

**U.S. Nuclear Regulatory Commission Monthly Status Report
Activities Related to the Yucca Mountain Licensing Action
Report for January 2015**

Background

On August 13, 2013, a panel of the U.S. Court of Appeals for the District of Columbia Circuit issued its decision in the case *In re Aiken County* directing the U.S. Nuclear Regulatory Commission (NRC) to “promptly continue with the legally mandated licensing process” for the U.S. Department of Energy’s (DOE’s) application to construct a geologic repository for high-level waste at Yucca Mountain, NV. The NRC promptly began taking steps to comply with the court’s direction following the issuance of the decision. On November 18, 2013, the Commission approved a memorandum and order, which set a course of action for the Yucca Mountain licensing process that is consistent with the Appeals Court decision and with the resources available. The Commission also issued a related staff requirements memorandum (SRM) on November 18, 2013. The Commission provides further direction to the staff as needed.

Accomplishments and Ongoing Work

The NRC staff in the Office of Nuclear Material Safety and Safeguards, with the support of the Center for Nuclear Waste Regulatory Analyses, has completed the remaining volumes of the safety evaluation report (SER). The attached task tracking tool, “Status of Safety Evaluation Report (SER) Chapters and Volume Tasks,” documents work completed through January 31, 2015.¹ On October 16, 2014, the NRC staff published SER Volume 3; on December 18, 2014, the staff published Volume 4; and on January 29, 2015, the staff published Volumes 2 and 5. All of the volumes are available on the NRC’s website, at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1949/>. The NRC also distributed the documents to the participants in the adjudicatory proceeding and other interested stakeholders.

Agency attorneys provided support to the staff and the Commission on project activities, advised the staff on issues related to SER development, and reviewed the remaining portions of the SER.

Completion of the SER has taken approximately 12 months and is expected to cost an estimated \$8.3 million. The staff will have a more accurate accounting of the SER completion cost after the remaining invoices related to the Center for Nuclear Waste Regulatory Analyses work are paid over the coming months.

Schedule and Cost for Remaining Activities

The schedule for completion of an environmental impact statement (EIS) supplement is being considered. On February 28, 2014, the DOE informed the NRC that it would not complete an

¹ Because the SER is complete, the staff will not be including the SER task tracking tool in future reports.

EIS supplement that the staff has determined is needed for the review of DOE's application under the National Environmental Policy Act, but rather would provide an update to a 2009 technical report that would inform an EIS supplement. On April 7, 2014, NRC staff met with DOE staff in a public meeting to discuss DOE's revision of this report, titled, "Analysis of Postclosure Groundwater Impacts for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada." On October 3, 2014, the DOE submitted its 2014 update of this report to NRC staff. The document is available through the NRC's website, at <http://pbadupws.nrc.gov/docs/ML1430/ML14303A393.pdf>.

After DOE informed the NRC that it would not complete an EIS supplement, the Commission necessarily revised its earlier direction to adopt DOE's supplement. The Commission has directed the staff to plan to develop and issue an EIS supplement, subject to its decision on the staff's December paper providing a reassessment of available funding. The previous cost estimate of \$625,000 for an adoption determination of a DOE-developed EIS supplement will be revised to account for an NRC-developed EIS supplement as part of the reassessment.

The Licensing Support Network (LSN) document collection is fully available to internal users in a nonpublic library of the NRC's Agencywide Documents Access and Management System (ADAMS). This project was completed in April 2014. The Commission has also directed, subject to its decision on the staff's December paper providing a reassessment of available funding, that the LSN document collection be loaded into a publicly accessible library in ADAMS.

The staff previously estimated that related activities, such as the work performed by NRC attorneys on Federal court litigation following the issuance of the mandamus order, monthly reporting, and other support efforts, would require approximately \$750,000 over the course of the project. As reflected in Table 1, actual costs for these activities are approximately \$754,000.

The total cost estimate for the work described above as of January 31, 2015, is projected to be approximately \$10 million.

Nuclear Waste Fund Expenditures

During the month of January, the NRC expended \$437,957 of Nuclear Waste Fund (NWF) funds on its actions in direct response to the court's decision. Cumulative expenditures since the August 13, 2013, U.S. Court of Appeals decision are \$9,258,185. The August 13, 2013, balance of \$13,549,315 of unexpended NWF funding, less the \$9,258,185, results in a remaining unexpended balance of \$4,291,130. Total unobligated NWF funds remaining as of January 31, 2015, are \$3,394,643. The following table provides further details regarding the NRC's expenditure of NWF funds since August 13, 2013.

