication, Considering Cumulative Effects Under the National Environment Policy Act).

Response: *Section 4.3 of the EIS defines the ROI radius of the proposed EREF for cumulative impacts for each resource area analyzed as 16 kilometers (10 miles), except for socioeconomics, for which the ROI is defined as 80 kilometers (50 miles). Impacts on resources from* past, present and reasonably foreseeable future *actions within these distances are analyzed if the actions would affect the resource. Effects on the entire resource are analyzed, even if the resource extends beyond 10 miles, for example, an ecoregion, in the case of the 10-mile ROI. Within the 10-mile ROI, the actual geographic extent of effects may be less than 10 miles for a given resource. Cumulative impacts are analyzed accordingly within the resource area discussions. The 10-mile and 50-mile ROIs thus represent threshold distances for identifying actions that could contribute to cumulative impacts on resources.*

The cumulative impacts analysis in Section 4.3 considers the impacts of past actions mainly on resources that have been significantly impacted in the past and that will incur additional impacts from future actions, such as soils and ecological resources. For resources with relatively low past impacts, such as air quality, the analysis focuses on incremental impacts from foreseeable actions. A brief summary of major past actions, namely agriculture and the INL, has been added to the introduction of Section 4.3.

Section 4.3 of the EIS also notes that cumulative impacts associated with the no-action alternative would be generally less than those for the proposed action, with the exception of socioeconomic impacts. Within the 10-mile ROI for all other resources, the no-action alternative would have no impacts, as no other foreseeable actions occur within this distance, and the site would be expected to continue to be used for agriculture. A statement to this effect has been

added to the introduction of Section 4.3. The revised cumulative impacts analysis takes into account CEQ's guidance (CEQ, 1997) and BLM's NEPA handbook (BLM, 2008).

Comment: The following comment asks about the cumulative impact to sage grouse from the implementation of the proposed action and the no-action alternative, and how long the effects would last.

[140-06, Wendy Reynolds, on behalf of the Bureau of Land Management, Upper Snake Field Office] What would be the cumulative impact to sage grouse from the implementation of the Proposed Action and the No Action alternative? How long would the effects last?

Response: *As discussed in Section 4.3.7 of the EIS, the contribution to cumulative impacts from the proposed EREF project on ecological resources would be SMALL. Text has been added to Section 4.3.7 to include sage-grouse. The effects would last for the life of the proposed transmission line and EREF site facilities that would affect sage-grouse. The no-action alternative would have no impacts beyond current site use for agriculture because no other foreseeable actions occur within the 10-mile ROI.*

Comment: The following comment asks about the incremental impact on air quality, soil resources, vegetation, wildlife, and grazing livestock from the periodic releases of small amounts of uranium hexafluoride (UF_6) over the 30-year life of the facility.

[140-07, Wendy Reynolds, on behalf of the Bureau of Land Management, Upper Snake Field Office] What would be the incremental impact on air quality, soil resources, vegetation, wildlife and grazing livestock from the periodic release of small amounts of UF6 over the thirty year life of the facility?

Response: *As discussed in Section 4.3.10 of the EIS, offsite air concentrations of uranium compounds would be below detection limits and would be expected to have a SMALL impact over the life of the facility. No measurable incremental impacts of any resource outside of the proposed EREF security fence would be expected due to the low anticipated emission rate of uranium from the proposed facility.*

A conservative calculation estimates that existing (background) uranium soil concentrations, as listed in Table 3-16 of the EIS, would increase approximately 2 percent (less than the standard deviation of the soil measurements) immediately outside the proposed EREF security fence if 30 years of uranium emissions from the proposed EREF were considered. If 527 microcuries of uranium were released on an annual basis, as discussed in Section 4.2.10.2 (AES estimates actual releases will be about 3 percent of that value), a total of about 15,810 microcuries would be released over the 30-year life of the facility. Considering a release of that amount, an increase of about 34 pCi/kg of uranium in the soil would be expected using the atmospheric dispersion factor in Table 4-17 (1.80×10^{-5} s/m^3), the deposition velocity of 1.8×10^{-3} m/s in Table E-6, an estimated soil density of 1.5 g/cm^3, and a mixing depth of 1 cm. For comparison with Table 3-16, the value of 34 pCi/kg is approximately 2 percent of the combined uranium isotope values and less than the standard deviation of the soil concentration measurements. Moving further away from the proposed EREF, the corresponding soil concentrations at the

nearest proposed site boundary where grazing could occur would be 20 percent less than the value at the security fence. Thus, the impacts to soil and dependent resources such as vegetation, wildlife, and grazing livestock would be SMALL and immeasurable.

Comment: The following comment states that the EIS should provide cumulative risk analysis regarding the amount of hazardous or toxic materials to be imported and exported across state lines.

[027-08, Sara Cohn] The draft EIS should provide cumulative risk analysis regarding the amount of hazardous or toxic materials to be imported and exported across state lines.

Response: *Such a cumulative impact analysis is beyond the scope of the EIS, as the ROI for cumulative impacts (i.e., 10 miles) does not extend to the State borders. The risks of transporting materials to and from the EREF and the impacts on waste management from EREF operations under the proposed action alone are analyzed in Sections 4.2.9 and 4.2.11 of the EIS, respectively.*

Comment: The following comment indicates that economic impacts regarding income and tax revenues should also be evaluated in the EIS on a cumulative basis.

[124-03, Lane Packwood] I found it somewhat interesting that the EIS does take kind of a "sliced bread" approach to income and taxes. They look at one year within preconstruction, one year in construction, one year of operation, and take a look at what those revenues are, when, in fact, we would encourage you to look at the length of -- or the lifetime of the facility. That's all a cumulative impact.

Response: *In Section 4.2.12 of the EIS, economic impacts of the proposed EREF are analyzed on an annual basis during both the construction and operation periods of the proposed facility. These benefits would accrue over the life of the facility. Chapter 7 of the EIS (Benefit-Cost Analysis) provides the total (i.e., summed over all years of the project) employment, income, and fiscal impacts of the project.*

Comment: The following comment recommends that the EIS should consider all sources of air emissions and determine the contribution of each source to air quality, and that the Final EIS should include information to allow accurate air quality impacts and mitigation measures and their effectiveness to be determined.

[138-03, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] Air quality may also be impacted due to cumulative impacts from surrounding activities such as agriculture and fire, herbicides to treat invasive plant species, and continued management of radioactive materials at nearby Idaho National Laboratory. The EIS should consider all sources of emissions and determine the contribution of each source to air quality - negative or positive. Because the DEIS does not include refined analysis of emissions from sources that are utilizing appropriate control technologies and more detailed construction

activities and schedules (p. 4-12), we recommend that the final EIS include that information so accurate air quality impacts and mitigation measures and their effectiveness can be determined.

