

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD  
Before Administrative Judges:

09-892-HLW-CAB04  
Thomas S. Moore, Chairman  
Paul S. Ryerson  
Richard E. Wardwell

---

In the Matter of	)	May 24, 2010
U.S. DEPARTMENT OF ENERGY	)	Docket No. 63-001-HLW
(High Level Waste Repository	)	
Construction Authorization Application)	)	

---

**U.S. DEPARTMENT OF ENERGY ANSWERS TO ASLB QUESTIONS FROM ORDER  
(Questions for Several Parties and LSNA) DATED APRIL 21, 2010**

**1. DOE Document Description**

- 1.1. Are there any other components to DOE's LSN document collection (LSNdc) besides those groups presented in Attachment A to DOE's 2/4/10 Filing (i.e., the Record Information System/Records Processing Center (RIS) collection, emails, paper files, and electronic files)?

**Response to Question 1.1.:**

No.

\*\*\*

- 1.2. Does DOE's use of the phrase "LSN collection" in its filings refer to the RIS collection, or does DOE consider the entire collection as a single entity (i.e., the entire collection of RIS, emails, paper files, and electronic files)?

**Response to Question 1.2.:**

DOE uses the phrase "LSN collection" to mean the entire collection of documents (whether full text or header only) available on its LSN participant website. For

purposes of responding to the Board’s questions, DOE’s references to the “LSNdc” shall mean DOE’s LSNdc unless otherwise specifically noted.

\*\*\*

- 1.3. For each of the components (i.e., RIS collection, emails, paper files, and electronic files):

- 1.3.1. Provide a general description for each component group;

**Response to Question 1.3.1.:**

RIS – This component consists of the subset of documents from the OCRWM Records Information System (RIS) that are in the LSNdc. Documents in the RIS are OCRWM records that are designated for retention as federal records.

Email – This component consists of the subset of documents from the OCRWM email system that are in the LSNdc. It consists of email messages and documents attached to those emails.

Paper files – This component consists of the subset of paper documents collected from DOE and contractor organizations that are in the LSNdc. These documents were collected as part of DOE’s effort to identify documentary material for inclusion in the LSN.

Electronic Files – This component consists of the subset of documents collected from DOE and contractor organizations on electronic media other than the RIS and OCRWM email system that are in the LSNdc. These documents were collected as part of DOE’s effort to identify documentary material for inclusion in the LSN.

\*\*\*

- 1.3.2. List the types of records that are in each component (e.g., text files, image files, bibliographic header, etc.) and the relative percentage (based on page count) for each file type;

**Response to Question 1.3.2.:**

Each full-text document in the LSNdc, regardless of its component source, has three types of associated records: a bibliographic header, a text file, and one or more image files. Each privileged document and document not suitable for imaging has only one bibliographic header file per document and no text or image files. Of the total files in the LSNdc, approximately 82.45% are image files, 8.76% are text files, and 8.79% are header files. Those percentages are allocated among the components of the LSN as follows:

Component	Approximate % of Total Files that Are Image Files	Approximate % of Total Files that Are Text Files	Approximate % of Total Files that Are Header Files
Efile	4.55%	0.23%	0.23%
Paper	7.92%	1.68%	1.69%
RIS	33.23%	2.96%	2.96
Email	36.76%	3.90%	3.91%
Total	82.45%	8.76%	8.79%

Approximately one-half of the 3.6 million documents in DOE's LSNdc are more than one page. While the images of multi-page documents are generally separated into multiple image files, the number of text files for a document do not always match the number of pages of that document when it is displayed as an image. Thus, the above chart does not provide the relative percentage based on page count because that would require DOE to speculate as to how many pages make up any one text file.

\*\*\*

- 1.3.3. Summarize the various formats making up each component (TIFF, BMP, JPEG, DOC, PDF etc.), and the relative percentage (based on page count) for each format;

**Response to Question 1.3.3:**

The bibliographic headers are in one format only--XML. The text files are in one format only--HTML. The image files are in either TIFF (for bitonal images) or JPEG (for color images). The relative percentages of the image files in these two formats by component of the LSNdc are as follows:

Component	Approximate % of Images that Are TIFF	Approximate % of Images that Are JPEG
Efile	86%	14%
Paper	94%	6%
RIS	92%	8%
Email	82%	18%

\*\*\*

- 1.3.4. Discuss the current physical location and explain the type of storage media for each of the LSNdc components.

**Response to Question 1.3.4:**

The files that comprise the LSNdc are stored on hard drives on servers in the computer room of the DOE Hillshire facility in Las Vegas, Nevada. DOE maintains a copy of the LSNdc on hard drives on servers at a Continuity of Operations (COPS) site at a facility in Arlington, Virginia operated by DOE's Automated Litigation Support (ALS) Contractor, CACI, Inc. CACI also maintains back-up tapes that contain a complete copy of the LSNdc at an Iron Mountain off-site storage facility.

\*\*\*

- 1.4. In regard to the native documents used to form DOE's LSN collection:

- 1.4.1. What percentage are paper documents?

**Response to Question 1.4.1:**

Paper – 19 % of the documents.

\*\*\*

- 1.4.2. What percentage are electronic files?

**Response to Question 1.4.2.:**

RIS, email and electronic files (E-files) – 81% of the documents.

\*\*\*

- 1.4.3. Where are the native documents located?

**Response to Question 1.4.3.:**

The native files for the RIS and email collections are maintained in electronic form at DOE's facilities in Las Vegas, Nevada. For the RIS, email and efile collections, CACI maintains at its facilities in Arlington, Virginia copies of the electronic files it received in the native format in which it received them. For the paper collection, CACI created an electronic copy of the paper documents it received and that are included in the LSNdc. CACI maintains those electronic copies and, in most instances, returned the original paper copy to the submitting organization.

\*\*\*

1.4.4. Are there any backups to the paper documents?

**Response to Question 1.4.4.:**

Yes. In addition to the copy of the LSNdc maintained at the COPS facility, CACI maintains a backup electronic copy of all the paper documents included in the LSNdc.

\*\*\*

1.4.5. Are there any backups to the electronic documents?

**Response to Question 1.4.5.:**

Yes. In addition to the copy of the LSNdc maintained at the COPS facility, CACI maintains a backup electronic copy of all the electronic files in the LSNdc (*i.e.*, the RIS, email and efile components).

