

**Monthly Status Report to Congress  
Activities Related to the Yucca Mountain Licensing Action  
Report for December 2013**

**Background**

On August 13, 2013, a panel of the U.S. Court of Appeals for the District of Columbia Circuit issued its decision 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. 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 consistent with the decision of the U.S. Court of Appeals for the District of Columbia Circuit in *In re Aiken County*, and with the resources available. The Commission also issued a related Staff Requirements Memorandum (SRM) on November 18, 2013.

**Accomplishments**

In response to the Commission’s November 18, 2013, Memorandum and Order and SRM, the NRC staff has completed a high-level project plan (attached) that outlines the process, path forward, and schedule to issue the remaining Safety Evaluation Report (SER) volumes for the DOE’s construction authorization application for the Yucca Mountain geologic repository, and to address initial activities related to the Environmental Impact Statement (EIS) supplement. The agency also plans to load the Licensing Support Network (LSN) documents into the NRC’s Agencywide Documents Access and Management System (ADAMS) as nonpublic documents. The NRC staff has also completed a division realignment within the Office of Nuclear Material Safety and Safeguards to implement these actions. Many staff have been reassigned and review of previously SER material has started. Additional staff reassignment and efforts to rehire certain retired annuitants continue. Additionally, a Statement of Work was developed for technical support from the Center for Nuclear Waste Regulatory Analyses.

Agency attorneys have continued their work on Federal court litigation related to the license application, including the petition for review before the District of Columbia Circuit seeking the recusal of Chairman Macfarlane from the licensing process. In addition, agency attorneys have performed work either representing the staff in connection with motions for reconsideration and clarification of the Commission’s order of November 18, 2013, or advising the Commission concerning the disposition of these motions.

**Schedule and Cost for Remaining Activities**

Completion of the SER is scheduled to take approximately 12 months, ending in January 2015. This schedule assumes that no unforeseen technical or process issues arise. The effort to load the LSN document collections into nonpublic ADAMS is scheduled to be completed in May 2014, barring any unforeseen technical or process issues.

Enclosure

In its Memorandum and Order, the Commission requested that the DOE complete the EIS supplement. The NRC staff understands that the DOE intends to complete the supplement. The NRC staff's approach and schedule for its potential adoption determination of the supplement is being developed, and is contingent upon the DOE's schedule for completing the supplement.

The best estimate for the cost of the remaining activities continues to be the information provided by the staff to the Commission in September 2013. At that time, the staff estimated the cost of completing the remaining SER volumes to be approximately \$8.3 million. The staff's estimate for the review and adoption determination of an EIS supplement issued by DOE was \$625,000. In addition, the agency estimated that \$700,000 is needed to complete the uploading of documents into ADAMS. Therefore, the total estimated cost for these remaining activities is approximately \$9.6 million.

### **Nuclear Waste Fund Obligations**

During the month of December, the NRC incurred additional obligations of \$79,142 of Nuclear Waste Fund (NWF) funds on its actions in direct response to the Court's decision. Cumulative obligations since the August 13, 2013, U.S. Court of Appeals decision are \$230,368. Total unobligated NWF funds remaining as of December 31, 2013, are \$13,025,657. The table below provides further details regarding NRC's obligation of NWF funds since August 13, 2013.

<b>Status of NRC NWF Funds Since the August 13, 2013, Court Decision</b>		
<b>Yucca Mountain Licensing Activities</b>	<b>December Obligations</b>	<b>Cumulative Obligations</b>
Completion of the Safety Evaluation Report	\$5,886	\$5,886
Loading of Licensing Support Network Documents into ADAMS	\$7,586	\$7,586
Adoption of the Environmental Impact Statement Supplement	\$0	\$0
Program Planning and Support	\$10,995	\$10,995
Response to the August 30, 2013 Commission Order	\$12,099	\$137,519
Federal Court Litigation	\$25,212	\$51,018
Support/Advice in NRC Proceedings	\$17,364	\$17,364
<b>Total</b>	<b>\$79,142</b>	<b>\$230,368</b>

In December 2013, a total of \$2.2 million of previously appropriated NWF funds were deobligated from contracts with the NRC-sponsored Center for Nuclear Waste Regulatory Analyses (CNWRA). The Commission is providing staff with additional instructions to ensure the best use of these funds. Previously appropriated NWF funds in the amount of \$293,290 remain unexpended but obligated on contracts with the CNWRA.