Response: *Air quality impact assessments from preconstruction and construction in the EIS are based on all preconstruction- and construction-related information currently available. A more detailed assessment is not possible until a specific construction schedule is developed by AES, and such a schedule will not be available in time for publication of the Final EIS. Nevertheless, it is the NRC's expectation that AES will be required to submit such a schedule, at the appropriate time, to IDEQ and to Bonneville County in pursuit of necessary construction permits and approvals.*

Ambient air quality for Bonneville County for 2008 was summarized in Section 3.5.3.1 of the EIS; all values were below their respective NAAQS values. EPA guidance regarding the use of its AERMOD dispersion model indicates that circumstantial factors such as other sources of air releases in the region of interest need not be quantified, but should be considered in the interpretation of the dispersion modeling results (Federal Register [70 FR 68218]). Appropriate identification and consideration of those other sources of air pollution in the area are provided in Section 3.5.3. Decisions regarding amendment to Idaho's State Implementation Plan (SIP) that might involve installation of a new ambient air quality monitoring station in the area of the proposed EREF project are outside of the NRC's authority and, therefore, outside the scope of the EIS and instead are the province of IDEQ. The NRC staff believes that the expected short duration of NAAQS exceedance does not argue for a long-term commitment to ambient air quality monitoring in this area.

Comment: The following comment recommends that the routes for some proposed new transmission lines be part of their own NEPA process.

[197-15, Andrea Shipley, on behalf of the Snake River Alliance] It is recommended that the routes for some proposed new transmission lines be part of its own NEPA process, because of potential impacts to wildlife and the land.

Response: *In Section 4.3 of the EIS, the impacts of the proposed new 161-kilovolt (kV) line that would power the proposed EREF are analyzed as cumulative impacts within the ROI of the facility, and as such, analyzed according to the route currently proposed by AES and Rocky Mountain Power. Impacts on wildlife and land use are considered in the analysis. The proposed 161-kV transmission line discussed in the EIS is the only new transmission line for the proposed EREF of which the NRC is aware.*

Comment: The following comment maintains that the assessment of cumulative impacts in the EIS should include shipments to and storage and production at the offsite fuel fabrication facility.

[181-17, Roger Turner] Cumulative effects include Fuel Fabrication. The NEPA requires an assessment of cumulative impacts of this project. This would include additional shipments, storage and production at the off-site fuel fabrication facility. Please add this process, risks, to the cumulative evaluation of Areva plant.

Response: *Impacts at a fuel fabrication facility are beyond the scope of this EIS, which is for the proposed EREF. Furthermore, the cumulative impacts analysis is concerned with impacts to resources from actions within a geographic ROI around the proposed EREF. No offsite fuel fabrication facility is within the ROI for affected resources.*

Comment: The following comments express a position that a proposed route for the Mountain States Transmission Intertie (MSTI) near the proposed EREF is not certain and should not be included in cumulative impacts.

[113-11, Ken Miller] Furthermore, the routes for some proposed new transmission lines, including the proposed Mountain States Transmission Intertie (MSTI), have not been determined and as such should not be considered as certain future transmission infrastructure.

[184-19, Kitty Vincent; 191-28, Liz Woodruff] The routes for some proposed new transmission lines, including the proposed Mountain States Transmission Intertie, have not been determined and as such should not be considered as certain future transmission infrastructure.

[193-17, Liz Woodruff, on behalf of the Snake River Alliance] My next point is regarding transmission issues. The routes of some of the proposed new transmission lines, including the MSTI intertie, have not been determined. Those routes have not been concluded yet in our state, and thus should not be considered as certain future transmission infrastructure, as they are currently in the EIS.

Response: *The preferred route for the MSTI as identified by project developers is within 40 kilometers (25 miles) of the proposed EREF site, and its construction is considered a reasonably foreseeable action affecting socioeconomics within the ROI. Analyzed actions need only be reasonably foreseeable to be included in the cumulative impacts analysis.*

Comment: The following comments suggest that burying the transmission line to power the proposed EREF should be considered as an alternative, so as to minimize impacts to wildlife.

[113-05, Ken Miller] The idea of burying power lines, we believe, needs to be addressed in the EIS before it's finalized, because we do believe -- we agree with the Department of Fish and Game -- that there will continue to be harmful impacts to birds, bats, and other wildlife. This is especially important given impacts of transmission line construction and operation could also include wildlife disturbance and mortality.

Given all of that, we believe that to exempt the transmission work from – as preconstruction, and to exempt that from the EIS review needs to be reassessed.

[113-12, Ken Miller] The Draft EIS should analyze the benefit of burying any additional transmission lines to minimize the known harmful impacts to birds, bats, and other wildlife.

[184-20, Kitty Vincent; 191-29, Liz Woodruff] The draft EIS should also analyze the benefits of burying any additional transmission lines to minimize the known harmful impacts to birds, bats and other wildlife. This is especially important given "impacts of transmission line construction and operation could also include wildlife disturbance and wildlife mortality." (4-150)

[193-18, Liz Woodruff, on behalf of the Snake River Alliance] On another point on transmission, and this is very key, the DEIS should also analyze benefits of bearing any additional transmission lines, to minimize the known harmful impacts to wildlife in the area. This is especially important given that impacts of transmission lines will disturb wildlife and cause wildlife mortality.

[191-30, Liz Woodruff] The Idaho Department of Fish and Game, in a response to the NRC dated April 14, reaffirmed the threats transmission lines would pose to wildlife (draft EIS B-26) and challenges the methodology of sage grouse and lek analysis in the EIS (B-27), recommends burying transmission lines, and suggests Areva submit to the NRC for review plans to mitigate for the expected wildlife impacts. These concerns do not appear to have been addressed in this EIS.

Response: *In Section 4.3 of the EIS, the cumulative impacts of a proposed, above-ground, 161-kV transmission line that would serve the proposed EREF are analyzed. Additional discussion of the potential effects of the transmission line on sage-grouse has been added to Section 4.3.7. This analysis concludes that the line would have SMALL contributions to cumulative impacts in all resource areas. However, text regarding monitoring of the transmission line right-of-way for avian mortality has been added to Section 6.2.2. Because the line is a small action compared to the proposed EREF, the assessment does not analyze impacts from alternative line designs. In any event, when evaluating the recommendation of IDFG to bury the transmission line, AES determined that it was not practical, safe, or standard utility company practice to bury high-voltage lines, such as the 161-kV line (AES, 2010e).*

Comment: The following comments express concern that impacts from the transmission line should be considered as a direct action (i.e., more fully analyzed) rather than a cumulative impact. The predominant concern expressed is that impacts to wildlife were not adequately addressed as a result.