1.5. How will the underlying data/databases represented in DOE's LSNdc by technical data information forms (TDIF) be handled at termination, specifically addressing the following:

1.5.1. What is the status of the following databases, and any other databases that are part of the Technical Data Management System (TDMS):

- Geographic Nodal Information Study and Evaluation System (GENESIS);
- Site and Engineering Properties (SEP);
- Reference Information Base (RIB);
- Geographic Information (GI);
- Requirements Traceability Network Database (RTN);
- Model Warehouse Data Database (MWD);
- Standards/Constants/Conversions Database (SCC);
- System Performance Assessment Datasets (SPA);
- Environmental Impact Statement Datasets (EIS);
- Waste Form Characteristics Database (WFC);
- License Application Data Datasets (LAD);
- Chemical Species Thermodynamics Database (CST);
- Repository Design Input Datasets (RDI);
- Technical Data Parameters Database (TDP);
- Site Characteristics Datasets (SCD);
- Viability Assessment Database (VAD).

**Response to Question 1.5.1.:**

The following databases are currently active. Upon termination of the program, they will be preserved in compliance with requirements of the Federal Records Act and DOE regulations and orders. DOE expects that would be a 25-year retention period under DOE’s existing R&D schedule. To the extent information in these databases constitute documentary material, that information is included in the LSNdc and will be retained through that means as well.

<b>Name</b>	<b>Status</b>
Automated Technical Data Tracking (ATDT)	Active
Graphic Information (GI)	Active
Model Warehouse Data (MWD)	Active
SEP Site and Engineering Properties (SEP)	Active
System Performance Assessment (SPA)	Active
Technical Data Parameter Dictionary (TDP)	Active

The remaining databases listed in the question do not exist. In some instances, they were merged into other databases. In other instances the databases were never TDMS system components.

\*\*\*

- 1.5.2. Are the databases relevant documentary material under the definitions in 10 C.F.R. Part 2, Subpart J?

**Response to Question 1.5.2.:**

No. The data in these databases were submitted to the RIS and, to the extent such data qualified as documentary material, made available in the LSNdc as part of the RIS component.

\*\*\*

1.5.3. Are these databases currently online?

**Response to Question 1.5.3.:**

The referenced databases are not currently online via the Internet. Yucca Mountain project personnel access active project databases via the DOE OCRWM internal network.

\*\*\*

1.5.4. Is the underlying data in these databases still accessible by the parties to this proceeding?

**Response to Question 1.5.4.:**

To the extent the underlying data in these databases qualify as documentary material, the parties to this proceeding still have access to that data through the LSNdc. The parties to the proceeding otherwise do not have access to the databases themselves.

\*\*\*

1.5.5. Is that information accessible by any other means except via the TDIF forms contained in DOE's LSNdc and the DOE RIS, and if so, how?

**Response to Question 1.5.5.:**

Yes. A TDIF form does not contain source data. A TDIF form merely describes a set of data and provides a Data Tracking Number (DTN) for that data. The DTN assigned to the data set is used to identify the participant accession number of documents in the LSNdc that contain the data.

\*\*\*

1.5.6. Is that information traceable back to any of the scientific reports or studies prepared for the License Application (LA) without having access to the TDIF forms in the LSN and RIS (i.e., from the technical database to where/how it was used), and if so, how?

**Response to Question 1.5.6.:**

Yes, through the Document Input Reference System (DIRS) and DTN. Each set of data is identified by a DTN. The DIRS is a reference registry that lists all reports or studies prepared for the license application that use a particular DTN. Yucca Mountain project personnel currently have access to the DIRS.

\*\*\*

- 1.5.7. Is the underlying technical data referenced in the scientific reports or studies prepared for the LA accessible without reference to the data or software location noted on the TDIF forms (i.e., from the report where it was used back to where the source information resides and how it is identified in that database environment), and if so, how?

**Response to Question 1.5.7.:**

Yes, through the DTN.

\*\*\*

- 1.6. What percentage of the content of the DOE's LSNdc is site-specific to Yucca Mountain and what standard did DOE use in determining what is "site specific"?

**Response to Question 1.6.:**

DOE did not establish a standard for defining whether information in the LSNdc is site-specific to Yucca Mountain, nor did it classify documents as site-specific or not. Thus, DOE does not know the percentage of the content of the LSNdc that is site-specific to Yucca Mountain.

\*\*\*

- 1.7. Clarify whether the information contained in the LA on cask design, fabrication and materials reaction to moisture, cask handling systems and subsystems, surface facilities, etc., is generic, site specific, or both (by percent for each type).

**Response to Question 1.7.:**

The term "cask" as used in Question 1.7 appears to be a general usage and may refer to three types of containers: transportation casks used to deliver waste to Yucca Mountain (YM); transportation, aging and disposal (TAD) canisters, either contained within the transportation cask or loaded at YM in the Wet Handling Facility; and the waste package, into which waste is placed prior to disposal. The information contained in the LA on all three cask designs, fabrication, materials reaction to moisture, etc., is generic, but analyzed with a specific focus on satisfying the Yucca Mountain specific conditions.

\*\*\*

## **2. DOE's Document Storage and Retrieval Operations**

- 2.1. What percentage of DOE's LSNdc is stored as single page image files?

**Response to Question 2.1.:**

Each imageable document in the LSNdc has a single text file that includes the entire document, regardless of the number of pages in the document. That file is searchable. With regard to image files, all of DOE's LSNdc image files are stored as single-page images. Approximately one-half of the imageable documents in the LSNdc are single page documents and thus have only a single image file. The other half have one or more image files depending on the length of the document.

\*\*\*

- 2.2. Are any of the records in each of the 4 previously described components (see question [1.3]) stored as complete documents, and if so:

**Response to Question 2.2.:**

Yes. The text for each imageable document in the LSNdc is stored as a single HTML file and thus is stored as a complete document. DOE also provides image files for its LSNdc. These are provided as single page per file in either TIFF (for bi-tonal) or JPEG (for color) formats. These image files are stored in directories (*i.e.*, electronic folders) at the document level, one document per directory. The directory name is the same as the participant accession number of the document with the periods removed. Therefore, all of the images comprising a single document are stored as a complete document at the directory level even though each page is a separate image file.

