

August 26, 2014

The Honorable Fred Upton  
Chairman, Committee on Energy  
and Commerce  
United States House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

On behalf of the Commission, I am transmitting the July 2014 monthly status report on the U.S. Nuclear Regulatory Commission (NRC) activities and utilization of unobligated carryover funds appropriated from the Nuclear Waste Fund. This report describes the NRC actions that were taken in July 2014 to address the remand by the U.S. Court of Appeals for the District of Columbia Circuit in *In re Aiken County*, regarding the licensing process for the U.S. Department of Energy's Yucca Mountain license application.

Please feel free to contact me or Eugene Dacus, Acting Director, Office of Congressional Affairs, at (301) 415-1776 if you have questions or need more information.

Sincerely,

**/RA/**

Allison M. Macfarlane

Enclosure:  
[As stated](#)

cc: Representative Henry A. Waxman

Identical letter sent to:

The Honorable Fred Upton  
Chairman, Committee on Energy  
and Commerce  
United States House of Representatives  
Washington, DC 20515  
cc: Representative Henry A. Waxman

The Honorable John Shimkus  
Chairman, Subcommittee on Environment  
and the Economy  
Committee on Energy and Commerce  
United States House of Representatives  
Washington, DC 20515  
cc: Representative Paul Tonko

The Honorable Barbara Boxer  
Chairman, Committee on Environment  
and Public Works  
United States Senate  
Washington, DC 20510  
cc: Senator David Vitter

The Honorable Sheldon Whitehouse  
Chairman, Subcommittee on Clean Air  
and Nuclear Safety  
Committee on Environment  
and Public Works  
United States Senate  
Washington, DC 20510  
cc: Senator Jeff Sessions

The Honorable Ed Whitfield  
Chairman, Subcommittee on Energy  
and Power  
Committee on Energy and Commerce  
United States House of Representatives  
Washington, DC 20515  
cc: Representative Bobby L. Rush

The Honorable Harold Rogers  
Chairman, Committee on Appropriations  
United States House of Representatives  
Washington, DC 20515  
cc: Representative Nita Lowey

The Honorable Mike Simpson  
Chairman, Subcommittee on Energy  
and Water Development  
Committee on Appropriations  
United States House of Representatives  
Washington, DC 20515  
cc: Representative Marcy Kaptur

The Honorable Dianne Feinstein  
Chairman, Subcommittee on Energy  
and Water Development  
Committee on Appropriations  
United States Senate  
Washington, DC 20510  
cc: Senator Lamar Alexander

**U.S. Nuclear Regulatory Commission Monthly Status Report  
Activities Related to the Yucca Mountain Licensing Action  
Report for July 2014**

**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, continues to make appropriate progress toward completing the four remaining volumes of the safety evaluation report (SER). Attached is the task tracking tool, “Status of Safety Evaluation Report (SER) Chapters and Volume Tasks,” which documents work completed through July 31, 2014. The SER task tracking tool has been updated with the notation “Not Applicable” for a few sections that are not needed because the information originally intended for these sections is captured elsewhere in the report.

The majority of chapter milestones have been completed on time or ahead of due dates; management provides additional oversight and support for any chapter that does not meet the projected schedule. Management and staff are actively working to resolve delays in those chapters that have not met their due dates. As a result, the final volume end dates have not changed. Completion of the SER remains the staff’s highest priority for this project and is on track for completion by January 2015.

Agency attorneys provided support to the staff and the Commission on project activities and advised the staff on issues related to SER development and continued reviewing draft chapters of the SER.

**Schedule and Cost for Remaining Activities**

Completion of the SER is scheduled to take approximately 12 months, ending in January 2015. To date, no unforeseen technical or process issues have arisen that would affect the completion date. SER activities are proceeding within the September 2013 budget estimate of \$8.3 million.

Enclosure

The schedule for completion of an environmental impact statement (EIS) supplement is currently being considered. On February 28, 2014, DOE informed the NRC that it would not complete an 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*. NRC is awaiting receipt of the update to the 2009 technical report.