### **Stakeholder Communications and Interactions**

The NRC staff has initiated outreach activities with the DOE and is planning for a public meeting in the second quarter of fiscal year 2014 to discuss the DOE's plan for moving forward with development of the EIS supplement and the NRC staff's engagement during this process.

**PROJECT PLAN**  
**YUCCA MOUNTAIN REVIEW ACTIVITIES**  
**December 11, 2013**

**Purpose**

This project plan outlines how the U.S. Nuclear Regulatory Commission (NRC) staff will conduct and manage the completion of the NRC Safety Evaluation Report (SER) for the U.S. Department of Energy's (DOE's) license application (LA) for authorization to construct a geologic repository for high-level waste at Yucca Mountain, NV (i.e., NUREG publication).

**Project Scope**

Safety Evaluation: The SER includes a detailed technical review of the general information and the safety analysis report provided by DOE in its LA. The completion of the SER will serve as a basis for the final licensing decision. The current effort to complete the SER builds upon all previously completed technical analyses and modeling, requests for additional information (RAIs) and DOE's responses, published documents, and preparation of internal draft documents. Activities under this scope will end with completion and issuance of the final four remaining SER volumes (i.e., Volumes 2, 3, 4, 5). The duration of this activity is scheduled for approximately 12 months. Note that SER Volume 1 has already been published, and the staff does not foresee a need to revisit, edit, or supplement Volume 1.

Adjudicatory hearings/LSN: The adjudicatory hearings are not being restarted at this time. In addition, the Licensing Support Network (LSN) is also not being reconstituted at this time, but all documents will be promptly loaded as non-public documents into the Agencywide Documents Access and Management System (ADAMS), and all references used in the SER will be publicly available in ADAMS.

EIS supplement: The Commission has requested that DOE complete the Environmental Impact Statement (EIS) supplement. In response to the Commission's request, the NRC staff understands that DOE plans to prepare the EIS supplement, although the detailed approach and schedule need to be developed. Some NRC staff will be required to provide limited coordination and review of DOE's efforts for the EIS supplement and potential adoption determination. The staff has initiated outreach activities with DOE and is planning for a public meeting in the 2<sup>nd</sup> quarter of fiscal year (FY) 2014, to discuss DOE's plan for moving forward with development of the EIS supplement and the NRC staff's engagement during this development process.

## **Organization**

The primary organization within NRC that supports the completion of the SER is the Office of Nuclear Material Safety and Safeguards (NMSS), Division of Spent Fuel Alternative Strategies (SFAS). SFAS is assisted by several other Offices. In addition, the Center for Nuclear Waste Regulatory Analyses (CNWRA), a federally funded research and development center, provides technical support. The Secretary of the Commission and Office of Information Services (OIS) have primary responsibility to ensure that the LSN documents are loaded into ADAMS. In addition, a Yucca Mountain Core Group consisting of the lead organization (NMSS) and other internal stakeholders, such as SECY, Office of Congressional Affairs, Office of Commission Appellate Adjudication, Office of Public Affairs, Office of the General Counsel (OGC), Office of the Chief Financial Officer, OIS, Office of Nuclear Security and Incident Response, and the Atomic Safety and Licensing Board Panel will meet periodically to review the status of the Yucca Mountain activities.

## **Process, Roles, Responsibilities and Steps to Finalize the SER**

This section provides guidance to the NRC and CNWRA staff to complete the review of the DOE LA for authorization to construct a repository at Yucca Mountain.