Yucca Mountain Licensing Activities	Cost Estimate	January Expenditures	Cumulative Expenditures
Completion of the safety evaluation report	\$8,310,000	\$398,774	\$8,139,729
Loading of Licensing Support Network documents into a nonpublic ADAMS library	\$350,000	\$0	\$277,670
Development of the EIS supplement*	\$625,000	\$0	\$47,427
Program planning and support		\$39,183	\$426,869
Response to the August 30, 2013, Commission order		\$0	\$137,518
Federal court litigation**		\$0	\$154,495
Support and advice in NRC proceedings		\$0	\$35,535
Subtotal, other support costs chargeable to NWF funds	\$750,000	\$39,183	\$754,417
Adjustments to close out contracts funded by previous NWF appropriations		\$0	\$38,942
Total	\$10,035,000	\$437,957	\$9,258,185

* The estimate of \$625,000 for an adoption determination of a DOE-developed EIS supplement is being revised to account for an NRC-developed EIS supplement as part of the December 2014 reassessment of remaining NWF funds consistent with Commission direction.

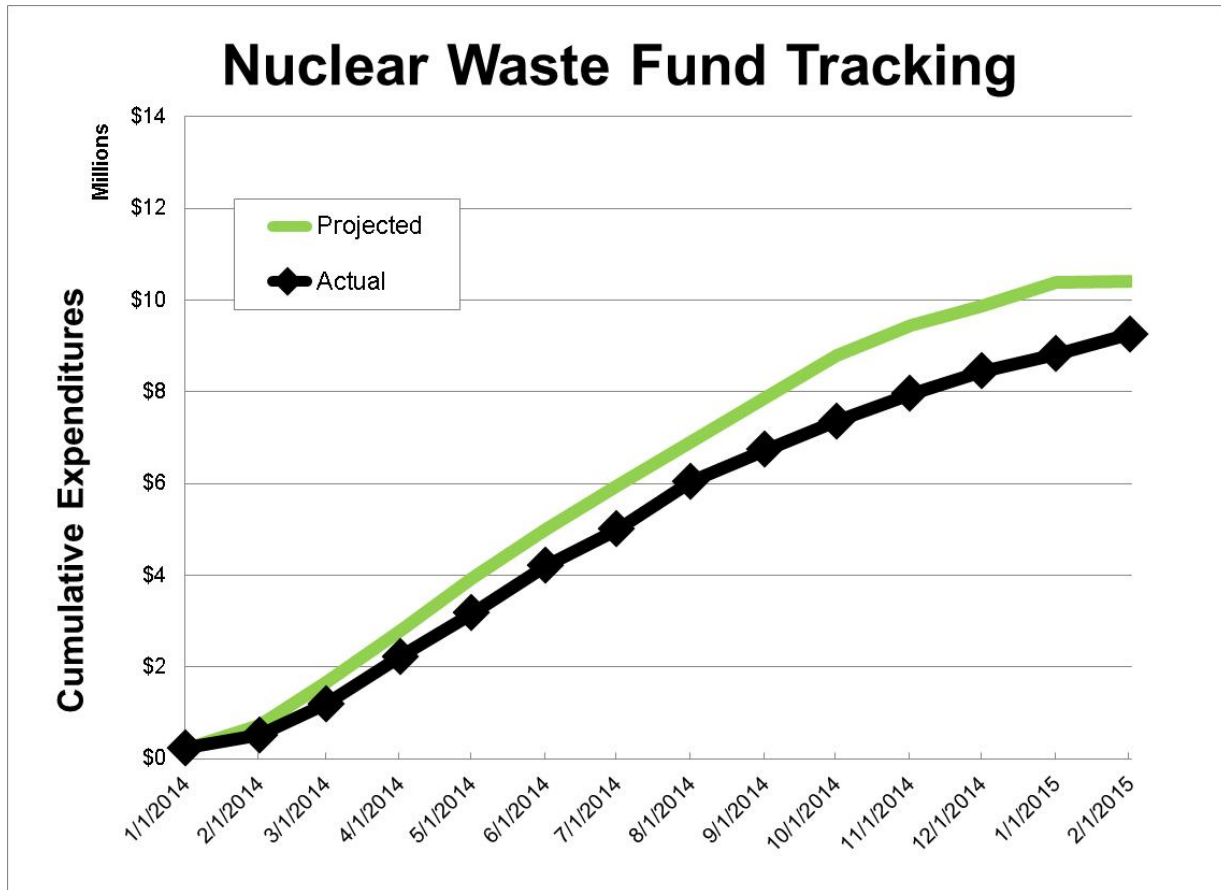
** Includes a \$59,000 expenditure in May for the agency's agreement to settle the Equal Access to Justice Act claim of one of the *Aiken County* petitioners. On October 23, 2014, the Court of Appeals for the District of Columbia Circuit denied the motion from other parties requesting reimbursement for attorneys' fees.