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, pending a reassessment of available funding in the fall of 2014. The previous cost estimate of \$625,000 for an adoption determination of a DOE-developed EIS supplement would be revised to account for an NRC-developed EIS supplement as part of the fall 2014 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 at an estimated cost of \$350,000. The Commission has also directed that, pending a reassessment of available funding in the fall of 2014, the LSN document collection should be loaded into a publicly accessible library in ADAMS.

The staff's February 2014 estimate 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, will require approximately \$750,000 over the course of the project has not changed.<sup>1</sup>

The total cost estimate for the work described above as of July 31, 2014, is projected to be approximately \$10 million.

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<sup>1</sup> This total does not include any potential agency liabilities from external litigation.

## Nuclear Waste Fund Expenditures

During the month of July, the NRC expended \$1,044,049 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 \$6,043,683. The August 13, 2013, balance of \$13,549,315 of unexpended NWF funding, less the \$6,043,683, results in a remaining unexpended balance of \$7,505,632. Total unobligated NWF funds remaining as of July 31, 2014, are \$5,985,518. The following table provides further details regarding the NRC's expenditure of NWF funds since August 13, 2013.

| <b>Yucca Mountain Licensing Activities</b>                                    | <b>Cost Estimate</b> | <b>July Expenditures</b> | <b>Cumulative Expenditures</b> |
|---|----------------------|--------------------------|--------------------------------|
| Completion of the safety evaluation report                                    | \$8,310,000          | \$1,029,900              | \$5,082,636                    |
| Loading of Licensing Support Network documents into a nonpublic ADAMS library | \$350,000            | \$0                      | \$272,240                      |
| Development of the environmental impact statement supplement*                 | \$625,000            | \$0                      | \$47,427                       |
| Program planning and support  |                      | \$14,149                 | \$281,329                      |
| Response to the August 30, 2013, Commission Order                             |                      | \$0                      | \$137,518                      |
| Federal court litigation**  |                      | \$0                      | \$148,056                      |
| Support/Advice in NRC proceedings   |                      | \$0                      | \$35,535                       |
| Subtotal, other support costs chargeable to NWF funds                         | \$750,000            | \$14,149                 | \$602,438                      |
| Adjustments to close out contracts funded by previous NWF appropriations      |                      | \$0                      | \$38,942                       |
| <b>Total</b>  | <b>\$10,035,000</b>  | <b>\$1,044,049</b>       | <b>\$6,043,683</b>             |