[015-19, Beatrice Brailsford] The NRC's exemption authorizing Areva to undertake preconstruction activities should not include exempting utilities installations, including transmission lines and associated substations and other utility infrastructure. Installation of 80-foot, 161kv transmission lines should not be considered as having "cumulative" impacts but rather direct impacts that must be analyzed in the EIS. But EREF could not operate without the transmission line, which is critical to the proposed action. The NRC therefore errs when it excludes this transmission line from the proposed action.

[113-04, Ken Miller] Installation of 80-foot tall, 161-kilovolt transmission lines should not be considered as having cumulative impacts, as referred to in the EIS, but rather direct impacts that must be analyzed in the EIS. Contrary to assertions, and this is in the Draft EIS 1-10, that this transmission line is not considered by the NRC to be part of the proposed action. EREF could not function without the transmission line, which is critical to the proposed action, and must be considered for its environmental impacts.

The Draft EIS is in error when it suggests at page XLV that "impacts from the construction of a proposed new 161 KV transmission line, a substation, and substation upgrades for the proposed EREF are addressed as cumulative impacts in this EIS." This action is not under

NRC's jurisdiction, according to the EIS, and therefore not considered by the NRC to be part of the proposed action.

We don't believe this is a defensible position. The EIS is replete with positive social and economic benefits from this project. Erecting 80-foot transmission towers and stringing power lines between them must be considered for their environmental impacts, just as Idaho's Department of Fish and Game suggests. And I'll skip through this, and the Fish and Game reference is in an April 14th letter of response to the NRC, which reaffirmed the threats transmission lines would pose to wildlife. This is on B-26, 27, and 28 in the EIS, and it challenges the methodology of sage grouse and lek analysis on the EIS. That's at Draft B-27. It recommends burying transmission lines, and suggests that AREVA submit to the NRC for review plans to mitigate for their wildlife impacts.

[113-10, Ken Miller] On the issue of transmission, the NRC's ill‐advised exemption that authorizes Areva to undertake preconstruction activities as not being part of the proposed action should not include exempting utilities installations, including transmission lines and associated substations and other utility infrastructure. Installation of 80-foot, 161-kV transmission lines should not be considered as having "cumulative" impacts but rather direct and immediate impacts that must be analyzed in the EIS.

Contrary to assertions (DRAFT EIS 1-10) that "this transmission line is not considered by the NRC to be part of the proposed action," EREF could not function without the transmission line, which is critical to the proposed action and must be considered for its environmental impacts. This EIS claims repeatedly that the NRC has no jurisdiction over transmission lines and therefore new transmission lines should not be considered as part of this EIS. Yet the NRC claims authority to determine that EREF deserved credit for being a greenhouse gas sink?

This is not a defensible position. The EIS is replete with supposed "positive" social and economic benefits from this project. Erecting transmission towers and stringing power lines between them MUST be considered for their environmental impacts, just as Idaho's Department of Fish and Game suggests. Actually, the installation and operation of this transmission line have everything to do with the proposed action, and the failure of the NRC to consider these impacts in the EIS phase cannot be defended, particularly given the acknowledgment by Areva and NRC that impacts of transmission line construction and operation could also include wildlife disturbance and wildlife mortality. The proposed transmission line route includes potentially suitable habitat for sage brush obligate species, including migratory bird species. The Idaho Department of Fish and Game's response to the NRC, dated April 14, reaffirmed the threats transmission lines would pose to wildlife (Draft EIS B-26) and challenges the methodology of sage grouse and lek analysis n the EIS (Draft B-27), recommends burying transmission lines, and suggests that Areva submit to the NRC for review plans to mitigate for the expected wildlife impacts.

[150-05, Katie Seevers] In addition to these concerns of effects to the environment, the Idaho Department of Fish and Game has reaffirmed threats to the transmission lines would pose to wildlife, which is discussed in the draft EIS, section B-26. With pronghorn antelope, sage grouse, and excuse me if I pronounce this wrong -- ferruginous hawks, all making their habitat on the proposed site, wildlife impact should be more closely examined by the NRC.

[153-13, Andrea Shipley] The EREF could not function without the transmission line, which is critical to the proposed action. It is recommended that the routes for some proposed new transmission lines be part of its own NEPA process because of potential impacts to wildlife and the land.

[197-13, Andrea Shipley, on behalf of the Snake River Alliance] The EREF could not function without the transmission line, which is critical to the proposed action.

[184-18, Kitty Vincent; 191-27, Liz Woodruff] The NRC's exemption that authorizes Areva to undertake preconstruction activities as not part of the proposed action (draft EIS xxvii) should not include exempting utilities installations, including transmission lines and associated substations and other utility infrastructure. Installation of 80-foot, 161-kV transmission lines should not be considered as having "cumulative" impacts but rather direct impacts that must be analyzed in the EIS. Contrary to assertions (draft EIS 1-10) that "this transmission line is not considered by the NRC to be part of the proposed action," EREF could not function without the transmission line, which is critical to the proposed action.

[184-21, Kitty Vincent] The Idaho Department of Fish and Game, in a response to NRC dated April 14, reaffirmed the threats transmission lines would pose to wildlife (draft EIS B-26) and challenges the methodology of sage grouse and leak analysis in the EIS (B-27), recommends burying transmission lines, and suggests Areva submit to plans to mitigate for the expected wildlife impacts. These concerns do not appear to have been addressed in this EIS and must be addressed before any preconstruction activities are allowed or before this EIS review continues.

[191-30, Liz Woodruff] The Idaho Department of Fish and Game, in a response to the NRC dated April 14, reaffirmed the threats transmission lines would pose to wildlife (draft EIS B-26) and challenges the methodology of sage grouse and lek analysis in the EIS (B-27), recommends burying transmission lines, and suggests Areva submit to the NRC for review plans to mitigate for the expected wildlife impacts. These concerns do not appear to have been addressed in this EIS.

[193-19, Liz Woodruff, on behalf of the Snake River Alliance] Now this is something that's considered as a preconstruction impact in EIS, so this isn't given the weight and the technical impact review, the small, moderate, and large that you saw.