\*\*\*

- 2.2.1. What is the percentage of total pages that are currently stored as complete documents within each component?

**Response to Question 2.2.1.:**

100% of the text, or HTML, files in the LSNdc are stored as single documents. 100% of the images files are stored as complete documents at the directory level. In approximate terms, one-half of the documents are single-page documents.

\*\*\*

2.2.2. What is the percentage of total pages that are converted to single page TIFF?

**Response to Question 2.2.2.:**

Text files– 0%. Image files – 100% (TIFF format for bi-tonal images constitutes 87% of the image files; JPEG format for color images constitutes 13% of the image files.)

\*\*\*

2.2.3. What is the percentage of total pages that are currently compiled and stored as complete documents within each component?

**Response to Question 2.2.3.:**

100%. The images of each document are compiled and stored as a complete document in an individual directory within the LSNdc. Also, all of the text files are compiled and stored as complete documents.

\*\*\*

2.3. Explain the sequential process by which a DOE document is retrieved from DOE's LSN collection starting from the time a request is received from NRC's LSN portal. In the process of doing this, ensure that the following information is provided:

- details of the hardware system (including the location and number of servers where DOE's document collection resides);
- general overview of the process used to retrieve a DOE document;
- detailed functional description of DOE operating systems and custom codes needed to retrieve a document, including a narrative of the procedure by which the document is recreated and distributed back to the requester through the LSN portal;
- variations, if any, in either the storage or retrieval process for the various document types and a description of the ability to segregate the collection into one of the 4 previously described components should their records status (i.e., temporary or permanent), retention period, and disposition schedule differ.

**Response to Question 2.3.:**

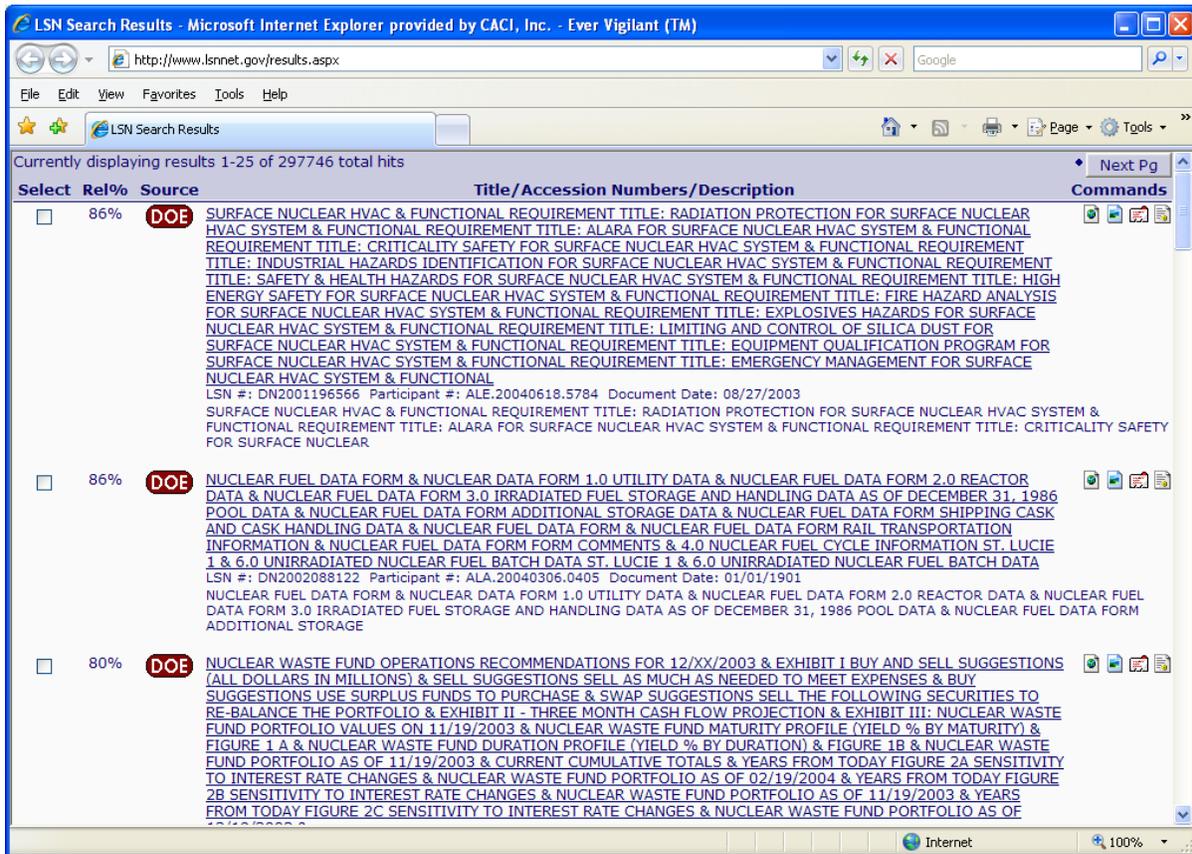
The LSNdc is currently accessed through the NRC LSN portal that connects to two servers at the DOE Hillshire Computer Facility in Las Vegas, NV. The servers are connected to a storage area network (SAN) that provides the storage for the LSNdc.

After completing a search via the NRC LSN portal, a user is provided with a result list that identifies specific documents matching the search criteria. For each listed document there is a clickable title, and several icons displayed. Depending on which

item is clicked, there are varying paths that may be followed to display the selected document.

Following are several “screen shots” that illustrate the process for retrieving and viewing documents from the LSNdc via the NRC LSN portal. The NRC LSN portal provides several alternatives for examining documents; each are presented in turn below.