The roles, responsibilities, and process to complete SER Volume finalization are defined in the following steps:

1. Using previously completed work, the Yucca Mountain Team (YMT) will evaluate a document comparison between published Technical Evaluation Reports (TERs) and the last draft versions of each SER Volume. The YMT will decide whether to revise the TER into an SER or whether it is more efficient to incorporate the TER information into the existing draft SER Volume. For instance, the staff's last draft version of SER Volume 3 contains preliminary regulatory findings that were not included in the Postclosure TER. This draft SER Volume may not include all the technical support from the Postclosure TER. It may make more sense to incorporate the updated technical support information from the Postclosure TER into the draft SER Volume 3 rather than inserting all the findings from the SER back into the TER.

For SER Volume 2, the reverse may be true (i.e., it may be more appropriate to build upon the Preclosure TER, because the draft SER Volume 2 did not progress through the same level of review as was completed for the draft SER Volume 3). Therefore, it may be more efficient to move forward using a draft SER as the working file instead of a TER for one volume (i.e., SER Volume 3) and to use a TER as the working file instead of a draft SER file for a different volume. The YMT will review the documents to determine the most efficient and effective path forward for each volume. Furthermore, the staff will look for efficiencies as it works to complete the SER, such as assigning or reassigning the most appropriate subject matter experts to support this effort, with due consideration of other high-priority agency activities.

2. All files used to develop the draft SER Volumes and associated TER Volumes have been retained and will be located on the CNWRA SharePoint site. Staff will use the CNWRA SharePoint site as the central file management system for completion of the SER. Depending on which option is selected in Step 1 above (i.e., start with last draft version of each SER Volume as the working file or start with the published TER Volume as the working file), the project manager (PM) (with assistance from CNWRA) will deconstruct the combined SER (or TER) volume file back to chapter level files. This will allow multiple reviewers to work simultaneously on each SER volume (at the chapter level) to incorporate changes, updates, and finalize each SER Volume's development. Note that staff will undertake original investigation or inquiry only as necessary to account or adjust for new information (*specific guidance being developed*).
3. Staff will adhere to the project management timelines and identify any issues that may impact schedule and quality to the cognizant Branch Chief for resolution, such as:
  - The most appropriate subject matter experts and other sufficiently qualified staff are not available at the appropriate time to develop the remaining SER Volumes concurrently.
  - There is a delay in the availability of the DOE LSN document collection or DOE is unable to provide the documents to staff in a timely manner.
  - Additional technical information is required from DOE to complete the SER, and DOE does not provide responses to new RAIs in a timely manner to support the NRC's schedule.
  - DOE is unable to complete the EIS supplement in a timely manner.
4. A Chapter Champion will be assigned as the lead author for each of the chapters contained in the four remaining SER volumes. The Chapter Champion consolidates, coordinates, and integrates input from technical reviewers into the development of the SER chapter; ensures that the regulatory bases and technical content provided by the technical reviewers are clearly articulated; and coordinates with other Chapter Champions to ensure the team's input is integrated into the SER. When the Chapter Champion indicates a chapter is ready for management and OGC review, the PM will move the designated chapter (file) into the OGC no legal objection (NLO) folder. Track changes will be made by both management and OGC. Staff will resolve comments using track changes. Once all comments are resolved, the PM will accept changes, and write access will be restricted to technical staff at that time.
5. When the SER volume has been finalized (i.e. changes and updates have been made by staff, management and OGC review has been completed, and concurrence and OGC NLOs have been obtained) the NMSS Office Director will sign Form 426

authorizing publication of the SER Volume as a NUREG. The PM will coordinate with the Publication Branch, Office of Administration, to issue each SER Volume as a final NUREG.