But more specifically, in the EIS, in Appendix B, the Idaho Department of Fish and Game affirms that the threat to transmission lines would be great for wildlife, and they recommend barring transmission lines and suggest AREVA submit to plans to mitigate for the expected wildlife impacts. These concerns must be addressed in the EIS, before any preconstruction activities are allowed.

Response: *In Section 1.4.1 of the EIS, the reason the NRC staff has analyzed the impacts of the proposed new 161-kV transmission line, that would serve the proposed EREF, as cumulative impacts is provided. However, the transmission line is not exempted from the EIS review. The impacts of this line are analyzed in Section 4.3 as cumulative impacts within the ROI of the proposed EREF. In addition, the environmental review is not diminished by the fact that the impacts of the proposed transmission line are considered under cumulative impacts rather than direct impacts because all impacts within a 16-kilometer (10-mile) ROI of the*

proposed EREF are associated with the facility. Socioeconomic impacts consider additional actions out to 80 kilometers (50 miles).

The proposed 161-kV transmission line, while considered by the NRC as preconstruction, is analyzed under cumulative impacts as a foreseeable action. Because the line is necessary for operations of the proposed EREF, it is given particular attention in the EIS and its impacts are fully analyzed. The analysis concludes that the proposed transmission line would have SMALL contributions to cumulative impacts, including the cumulative impacts on ecological resources such as vegetation and birds.

Comment: The following comments express concern that a license extension for the proposed EREF is likely and that depleted uranium waste will be left on site after the original 30-year license period.

[015-05, Beatrice Brailsford] The most domestic part of the proposal is that the waste will, in fact, stay here. The plant would produce 320,000 tons of depleted uranium hexafluoride over its licensed lifetime, and the door is already ajar for the license to be extended. That waste might be stored on outdoor concrete pads above the Snake River aquifer until the plant is decommissioned.

It's worth noting that New Mexico sharply limits how much, and how long waste can stay at the plant there. The waste has to be treated before it can be disposed of. Two government-owned treatment plants are under construction, over budget, and behind schedule. Waste the U.S. has already accumulated will take a combined 43 years to process.

[015-14, Beatrice Brailsford] The EREF will produce more than 350,000 tonnes of depleted uranium hexafluoride (DUF6) over its licensed lifetime, and the door is already ajar for the license to be extended. That waste would be stored in 25,718 cylinders on outdoor concrete pads above the Snake River Aquifer as long as the plant operates. DUF6 is both radioactive and chemically toxic and has to be treated before it can be disposed of. The DOE has built two plants to treat depleted uranium hexafluoride waste the US has already accumulated. That treatment will take a combined 43 years to process. A private US corporation is seeking a license for its own treatment plant. The draft EIS cavalierly dismisses any potential bottlenecks by stating that the waste could simply be sent to the DOE treatment plants before they're ready to process it and then their operating lives extended. But it is at least as likely that the DUF6 will be stored in Idaho for an uncertain length of time above the Snake River Aquifer, a sole source aquifer for nearly 300,000 people. Storage under these conditions must be fully evaluated under NEPA.

[045-01, Joan Drake] I write to oppose the construction of the Areva nuclear power plant. I am very concerned that the proposed plant would produce an estimated 320,000 tons of depleted uranium hexafluoride over its licensed lifetime. In view of this, and the fact that its license might well be extended, indications are that this waste would likely be stored in or near Idaho until the plant's decommissioning. Even after its removal and treatment, there is no certain disposal pathway. The Areva plant should not be licensed until regulations are in place for the environmentally safe disposal of large quantities of depleted uranium.

[086-03, Paula Jull] Areva's plant would produce 320,000 tons of depleted uranium hexafluoride over its licensed lifetime, and its license might well be extended. All this waste might be stored in Idaho until the plant was decommissioned.

[095-05, Linda Leeuwrik] Areva's plant would produce 320,000 tonnes of depleted uranium hexafluoride over its licensed lifetime, and its license might well be extended. All this waste would likely be stored in Idaho until the plant was decommissioned. Even after it is removed and treated, there is no certain disposal pathway.

[097-01, Bryan Martin] So based on the capabilities of those facilities, and what's going to be produced here – well, just based on what's presently in existence, it would take over 22 years to deconvert all of the existing nuclear waste, leaving at least 22 years of depleted uranium, on site at Eagle Rock, before anything can be started.

And so that's a concern, because then you have 22 years of waste that's sitting on sites, that can then be shipped off, you know, as time progresses, but with that type of lag, it suggests that there will be waste present on site past the scheduled lifespan of the facility, that 30 years. And so that kind of begs the question of, well, are you expecting this to be a license extension? And so if that is the case, if that's kind of implied, that should be something that should be addressed and discussed within the EIS before it's finalized.

[122-01, Kathy O'Brien] I do not want the waste from this plant here in Idaho or anywhere. It is not clean energy because of the waste both from this plant and from nuclear power plants. Areva's plant would produce 320,000 tonnes of depleted uranium hexafluoride over its licensed lifetime, and its license might well be extended. All this waste might be stored in Idaho until the plant was decommissioned. Even after it's removed and treated, there is no good way to dispose of it.

[150-02, Katie Seevers] The draft EIS assumes that the depleted uranium hexafluoride will not be stored on the site past the license life of the facility. However, it also acknowledges that Areva may apply for a license extension. I find the lack of a fully developed rule on disposal of depleted uranium problematic, especially when coupled with the prospect of seismic activity in the area and the potentiality for a license extension.

[153-06, Andrea Shipley; 197-06, Andrea Shipley, on behalf of the Snake River Alliance; 184-08, Kitty Vincent] The draft EIS assumes that depleted uranium hexafluoride will not be stored on site beyond the licensed life of the facility. But it also acknowledges Areva may apply for a license extension. As a matter of fact, Areva plans to ask federal regulators for permission to alter the normally required procedure as it ends the manufacturing of nuclear fuel in Virginia because the company would still use the site for other nuclear activities. (Gentry, The News & Advance © Copyright 2009). So, what's next for the Idaho facility if an extension is approved? The NRC must discuss the length of an extension and whether cumulative waste storage would be allowed.

[175-04, Ellen Thomas] Areva's plant would produce 320,000 tonnes of depleted uranium hexafluoride over its licensed lifetime, and its license might well be extended. There is no certain disposal pathway.

[191-12, Liz Woodruff] The draft EIS assumes that depleted uranium hexafluoride will not be stored on site beyond the licensed life of the facility. But the draft EIS also acknowledges that Areva may well apply for a license extension. The NRC must discuss the length of a potential extension and whether or not cumulative waste storage would be allowed.