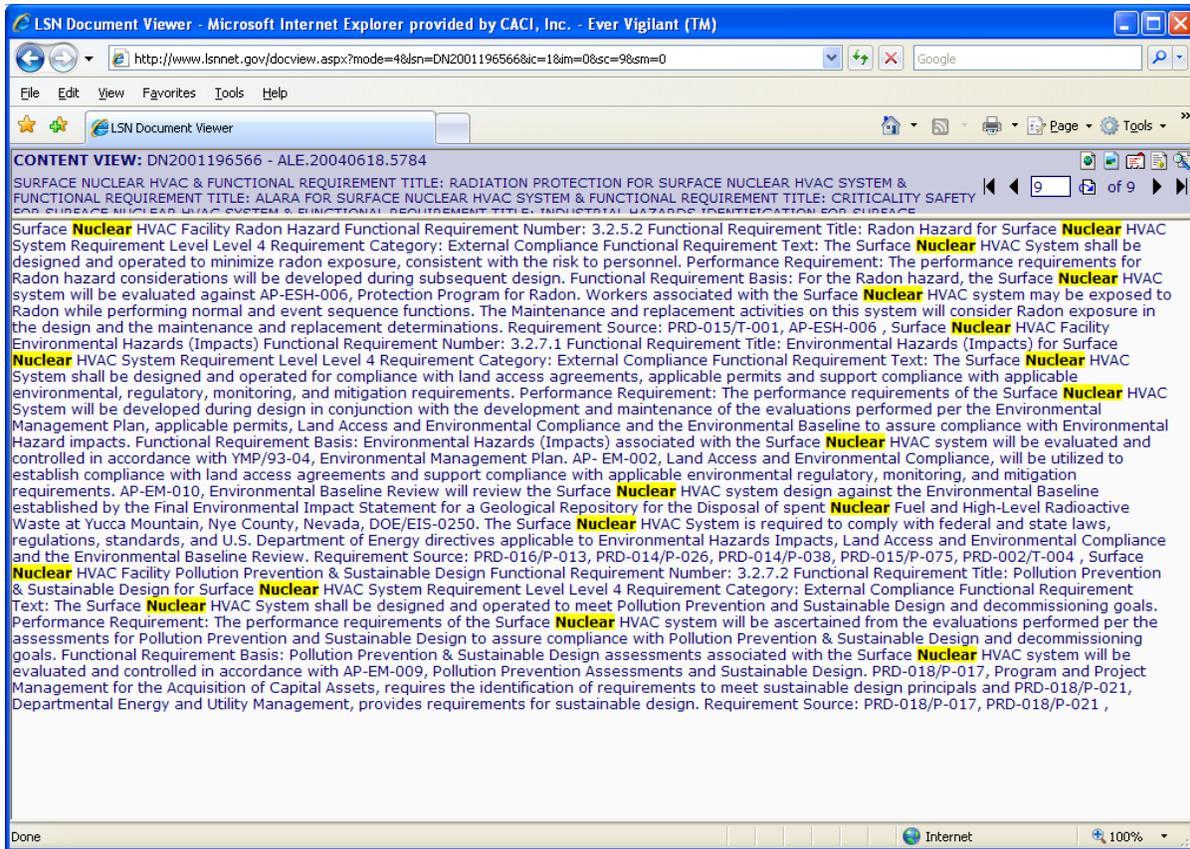
Using the NRC LSN portal to search the LSNdc for documents containing the term “nuclear” generated the screen shot following:



Working from right to left for each result, the user is presented with icons labeled “View the ASCII content of the document,” “View the header field information for this document,” “View the source document images” and “Open this document for viewing in the browser.” Additionally the title of each listed document is clickable.

[See following page.]

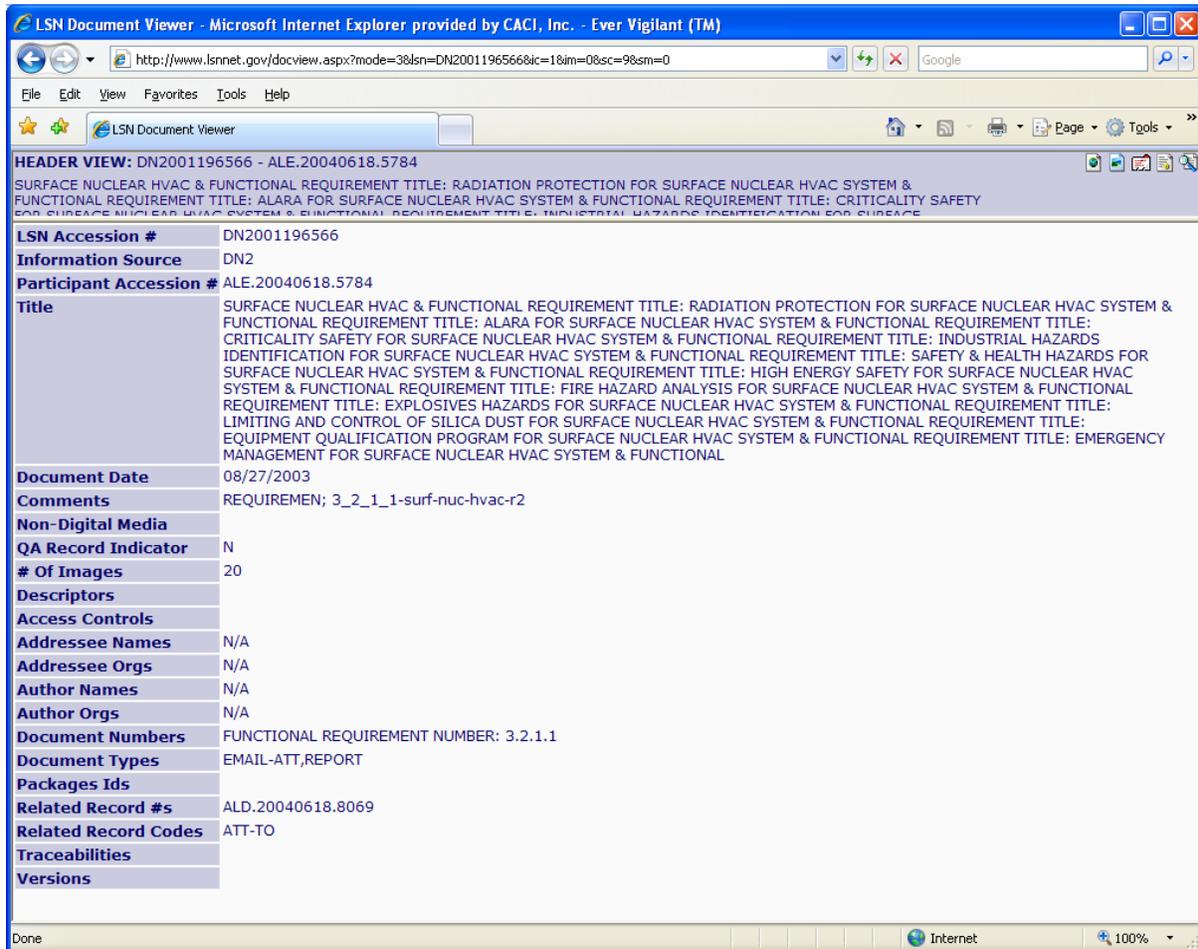




This window displays a page of text from the NRC’s LSN database. All content in this window is from the NRC servers.