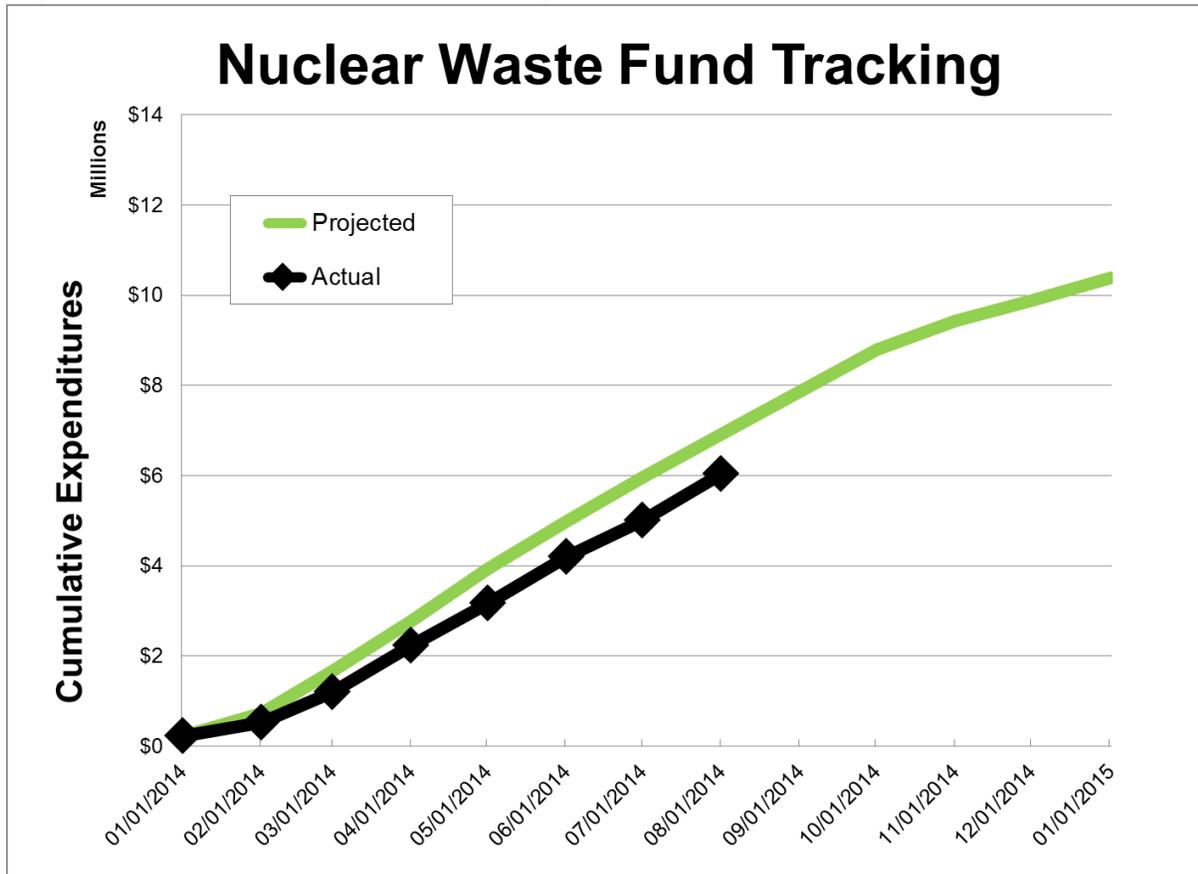
\* The estimate of \$625,000 for an adoption determination of a DOE-developed EIS supplement would be revised to account for an NRC-developed EIS supplement as part of the fall 2014 reassessment of remaining NWF funds consistent with Commission direction.

\*\* 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. The agency has sought the views of the Comptroller General as to whether this payment is properly paid with NWF funds.

The unexpended NWF fund balance of \$7,505,632 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 July 31, 2014, as given in Table 1.

Figure 1. Nuclear Waste Fund Tracking



### Stakeholder Communications and Interactions

Staff is working on updating information about the Yucca Mountain licensing process on the NRC public website to reflect current review activities.

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

Volume 2 - Volume 5

Milestone Achieved as of July 31, 2014

| 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 COMPLETE]                         |

| Volume 2: Review of Repository Safety Before Permanent Closure              |  |  |  |  |  |  |  |            |
|---|--|--|--|--|--|--|--|------------|
| Chapter 1 - Site Description  |  |  |  |  |  |  |  | 07/11/2014 |
| Chapter 2 - Description of Structures, Systems, & Components and Operations |  |  |  |  |  |  |  | 03/27/2014 |
| Chapter 3 - ID Hazard & Initiating Events                                   |  |  |  |  |  |  |  | 06/10/2014 |
| Chapter 4 - ID Event Sequence   |  |  |  |  |  |  |  | 06/10/2014 |
| Chapter 5 - Consequences  |  |  |  |  |  |  |  |            |
| Chapter 6 - ID Structures, Systems, & Components Important to Safety        |  |  |  |  |  |  |  | 05/27/2014 |
| Chapter 7 - Design of Structures, Systems, & Components                     |  |  |  |  |  |  |  | 08/08/2014 |
| Chapter 8 - ALARA   |  |  |  |  |  |  |  |            |
| Chapter 9 - Retrieval   |  |  |  |  |  |  |  |            |
| Chapter 10 - Decontamination & Demolition                                   |  |  |  |  |  |  |  |            |
| Abstract  |  |  |  |  |  |  |  | 09/10/2014 |
| Executive Summary   |  |  |  |  |  |  |  | 09/10/2014 |
| Introduction  |  |  |  |  |  |  |  | 09/10/2014 |
| Glossary  |  |  |  |  |  |  |  |            |
| Conclusions   |  |  |  |  |  |  |  |            |
| Appendices - Not Applicable   |  |  |  |  |  |  |  | 09/24/2014 |