[192-02, Lisa Young] I'm concerned about many different issues surrounding this facility's Environmental Impact Statement, but today I'll focus on the storage of depleted uranium hexafluoride waste on site, and the future transportation and storage off site. While the proposal commits to removing all of the depleted uranium waste from the site, after decommissioning, the question still lingers. What if they receive a license extension? It's important to analyze the environmental impact that the storage of this waste on site, beyond the timeline currently implicated by the proposal, as this is a very real possibility and could result in very different analyses of the storage of the waste on site.

[192-08, Lisa Young] I am concerned about many different issues surrounding this facility's environmental impact statement, but in the comments that follow I will focus on the storage of depleted uranium hexafluoride waste on-site, and the future transportation and storage of that waste off-site. While the proposal commits to removing all of the depleted uranium waste from the site after decommissioning, the question still lingers: what if they receive a license extension? It's important to analyze the environmental impact of the storage of this waste on-site beyond the timeline currently implicated by the proposal, as this is a very real possibility, and could result in very different analyses of the storage of the waste on-site.

Response: *AES's license for the proposed EREF, if granted by the NRC, would be for a period of 30 years for construction and operation of the proposed facility. Any extension of the license would require a separate licensing action by the NRC and a separate environmental review at the time of the application for license extension.*

I.5.26 Mitigation

Comments on mitigation measures can be found in the Section I.5 subsections specific to the applicable resource areas.

I.5.27 Environmental Measurement and Monitoring Programs

Comment: The following comment asks why the Draft EIS references NRC Regulatory Guide Revision 1 rather than Revision 2.

[066-06 Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 4. Several places in the draft EIS reference NRC reg guide 4.15 revision 1 (1979). Please explain why the NRC does not reference revision 2 (2007).

Response: *The NRC acknowledges that Revision 2 (2007) of Regulatory Guide 4.15 should have been the proper reference. The reference list of Chapter 6 (Section 6.3) and the text of Sections 6.1, 6.1.2, and 6.1.8 of the EIS has been revised accordingly.*

Comment: The following comment requests clarification in the EIS concerning how AES will tie into the appropriate monitoring networks to the maximum extent possible in order to better delineate INL impacts from impacts of the proposed EREF, as well as understanding the broader regional impacts.

[066-07, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 5. The DEQ INL Oversight program works in conjunction with the INL (DOE and contractors) to monitor soils, air quality, ground water and surface water through a complex monitoring system. DEQ requests clarification in the EIS concerning how AES will tie into the appropriate monitoring networks to the maximum extent possible in order to better delineate INL impacts from AES impacts as well as understanding the broader regional impacts.

Response: *The NRC staff acknowledges this comment. However, the staff finds that the actions AES has committed to taking with regard to monitoring of soils, air, groundwater, and surface water will be sufficiently protective of the environment. These actions are described in Chapter 6 of the EIS (Environmental Measurements and Monitoring Program).*

When NRC reviews a proposed action, its ability to impose additional requirements and environmental mitigation and monitoring measures beyond those proposed as part of the license application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the proposed facility be built in accordance with the submitted application, including mitigation and monitoring measures proposed by the applicant that are not specifically required by or directly related to NRC's regulations. Thus, the NRC does have the ability to hold licensees to key mitigation and monitoring measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comment questions the locations of some of the deep groundwater sampling locations on the proposed EREF site, and requests an explanation for why there are no groundwater sampling wells in the southwest (SW) or south-southwest (SSW) sectors of the monitoring locations map.

[066-10, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] Chapter 6: pp, 6-3, Figure 6-1. Many of the deep groundwater sampling locations are too close to the facility to ensure detection at depth. Additionally, it is generally accepted that the groundwater flows in a southwesterly direction. Please explain why there are not groundwater sampling wells in the SW or SSW sectors of the monitoring locations map.

Response: *Groundwater sampling wells are located on the proposed EREF property on the basis of the predominant groundwater flow direction, which is from the northeast to the southwest in the vicinity of the proposed EREF. Several of the groundwater sampling points (wells) shown on Figure 6-1 in the EIS, indicated by the number 6, are located in the southwest (downgradient) sector; these are mainly deep wells, but include one shallow well to monitor perched groundwater near the facility. Two wells are located to the northeast (upgradient) of the facility to provide sampling control points. The IDEQ has a statewide network of wells it monitors to evaluate the overall quality of groundwater throughout the State to meet the objectives of the State's Ground Water Quality Protection Act. Any monitoring outside of the*

proposed EREF property boundary, therefore, would occur under the aegis of the State's groundwater quality monitoring program. Section 6.1.5 of the EIS has been revised to include this information.

Comment: The following comment requests clarification on whether any gross alpha or beta measurement over 10 percent of the listed U (uranium) value will be analyzed further, or if there are specific criteria based on a gross alpha beta screening that will trigger the analysis.

[066-11, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 9. Chapter 6: pp. 6-4, Table 6-2 states "Isotopic analyses for uranium isotopes (238U, 236U, 235U**,** and 234U) would commence whenever gross alpha and gross beta activities indicate that an individual radionuclide could be present in a concentration >I0 percent of the specified concentrations in Table 2 of Appendix B to 10 CFR Part 20." Please clarify whether any gross alpha or beta measurement over 10% of the listed U value will be analyzed further, or if there are specific criteria based on a gross alpha beta screening that will trigger the analysis.

Response: *Should a sample exhibit a gross alpha or beta measurement over 10 percent of the listed uranium value in Table 2 of Appendix B to 10 CFR Part 20, the concentrations of the four specific uranium isotopes would be determined. There are no other screening criteria that will trigger the isotopic analysis (AES, 2010d).*

Comment: The following comment presents recommendations and questions regarding air quality monitoring.

[066-12, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] Chapter 6: pp. 6-6, Lines 10. , & Fig 6-1, pp. 6-3 describes the environmental monitoring sites. DEQ has the following recommendations and questions:

- There should be an air sampling site on the west side of the property which is nearest the INL.
- There should be an air sampling site between the facility and Hwy 20 to the south.
- The air sampling site on the southern fence of the facility is off-set to the SW and is approximately 2 km from the road. This may not be a good indicator of off-site public dose impact at the road and should be relocated.
- The wind rose for the nearest meteorological tower at MFC on pp. C-9 shows winds from the SW and SSW to the NE are the predominate direction and magnitude, yet the only sampling planned in the NE and ENE sectors are one TLD and two groundwater samples collectively. Please explain why are there no air, soil, or vegetation samples in the sectors where impacts are most likely to be observed.