[See following page]

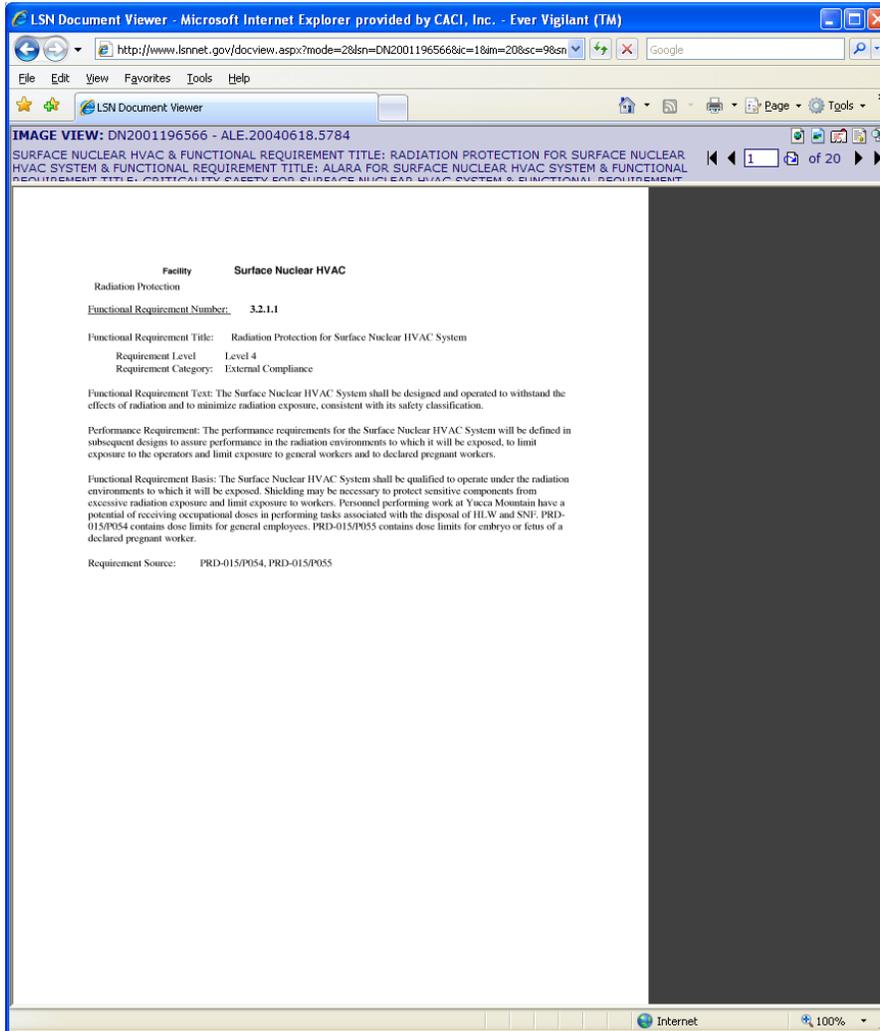
Clicking on the “View the header field information for this document” icon will result in a window similar to the following being opened:



This window displays the document header from the NRC’s LSN database. All content in this window is from the NRC servers.

[See following page]

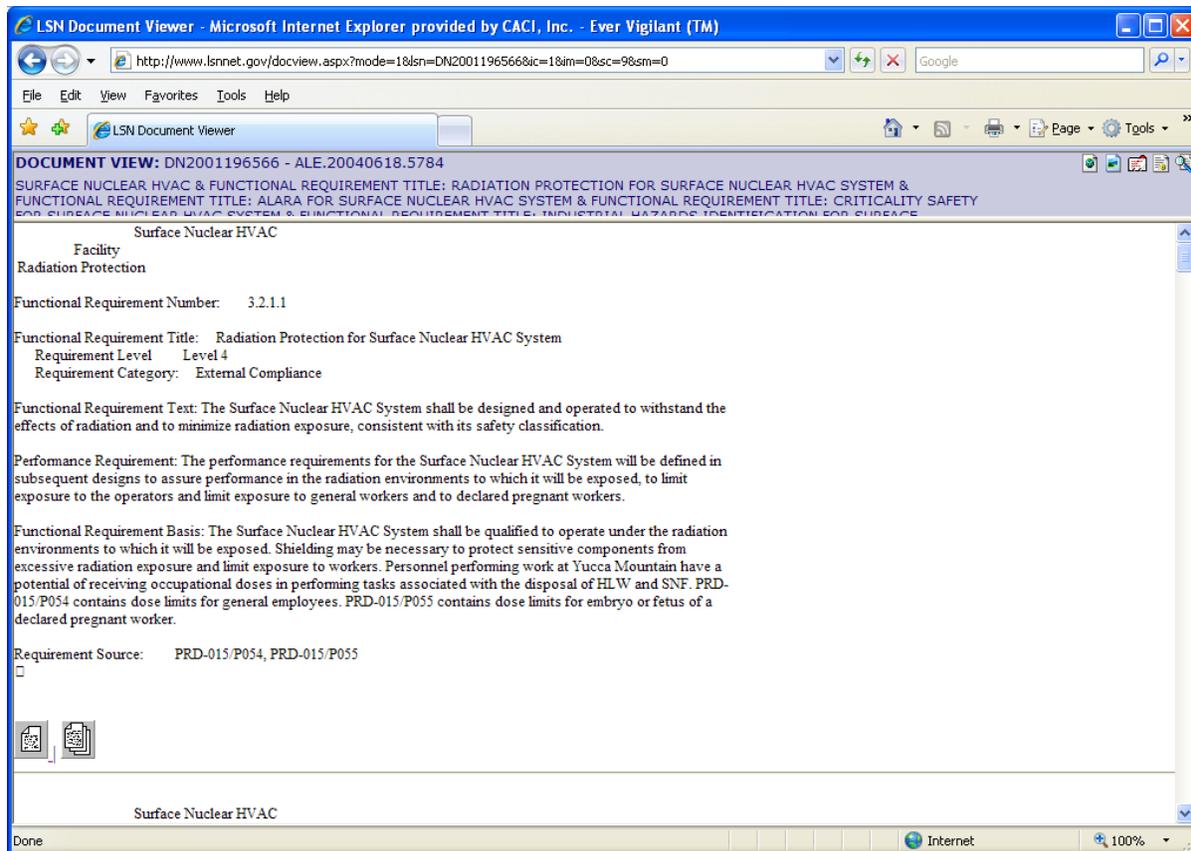
Clicking on the “View the source document images” icon will result in a window similar to the following being opened:



This window displays a navigation bar, with page controls, from the NRC’s LSN system in the top portion of the display (gray bar) and an image from the DOE LSN document collection. The navigation bar is generated entirely from the NRC servers and allows the user to navigate from image to image within the document and move directly to a selected page of the document. The document image in the lower portion of the display is stored on DOE servers, and is sent to the user using a readily available web server with no custom software as a result of a standard web request. In the event that the user clicks the next page icon, another web request is sent to the DOE servers, and the requested page is returned.

[See following page]

Finally, clicking on the “Open this document for viewing in the browser” icon or clicking on the document title will result in a window similar to the following being opened:

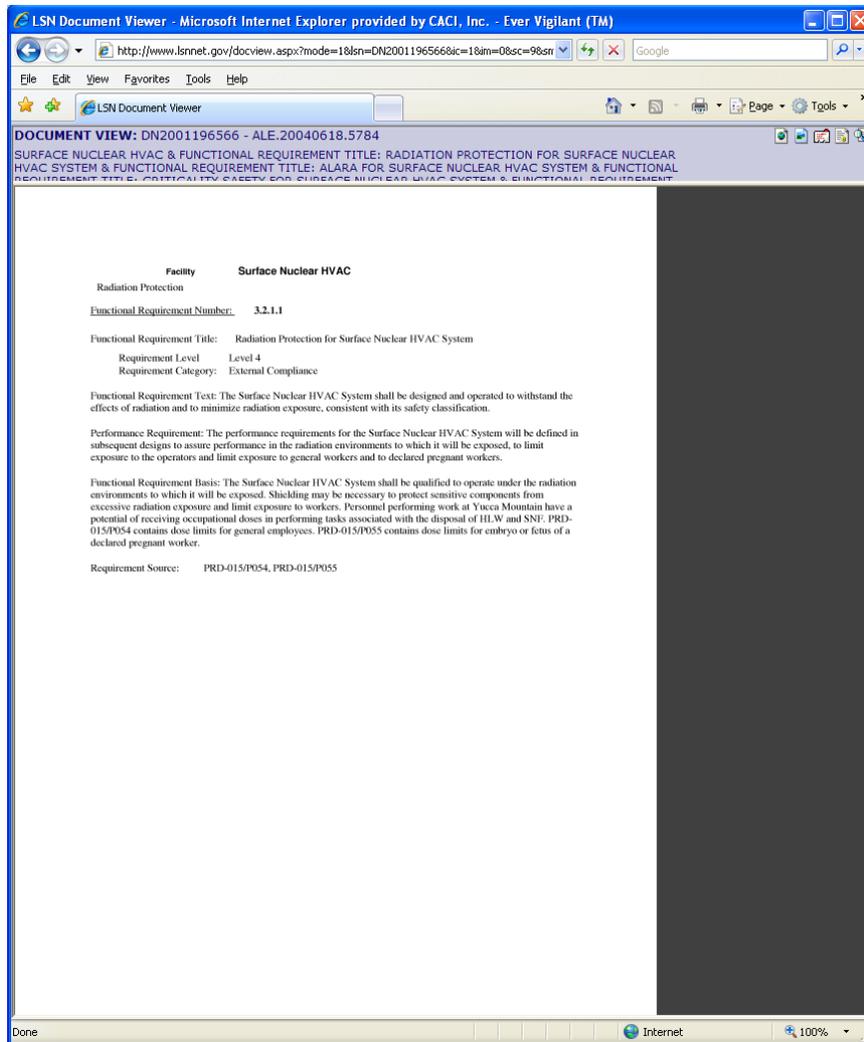


This window displays a summary bar, with minimal document header information, from the NRC’s LSN system in the top portion of the display (gray bar) and an HTML page from the DOE LSN document collection. The summary bar is generated entirely from the NRC servers. The HTML page in the lower portion of the display is stored on DOE servers, and is sent to the user using a readily available web server with no custom software as a result of a standard web request. This HTML page represents the full text for the entire document currently being viewed.

The HTML files representing the full text of the documents in the LSNdc contain two icons inserted between blocks of text. These blocks of text correspond to the images of the document’s pages. The first icon (depicting a picture of a single page of text) allows the user to directly view the image file which corresponds to the preceding block of text. The document image will be displayed in the lower portion of the display and is retrieved from the DOE servers. This image is sent to the user using a readily available web server with no custom software as a result of a standard web request.