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

Volume 2 - Volume 5

Milestone Achieved as of July 31, 2014

| 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   | 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 |
|--|---------------------------|----------------------------|---------------------|------------------------|--------------------------------|--|-------------------------|--|
| <b>Volume 3: Review of Repository Safety After Permanent Closure</b> |                           |                            |                     |                        |                                |  |                         |  |
| 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                                     |                           |                            |                     |                        |                                |  |                         | 08/13/2014                                 |
| 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  |                           |                            |                     |                        |                                |  |                         | 08/27/2014                                 |
| Appendices - Not Applicable  |                           |                            |                     |                        |                                |  |                         |  |

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

Volume 2 - Volume 5

Milestone Achieved as of July 31, 2014

| 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 |
|---|---------------------------|----------------------------|---------------------|------------------------|--------------------------------|--|-------------------------|--|
| <b>Volume 4: Review of Administrative and Programmatic Requirements</b>     |                           |                            |                     |                        |                                |  |                         |  |
| Chapter 1 - Research & Development Program to Resolve Safety Questions      |                           |                            |                     |                        |                                |  |                         | 09/10/2014                                 |
| 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              |                           |                            |                     |                        |                                |  |                         | 05/13/2014                                 |
| Chapter 12 - Uses of Geologic Repository Operations Area for Other Purposes |                           |                            |                     |                        |                                |  |                         |  |
| Abstract  |                           |                            |                     |                        |                                |  |                         |  |
| Executive Summary   |                           |                            |                     |                        |                                |  |                         | 07/11/2014                                 |
| Introduction  |                           |                            |                     |                        |                                |  |                         | 07/11/2014                                 |
| Glossary  |                           |                            |                     |                        |                                |  |                         |  |
| Conclusions   |                           |                            |                     |                        |                                |  |                         |  |
| Appendices - Not Applicable   |                           |                            |                     |                        |                                |  |                         | 09/10/2014                                 |

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

### Volume 2 - Volume 5

Milestone Achieved as of July 31, 2014

| 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 |
|---|---------------------------|----------------------------|---------------------|------------------------|--------------------------------|--|-------------------------|--|
| <b>Volume 5: License Specifications</b> |                           |                            |                     |                        |                                |  |                         |  |
| Chapter 1 - License Specifications      |                           |                            |                     |                        |                                |  |                         |  |
| Abstract                                |                           |                            |                     |                        |                                |  |                         |  |
| Executive Summary - Not Applicable      |                           |                            |                     |                        |                                |  |                         |  |
| Introduction                            |                           |                            |                     |                        |                                |  |                         |  |

|                    |                                  |                                    |          |                                    |              |            |            |            |
|--------------------|----------------------------------|------------------------------------|----------|------------------------------------|--------------|------------|------------|------------|
| CHAPTER MILESTONES | Volume 5: License Specifications | Chapter 1 - License Specifications | Abstract | Executive Summary - Not Applicable | Introduction | 09/24/2014 | 08/27/2014 | 08/27/2014 |
|--------------------|----------------------------------|------------------------------------|----------|------------------------------------|--------------|------------|------------|------------|

| VOLUME MILESTONES | Camera-Ready Combined File to Branch Chief | Branch Chief Concurrence | SFAS Deputy Director Concurrence | SFAS Director Concurrence | OGC NLO | MMS Office Director Concurrence and Authorization of NUREG Publication | Final SER Volume Published |
|-------------------|--|--------------------------|----------------------------------|---------------------------|---------|--|----------------------------|
| Volume 2          |  |                          |                                  |                           |         |  |                            |
| Volume 3          |  |                          |                                  |                           |         |  |                            |
| Volume 4          |  |                          |                                  |                           |         |  |                            |
| Volume 5          |  |                          |                                  |                           |         |  |                            |

**Abbreviations and Acronyms:**

- NLO** No Legal Objection
- NMSS** Office of Nuclear Material Safety and Safeguards
- OGC** Office of the General Counsel
- SFAS** Division of Spent Fuel Alternative Strategies
- SER** Safety Evaluation Report. This document consists of 5 volumes. Volume 1: General Information (NUREG-1949) was published in August 2010. The remaining volumes are scheduled for completion as noted in the chart above.

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