Response: *The NRC staff acknowledges this comment. However, the staff finds that the actions AES has committed to taking with regard to monitoring of soils, air, groundwater, and*

surface water will be sufficiently protective of the environment. These actions are described in Chapter 6 of the EIS (Environmental Measurements and Monitoring Program).

When NRC reviews a proposed action, its ability to impose additional requirements and environmental mitigation and monitoring measures beyond those proposed as part of the license application is limited to those with a reasonable nexus to providing protection for radiological health and safety and common defense and security. The NRC can, however, require that the proposed facility be built in accordance with the submitted application, including mitigation and monitoring measures proposed by the applicant that are not specifically required by or directly related to NRC's regulations. Thus, the NRC does have the ability to hold licensees to key mitigation and monitoring measures committed to in their applications and subsequently incorporated in the NRC license directly or by reference.

Comment: The following comment requests that the NRC define "sectors" in the cited sentence in Chapter 6, on page 6-9, line 40 of the Draft EIS.

[066-13, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 11. Chapter 6: pp. 6-9, Line 40 states "Samples would be collected quarterly from each sector at locations near the Owner Controlled Area fence line." Please define the "sectors".

Response: *The sectors, shown on Figure 6-1 of the EIS, are the areas identified with the 16 compass directions centered on the proposed EREF. This has been added to the text of Section 6.1.6.*

Comment: The following comment requests clarification of information regarding thermoluminescent dosimeters (TLDs) in the cited sentence in Chapter 6, on page 6-10, lines 6–8, and in Figure 6-1 of the Draft EIS.

[066-14, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 12. Chapter 6: pp. 6-10, Lines 6-8 states "The environmental TLDs would be placed at the Owner Controlled Area fence line near the UF6 storage cylinders. In addition, two TLDs would be placed at offsite locations for control purposes". This implies that TLDs are only placed near the storage pads, but Fig 6-1 shows a network of 15 TLDs at the fence on all sides of the facility. Please explain which description is correct.

Response: *No implication was intended. TLDs would be placed along the entire fence line. The text in Section 6.1.7 has been revised to state, "The environmental TLDs would be placed along the Owner Controlled Area fence line."*

Comment: The following comment recommends a change to the cited sentence in Chapter 6, on page 6-10, lines 11-12 of the Draft EIS.

[066-15, Toni Hardesty, on behalf of the Idaho Department of Environmental Quality] 13. Chapter 6: pp. 6-10, Lines 11-12 states "The TLD along the fence line would provide a combined reading of background as well as above background readings associated with the

UF6 cylinders." DEQ recommends this statement be changed to read "*...provide a combined reading of background as well as any above background readings associated with plant operations and cylinder handling and storage.*

Response: *The text in Section 6.1.7 in the EIS has been changed as recommended.*

Comment: The following comment expresses caution regarding the potential accumulation of radioactivity elsewhere in the environment resulting from effluent releases from the proposed EREF that are within regulatory limits

[087-03, Dennis Kasnicki] Comment 2b: Regardless of releases to the environment that are within legal release limits, watch out for this contamination *accumulating* somewhere. Once, a sewage treatment plant near Nuclear Fuel Services (Erwin, TN) had accumulated a sufficient amount of HIGH enriched uranium to warrant an HEU license, and the NRC actually considered licensing that sewage treatment plant as an option!

Response: *The NRC acknowledges the comment regarding the potential accumulation of radioactivity in the environment resulting from effluent releases from the proposed EREF that are within regulatory limits. Such accumulations would be monitored and addressed through the environmental measurements and monitoring program described in Chapter 6 of the EIS.*

Comment: The following comment requests that monitoring data relating to wildlife and plants be provided electronically to the IDFG within one year of collection.

[089-01, Sharon Kiefer, on behalf of the Idaho Department of Fish and Game] Ecological Monitoring: The Department appreciates and supports the improvements in monitoring protocols resulting from our previous consultation with AES and their contractors. The DEIS documents the ecological monitoring program that would be carried out in accordance with generally accepted monitoring protocols of the Department. Under the program, data would be collected, recorded, stored, and analyzed. We request that monitoring data relating to wildlife and plants be provided electronically to the Department within one year of collection and will pursue discussion with AES for this coordination.

Response: *The NRC staff acknowledges that the IDFG will pursue discussion with AES for this request and coordination.*

Comment: The following comment asks for clarification of what "anomalous" ecological monitoring results might be and what appropriate efforts would be taken to reconcile them.

[089-02, Sharon Kiefer, on behalf of the Idaho Department of Fish and Game] Ecological Monitoring: The DEIS states on page 6-18 lines 4-6, *Procedures would be established, as appropriate, for data Collection, storage, analysis, reporting, and corrective actions. Actions would be taken as necessary to reconcile anomalous results (AES, 2010a).* We are unsure what "anomalous" results might be and what efforts to reconcile them would be appropriate. Please clarify this issue.

Response: *Generally accepted monitoring practices would be expected to include the evaluation of data collection and analysis methods and determinations regarding necessary corrective actions. Anomalous results would be expected to include those that would appear unlikely based on other results of the ecological monitoring program. Potential actions could include, for example, modifications of data collection methods.*

Comment: The following comment requests that a statement be inserted in the ecological monitoring section of Chapter 6 of the EIS, regarding the need to obtain appropriate permits from IDFG or the FWS to handle, transport, or release wildlife, in order to conduct capture and releases.

[089-03, Sharon Kiefer, on behalf of the Idaho Department of Fish and Game] Ecological Monitoring: Page 6-18 lines 20-22, *Measures would be taken to release any entrapped wildlife.* While the Department supports this measure, please insert the statement: Appropriate permits to handle, transport or release wildlife will be obtained from IDFG or USFWS to conduct capture and releases.

Response: *The NRC staff acknowledges this comment. Section 6.2.2 of the EIS states that the ecological monitoring program would be carried out in accordance with the requirements of the IDFG and FWS. However, the staff finds that the actions AES has committed to taking with regard to ecological monitoring, as described in Section 6.2.2, will be sufficiently protective of the environment. It is the responsibility of the applicant, AES in this case, to obtain all required Federal, State, and local permits and approvals for the project.*

Comment: The following comment requests that certain text be inserted in the cited sentence in Chapter 6, on page 6-18, lines 44–46 of the Draft EIS.

[089-04, Sharon Kiefer, on behalf of the Idaho Department of Fish and Game] Ecological Monitoring: On page 6-18 lines 44-46, *Data collected for the ecological monitoring program would be recorded on paper and/or electronic forms. These data would be kept on file for the life of the proposed facility (AES. 20/0).* Please insert and will be provided to IDFG annually (as mentioned above).