### **Plan for Loading LSN Collection of Documents into ADAMS**

OIS will create a new LSN library in ADAMS to house the LSN collections received by the Office of the Secretary on different types of media (external hard drives, compact disks, and digital versatile disks). During December 2013, OIS will acquire storage to house the new LSN library and 10 workstations to concurrently run multiple instances of a loader application being developed. The loader will add and profile the documents in the collections to the new LSN library. In early January, testing of the loading process after hours will commence and loading of the DOE collection will begin thereafter. The staff expects that experience in loading the documents during the first 2 weeks (approximately 70,000 documents per day) will be used to fine tune the approach and schedule. During February and March, loading of the collections from other parties will proceed in parallel with the DOE collection loading. In March, following completion of the loading of the DOE documents, OIS will begin configuration of user search interfaces and the building of search indexes. In late April and May, other parties' document loading and final testing and delivery will be completed. In parallel, OIS will configure the ADAMS Record Manager to automatically assign proper disposition and retention attributes to the documents in the LSN collections for compliance with the recordkeeping requirements.

### **Organization Structure for NMSS SFAS**

As mentioned earlier, SFAS is the primary division within the NRC responsible for finalizing the Yucca Mountain SER. SFAS will be reorganized to accomplish the new work and be comprised of four branches. One of the four branches will continue to support existing ongoing SFAS work (including science technology, engineering, systems analysis, and related project management). The other three branches (Volume 2, Volume 3, and Volume 4/5/EIS) will be dedicated to supporting the finalization of the Yucca Mountain SER (Volumes 2, 3, 4, and 5) and review of the EIS supplement.

There will be three primary teams matrixed among the three Yucca Mountain branches that will support the finalization of the SER. The teams are outlined below:

#### Preclosure Team:

Primary responsibility: Finalize SER Volume 2

The Preclosure Team will consist of a Branch Chief (BC), one or two Senior Level Advisor(s) (SLs), a PM, a CNWRA volume PM, a Chapter Champion for each of the 10 chapters in SER Volume 2, and NRC/CNWRA technical and administrative support, as needed.

#### Postclosure Team:

Primary responsibility: Finalize SER Volume 3

The Postclosure Team will consist of a BC, an SER PM, a CNWRA Volume PM, a Chapter Champion for each of the 20 chapters in SER Volume 3, and NRC/CNWRA technical and administrative support, as needed.

Administrative and Programmatic Team:

Primary responsibilities: Finalize SER Volumes 4 and 5. Limited coordination and review will also be provided for DOE's development of the EIS supplement and potential adoption determination.

The Admin/Programmatic Team will consist of a BC, an SER PM (Volumes 4 and 5), an EIS PM, a CNWRA volume PM, a Chapter Champion for each of the 12 chapters in SER Volume 4 and one Chapter Champion for SER Volume 5, and NRC/CNWRA technical and administrative support, as needed.

**Schedule**

The staff estimates that with dedicated, focused effort, sufficient staff resources, and no unforeseen technical or process issues, all of the remaining volumes of the SER can be completed and issued within approximately 12 months after the staff initiates work. To complete and publish all remaining SER volumes within the 12-month schedule, the staff assumes that all volumes will be worked on concurrently and issued upon completion (i.e., if an SER Volume is completed earlier than the 12-month schedule, the staff will publish that volume before the other volumes are completed). The 12-month period includes time to establish the review teams for each volume, familiarize staff new to the project with the material, complete the volumes through concurrence, and issue them in final form.

The staff estimates it can reach an adoption decision within 3 months following receipt of the Final DOE EIS supplement. The 3-month timeframe is based on an assumption that staff is able to review a draft supplement issued earlier by DOE. DOE is in its early stage of assessing and planning the development of the EIS supplement. The staff assumes that the technical information on the supplement topics provided by DOE to staff in July 2009 will be a principal input to the supplement, and, following usual National Environmental Policy Act practices, a draft EIS supplement would be issued for comment in advance of the final EIS supplement. Lastly, the staff has begun outreach activities by contacting DOE to plan for a public meeting in the 2<sup>nd</sup> quarter of fiscal year 2014 to understand DOE's intentions for completing the EIS supplement, consistent with Commission direction.

Below is a high-level summary representation of the interrelated schedule and approximate timelines to assemble the YMT, start and finish each SER Volume, load documents into ADAMS, and complete monthly progress reports for both the Commission and Congress. It also identifies a yet-to-be-determined timeline for DOE to start and finish the EIS supplement.

### Yucca Mountain Schedule