The display will look similar to the following:

[See following page]

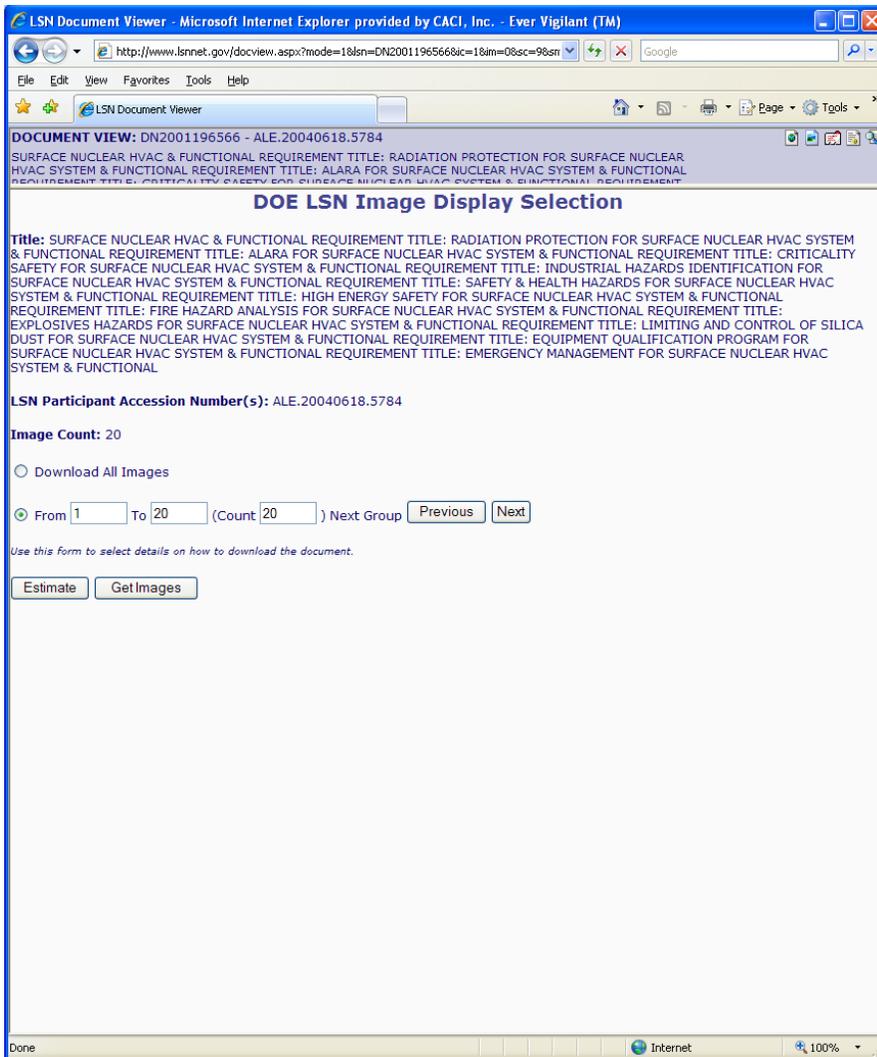


Note that clicking on the first icon will result in the image being displayed with no navigation controls for moving to the next image in this instance.

The second icon (depicting a picture of multiple pages of text) allows the user to access a custom common gateway interface (CGI) that will bundle multiple image pages (up to 100 pages at a time) into a PDF for easy downloading and printing.

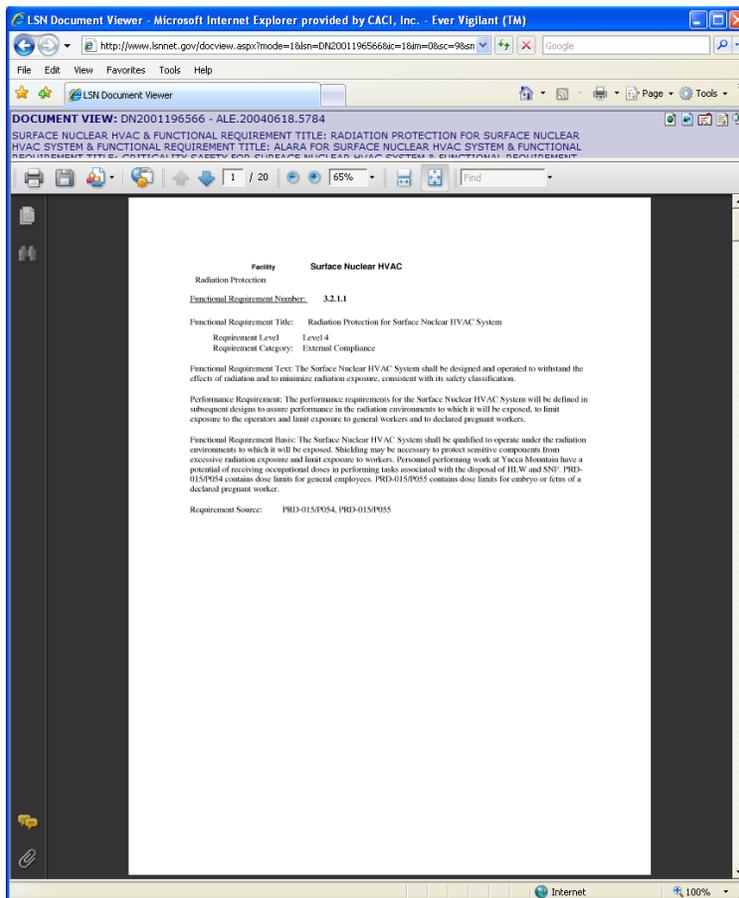
If while viewing the document, the user clicks a link requesting a multipage bundle of the document images, a CGI application (FetchDoc) is executed on the web server. This CGI first displays an HTML page requesting user input related to the request, similar to the following:

[See following page]



[See following page.]

Subsequent activation (by clicking on the ‘Get Images’ button) will result in a PDF image file being generated for the document. This will result in a window similar to:



This PDF is created by opening each of the TIFF or JPEG image files corresponding to the requested document pages and assembling them into a PDF image file. This PDF image file is then delivered to the end user through normal web mechanisms. For most of the documents in the LSNdc the 100 page limit of FetchDoc is sufficient to allow the complete document to be downloaded.

When a document is accessed through the NRC LSN portal, the web request is directed to the servers in the lsnnext.us domain. Each of these machines runs the readily available web-server that responds to the incoming web request and provides the requested document object (html, image or CGI activation).

There are no variations in the retrieval process for any of the documents or images available on the LSNdc through the NRC portal based on the component. Regarding the future archiving and retention process of the LSNdc, as discussed generally in response to the “Government Archiving Process” questions in part 3, NARA is the agency with the ultimate authority to determine the retention period for a document collection and whether sub-groups of that document collection should be archived under a different retention period as a “record series.” DOE will comply with whatever

conditions NARA imposes on the LSNdc, including NARA's federal records appraisal of the LSNdc components.