Response: *The NRC staff acknowledges this comment. However, the staff finds that the actions AES has committed to taking with regard to ecological monitoring, as described in Section 6.2.2, will be sufficiently protective of the environment. The NRC staff acknowledges that the IDFG will pursue discussion with AES for this request and coordination, as stated in its Comment Number 089-01 above.*

Comment: The following comment deals with the monitoring of emissions (radiological and ambient air) and taking corrective action if air quality standards are not met. Also, the comment points out that there is no monitoring station close to the proposed facility site.

[138-04, Christine Reichgott, on behalf of the U.S. Environmental Protection Agency, Region 10] Since the project area and surrounding areas may include sensitive populations

such as the elderly and children, it will also be important to monitor emissions (radiological and ambient air) and take corrective action if air quality standards are not met. Proposed monitoring strategies should be tailored to local conditions because localized air quality impacts can be substantial, even though area-wide and/or long term monitoring may show compliance with air quality standards. The draft EIS indicates that monitoring data from a distant monitoring station in Pocatello, for example, may not represent accurate air emission at the project site. Further, there is no monitoring station close to the proposed facility site (p. 4-16).

Response: *As discussed in Section 3.13 of the EIS, information available to the NRC does not indicate the presence of sensitive populations in the vicinity of the project. Given that air quality impacts are expected to be localized and agricultural activities will continue in the vicinity of the proposed EREF, no populations would appear to be at risk from short-duration, construction-related impacts on air quality, especially since all construction activities would proceed under the auspices of IDEQ-issued permits and Bonneville County-approved mitigation strategies. Decisions regarding amendment to the SIP that might involve installation of a new ambient air quality monitoring station in the project area are outside of the NRC's authority and the scope of the EIS and instead are the province of IDEQ. The expected short duration of NAAQS exceedance does not argue for a long-term commitment to ambient air quality monitoring in this area.*

Comment: The following comment requests that the applicant include air monitoring and reporting plans that are specific to the operations of the proposed facility.

[027-16, Sara Cohn] We request that the applicant include air monitoring and reporting plans that are specific to the operations of the proposed facility. These plans should include guidance for public alerts, immediate containment, responsible parties, etc., should air releases be detected.

Response: *The IDEQ operating permit to be obtained by AES would specify that procedures will be in place to guarantee the expected performance of the air filter systems through rigorous monitoring, inspection, and maintenance programs and that responses to monitoring data would be in accordance with applicable IDEQ regulations.*

I.5.28 Benefit-Cost Analysis

Comment: The following comments deal with the benefits and costs of the proposed EREF project.

[025-06, Hon. Sue Chew] Furthermore, it is my opinion that this uranium enrichment project is unnecessary and exposes the citizens of Idaho to a potential harm that cannot be offset by the proposed benefits of such a program.

[039-01, Kreg Davis] Much has been said about how small money is compared to safety, and we certainly would all agree with that. However, I would object to the minimization of the importance of jobs, and jobs in the State of Idaho as it's been characterized. In the last several, couple of years, 18 months, particularly, there's been a major economic downturn that has hit

this state. No one knows more, how more important it is, a job is, than somebody who is losing it. I've been a first-hand witness of what it's like for people to lose their job, and I would hope that no one in this room would minimize that in comparison to those people. Certainly still agree with the safety issue. I would like to thank everyone here for the opportunity to speak in support of the AREVA-proposed uranium enrichment plant.

[040-04, Collin Day] But there's just no need to take risks and gamble with things like the aquifer that, you know, supplies drinking water to some 300,000 people, because 500 people need jobs. I just--I don't see the point in that.

[067-03, Mike Hart] With respect to the need, I, looking at global warming, I know there are obviously impacts of nuclear energy, but the reality is, seven generations from now I think they won't be worrying as much about depleted uranium as they will be about depleted glaciers, depleted ice caps, and nuclear energy has a significant benefit. It's not without its warts, it's not without its impacts, but there is "no free lunch" when it comes to energy.

You can conserve, but we do use energy. It is used globally, whether this is a French company, whether it's used locally, or nationally, the reality is its carbon-free, and that carbon-free resource is something that is very precious, and until we have alternative technologies that can produce significant usable quantities of electricity, nuclear is a very positive step in between now and a carbon-free future.

[068-04, Anne Hausrath] My husband and I raised our children in Idaho. We are very much concerned about the current economic climate for their generation, and we believe there's a responsibility of all of us to provide for that. I don't believe that this plant is adequate -- that the economic is adequate justification for that.

[074-02, Don Howard] …what concerns me most is two things. One is economic impact that Idaho does need. But the waste from the uranium we don't need. And I would say that the economic--we need the economic boost that this will bring to the State of Idaho. But I say at what cost to Idaho?

[088-01, Stan Kidwell] Areva's plant will do more harm than good to Idaho. Any jobs that would be gained would not counter the damage, both fiscally and environmentally, that would be done to Idaho.

[095-01, Linda Leeuwrik] I would like to voice my very strong opposition to the uranium enrichment facility that the French company Areva is proposing to build not far from where I live in South East Idaho. This facility would provide no real benefit or advantage to Idaho, instead only leaving the waste for us to contend with for many years to come -- contaminating our land and our water supply and negatively impacting our wildlife.

[128-05, Bob Poyser] Third. AREVA has, and will continue to incorporate sustainability features, including the use of lead-certified building standards as a part of the overall effort to ensure that we deploy our best efforts in creating a facility that is environmentally benign and respects the site conditions.

[130-02, Park and Sharon Price] The benefits of this project substantially outweigh the potential small or moderate impacts identified in the draft EIS.

We strongly support your preliminary conclusions that this project deserves to move forward.

[147-04, Joey Schueler] I am in opposition to the Eagle Rock Uranium enrichment plant being put in Idaho Falls, Idaho! Although I understand the positive incentive arguments for the proposed plant, the arguments against the plant far outweigh the rather short term positive benefits. I think careful consideration should be given to each of the fifteen points I listed below when deciding whether to take this action. I also doubt many Idahoans know about this action and should be brought to a larger table of discussion.

[177-01, Hon. T.J. Thomson] As a Boise City Council Member, I am dedicated to safeguarding tax payer dollars to assure that every penny spent is spent wisely. Outside of keeping this city safe, fiscal responsibility is my highest priority. Every city project must be highly scrutinized to assure we are getting the very best product available. And so, with fiscal stewardship in mind, I ask that you exercise caution as you move forward with the Areva Plant. Considering the large amount of state and federal tax dollars that will be invested into the plant, it is vital you assure taxpayers that all costs regarding the management and disposal of waste are included in your long-term budgeting process.