The unexpended NWF fund balance of \$4,291,130 includes \$254,348 of previously appropriated NWF funds that remain unexpended but obligated on contracts with the Center for Nuclear Waste Regulatory Analyses.

The staff has estimated the expenses necessary to complete the SER and related activities directed by the Commission. Figure 1 on page 4 shows the cumulative projected and actual

expenditures. Projected expenditures include cost estimates shown in Table 1. The actual cumulative expenditures reflect costs through January 31, 2015, as given in Table 1.

Figure 1. Nuclear Waste Fund Tracking



Stakeholder Communications and Interactions

On January 28, 2015, the NRC issued a media advisory concerning the publication of SER Volumes 2 and 5 and e-mailed this advisory to the participants in the adjudicatory proceeding and other interested stakeholders. On January 29, the NRC issued a press release about the publication of SER Volumes 2 and 5 and e-mailed the documents to the participants and other stakeholders. The NRC staff also created a blog post regarding SER issuance on January 29, 2015.

Status of Safety Evaluation Report (SER) Chapters and Volume Tasks

Volume 2 - Volume 5

Milestone Achieved as of January 31, 2015

CHAPTER MILESTONES	Staff Develops SER Inputs	Staff Completes SER Inputs	Branch Chief Review	OGC Chapter NLO Review	OGC Chapter Comment Resolution	Staff Verifies References Are Publicly Available	Technical Editor Review	Project Manager Accepts/Rejects Tech Edits
CHAPTER MILESTONES								CHAPTER COMPLETE

Volume 3: Review of Repository Safety After Permanent Closure								
Chapter 1 - Multiple Barriers								
Chapter 2 - Scenarios (Features, Events, & Processes)								
Chapter 3 - Probability								
Chapter 4 - Degradation of Engineered Barriers								
Chapter 5 - Mechanical Disruption of Engineered Barriers								
Chapter 6 - Water Chemistry & Barriers								
Chapter 7 - Radionuclide Release								
Chapter 8 - Climate & Infiltration								
Chapter 9 - Flow in the Unsaturated Zone								
Chapter 10 - Radionuclides in the Unsaturated Zone								
Chapter 11 - Flow in the Saturated Zone								
Chapter 12 - Radionuclides in the Saturated Zone								
Chapter 13 - Igneous Disruption								
Chapter 14 - Radionuclides in Groundwater								
Chapter 15 - Airborne Transport & Redistribution								
Chapter 16 - Biosphere								
Chapter 17 - Individual Protection								
Chapter 18 - Human Intrusion								
Chapter 19 - Groundwater Protection								
Chapter 20 - Expert Elicitation								
Abstract								
Executive Summary								
Introduction								
Glossary								
Conclusions								
Appendices - Not Applicable								

Status of Safety Evaluation Report (SER) Chapters and Volume Tasks

Volume 2 - Volume 5

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Volume 4: Review of Administrative and Programmatic Requirements								
Chapter 1 - Research & Development Program to Resolve Safety Questions								
Chapter 2 - Performance Confirmation Program								
Chapter 3 - Quality Assurance Program								
Chapter 4 - Records, Reports, Tests, and Inspections								
Chapter 5 - DOE Organization Structure - Construction								
Chapter 6 - Key Positions								
Chapter 7 - Qualifications and Training								
Chapter 8 - Plans for Startup Activities and Testing								
Chapter 9 - Plans for Conduct of Normal Activities								
Chapter 10 - Emergency Planning								
Chapter 11 - Controls to Restrict Access and Regulate Land Use								
Chapter 12 - Uses of Geologic Repository Operations Area for Other Purposes								
Abstract								
Executive Summary								
Introduction								
Glossary								
Conclusions								
Appendices - Not Applicable								

Status of Safety Evaluation Report (SER) Chapters and Volume Tasks

Volume 2 - Volume 5

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CHAPTER MILESTONES								[CHAPTER COMPLETE]

Volume 5: License Specifications								
Chapter 2.5.10 - License Specifications								
Abstract								
Executive Summary - Not Applicable								
Introduction								

	Camera-Ready Combined File to Branch Chief	Branch Chief Concurrence	YMD Deputy Director Concurrence	YMD Director Concurrence	OGC NLO	MNRS Office Director Concurrence and Authorization of	Final SER Volume Published
VOLUME MILESTONES							
Volume 2							
Volume 3							
Volume 4							
Volume 5							

Note: Italicized volume milestone dates have been rebaselined to reflect current status.

Abbreviations and Acronyms:

- NLO** No Legal Objection
- NMSS** Office of Nuclear Material Safety and Safeguards
- OGC** Office of the General Counsel
- YMD** Yucca Mountain Directorate
- SER** Safety Evaluation Report

Not Applicable A section of the originally planned report is not needed. Information intended for this section is captured elsewhere in the report.