[182-04, Brianna Ursenbach] On balance, it is readily apparent, then, that this facility will not be beneficial, so no amount of negative environmental impact, degradation, is acceptable. In conclusion, this facility is not needed, not wanted, and cannot be licensed.

[193-23, Liz Woodruff, on behalf of the Snake River Alliance] So in conclusion, radioactive waste poses an unacceptable risk to our state. You heard that the NRC has a cost-benefit analysis. Well, based on our read and the reading of our members, and other Idahoans, it's very clear that the costs of this facility are far greater than the benefits, to our public safety, to our water, to our air, to our land, to wildlife habitat. And this definitely outweighs the hypothetical and very risk assertion by the NRC, that we need uranium enrichment.

AREVA's proposed Eagle Rock enrichment facility will store radioactive waste at the sole source aquifer for 300,000 people. It will impact sensitive species, require the transport of radioactive materials, impair a national monument in Idaho, support destruction of a historic site, devour billions of dollars in state and federal largesse to meet a hypothetical need that does not yet exist, and obliterate farmland that is potentially protected by the Federal Government.

We are here to say this is simply not worth the risks, and new evaluations on the draft EIS are needed, specifically around preconstruction and transmission issues, and until that time, this facility should not be licensed.

Response: *The results of the benefit-cost analysis presented in Chapter 7 of the EIS show that the benefits of the facility outweigh the costs. Although there are potential impacts the costs of which cannot be quantified – impacts to air, water quality, or ecology, for example – these impacts would be SMALL or SMALL-to-MODERATE, and would be unlikely to affect the outcome of the benefit-cost analysis.*

I.5.29 Editorial Comments

Comment: The following comments identify typographical errors noted in the Draft EIS.

[228-01, Jim Kay] The word lightning is misspelled as lightening. (Table 3-10, Storm Events in the Vicinity of the Proposed EREF Site, Page 3-26)

[228-02, Jim Kay] There is a typo in DEIS Table 3-15 in the row "Volcanic earthquakes" under the column "Hazard Level." The focal depth should be 2.5 mi versus 2.5 ft. (Table 3-15, Hazards Associated with Basaltic Volcanism on the ESRP, Page 3-41)

[228-03, Jim Kay] There are typos on the emission factors. The value 2560 should be 2.560 and the value 10,292 should be 10.292. (Table 4-7, NRC's Estimated Emissions of Criteria Pollutants Resulting from Operations at the Proposed EREF, Page 4-24)

[228-04, Jim Kay] A D/Q value (2.43 x 10-7) is presented in the first full paragraph with units of kg per square meters. The units for D/Q values are 1 over square meters (1/m2). (Section 4.2.4.2, Facility Operation, Generation and Release of Non-Criteria Chemical Pollutants Related to EREF Operations, Page 4-27)

[228-05, Jim Kay] The DEIS specifies that the Retention Basins …each would have a storage capacity of about 83,000 cubic meters (76 acre-feet)… should be 67 acre-feet. (Section 4.2.6.2, Facility Operation, Cylinder Storage Pads Stormwater Retention Basin, Page 4-40, Line 15)

[228-06, Jim Kay] In the 1st bullet, "apply water twice daily to…." should be twice daily (when needed) for consistency with DEIS page 5-6, Ecological Resources. (Table 5-1, Summary of Mitigation Measures Identified by AES for Preconstruction and Construction Environmental Impacts, Air Quality Page 5-3)

Response: *The EIS has been reviewed and appropriate revisions have been made as noted in the comments.*

I.6 References

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NRC FORM 335
(9-2004)
NRCMD 3.7

U.S. NUCLEAR REGULATORY COMMISSION

BIBLIOGRAPHIC DATA SHEET

(See instructions on the reverse)

1. REPORT NUMBER
(Assigned by NRC, Add Vol., Supp., Rev., and Addendum Numbers, if any.)

NUREG-1945, Vol. 2

2. TITLE AND SUBTITLE

Final Environmental Impact Statement for the Proposed Eagle Rock Enrichment Facility in Bonneville County, Idaho

Final Report
Appendices A through I

3. DATE REPORT PUBLISHED

MONTH	YEAR
February	2011

4. FIN OR GRANT NUMBER

5. AUTHOR(S)

See Chapter 10

6. TYPE OF REPORT

Technical

7. PERIOD COVERED *(Inclusive Dates)*

8. PERFORMING ORGANIZATION - NAME AND ADDRESS *(If NRC, provide Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address; if contractor, provide name and mailing address.)*

Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

9. SPONSORING ORGANIZATION - NAME AND ADDRESS *(If NRC, type "Same as above"; if contractor, provide NRC Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address.)*

Same as 8 above

10. SUPPLEMENTARY NOTES

Docket No. 70-7015

11. ABSTRACT *(200 words or less)*

AREVA Enrichment Services LLC (AES) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a license to construct, operate, and decommission the proposed Eagle Rock Enrichment Facility (EREF) near Idaho Falls in Bonneville County, Idaho. If licensed, the proposed facility would enrich uranium for use in commercial nuclear fuel for power reactors. Feed material would be non-enriched uranium hexafluoride (UF6). AES would employ a gas centrifuge process to enrich uranium up to 5 percent uranium-235 by weight, with a planned maximum target production of 6.6 million separative work units (SWUs) per year. The proposed EREF 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 AES to possess and use special nuclear material, source material, and byproduct material at the proposed EREF site.

This Environmental Impact Statement (EIS) was prepared in compliance with the National Environmental Policy Act (NEPA) and the NRC regulations for implementing NEPA (10 CFR Part 51). This EIS evaluates the potential environmental impacts of the proposed action and its reasonable alternatives.

12. KEY WORDS/DESCRIPTORS *(List words or phrases that will assist researchers in locating the report.)*

EIS for the Proposed Eagle Rock Enrichment Facility in Bonneville County, Idaho
Uranium Enrichment Facility
NUREG-1945
National Environmental Policy Act
NEPA
EREF
AREVA Enrichment Services LLC
AES
AREVA

13. AVAILABILITY STATEMENT

unlimited

14. SECURITY CLASSIFICATION

(This Page)
unclassified

(This Report)
unclassified

15. NUMBER OF PAGES

16. PRICE

PRINTED ON RECYCLED PAPER

Federal Recycling Program

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

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