\*\*\*

2.4. In regards to any DOE custom software required to locate and reformulate a document:

**Response to Question 2.4.:**

Regarding the preface to the questions under 2.4, DOE custom software is not required to locate and reformulate a document in the LSNdc. The NRC software index is used to locate specific documents and specific images. As explained in the answer to Question 2.3 above, when a user of the NRC portal selects a document for viewing, the NRC software index is used to select images and move from image page to image page. This software also allows downloading and printing of individual images. It is not, however, capable of downloading and printing multiple pages. The software DOE has provided, FetchDoc, enables the LSN user to download and print multiple pages (up to a limit of 100 pages at a time) within a DOE document directory. FetchDoc does not reformulate a document because the document is already formulated (*i.e.*, the pages of that document are assembled in proper sequence) within that particular document's directory.

\*\*\*

2.4.1. Does this custom code locate the numerous individual single pages that comprise a document, compile these pages into the single document by retrieving the individual pages from numerous and varying locations within DOE's document servers, and send the document file back to the requestor through the LSN portal?

**Response to Question 2.4.1.:**

Custom code is not needed to retrieve and review on-line the text files and individual image files for a document in the LSNdc. To print multiple pages of a single document at one time from the LSNdc, FetchDoc software assembles the image files that reside in the specific document directory for that document. The software does not retrieve individual pages from "numerous and varying locations within DOE's document servers." The specific image files that FetchDoc assembles for multiple page downloading and printing from a single document are organized within a directory that is specific to that document.

\*\*\*

- 2.4.2. What are the details of the specific steps performed by this custom code, and how does the code interact with the query/response process within the LSN portal?

**Response to Question 2.4.2.:**

If while viewing the text of a document via the LSN portal, a user clicks a link requesting a multipage bundle of the document images on the LSNdc, FetchDoc is executed on the DOE web server. FetchDoc first displays an HTML page that requests user input on how many pages are desired to be downloaded. Clicking on the 'Get Images' button will result in a PDF being generated for the document. FetchDoc opens each of the TIFF and/or JPEG image files corresponding to the requested document pages and assembles them into a PDF image file. This PDF image file is then delivered to the user. FetchDoc does not interact with the 'query/response process within the LSN portal.'

\*\*\*

- 2.5. What is the status of the project facilities in Nevada and what effect, if any, do any of the "shut down" activities have on the retention and future archiving of the DOE's LSNdc?

**Response to Question 2.5.:**

DOE plans to shut down the Hillshire facility that stores the LSNdc servers at which time those servers will be taken off line. Prior to the closure of this facility, public access to the LSNdc through the NRC LSN portal will be shifted to the servers at the COPS site in Arlington, Virginia. This transfer will be seamless and will not interrupt public access. The servers at the COPS facility will provide the same functionality as the servers at Hillshire, and will operate in the same manner as described in the answer to Question 2.3. This transfer will not affect the retention and future archiving of the LSNdc.

\*\*\*

- 2.6. Do the shut down procedures have any effect on the backup capabilities of the LSN?

**Response to Question 2.6.:**

There will be no effect on the NRC LSN portal, and as discussed in response to Question 2.5, public access to the LSNdc will be transferred to the servers at the COPS facility before the Hillshire facility is shut down. Also, DOE maintains backup tapes of its LSNdc. Transferring access to the LSNdc from the Hillshire, Nevada facility to the COPS facility will not affect DOE's maintenance of those backup tapes.

The only consequence of the shut down procedures will be that DOE will not have a standby set of servers with a duplicate of the LSNdc already loaded. However, the backup tapes would enable reconstruction of the LSNdc and loading onto another set of servers in the unlikely event of a total loss of the servers at the COPS facility caused by catastrophic event like a fire or flood. As of now, and unless the Board instructs otherwise, DOE does not propose to maintain the ability to have a duplicate version of the LSNdc on a redundant set of servers to provide a replacement within minutes in the event of an outage of its LSNdc servers caused by a catastrophic episode. It would cost DOE more than \$100,000 in labor to create a near instantaneous backup facility. This estimate does not include the cost of equipment, labor costs to maintain the facility and lease charges that may apply. Given the unlikely occurrence of such a catastrophic event, the current suspension of the proceedings, and the costs DOE would incur, the decision to shut down the Hillshire facility seems reasonable to DOE. If the Board, however, informs DOE otherwise by June 30, 2010, DOE will take the steps necessary to create this duplicate version of the LSNdc on a redundant set of servers.

\*\*\*

- 2.7. As stated in DOE's 2/4/10 Filing, will DOE preserve and archive its project records after final appellate review in compliance with federal requirements and consistent with DOE's objective of preserving the core scientific knowledge from the Yucca Mountain project?

**Response to Question 2.7.:**

Yes.

\*\*\*

- 2.8. As long as the LSN is operational, what organization/contractor will be available to resolve ongoing document integrity issues on the LSN?

**Response to Question 2.8.:**

OCRWM will continue that function until July, 2010. DOE currently expects that its Office of Legacy Management (LM) will then assume that function. No matter which DOE organization assumes that function, however, DOE is committed to maintaining its LSNdc until there is a non-appealable final order and the proceeding is terminated. DOE's Automated Litigation Support contractor (currently, CACI) will continue to support that function as well..

\*\*\*

- 2.9. Absent an LSN portal, to what degree will the DOE data be available (including the degree of availability for electronic access) to the general public and current and future scientific and engineering endeavors?

**Response to Question 2.9.:**

By “DOE data,” DOE understands the Board to mean the files that constitute the LSNdc. DOE further understands that the question refers to the period after the exhaustion of all appeals in the licensing proceeding and the proceeding is terminated. At that time, the files that comprise the LSNdc will be on magnetic tapes that will be maintained by DOE’s LM. The tapes will be stored in a facility in Morgantown, West Virginia, and the data, including a PDF image of each document, will be loaded onto a storage area network which can be electronically searched and retrieved. The public can make requests for documents on these tapes and servers through LM.

\*\*\*

**3. Governmental Archiving Process**

- 3.1. Is the National Archives and Records Administration (NARA) the agency that has the authority to determine record status (i.e., temporary or permanent) and is its decision based on information obtained from the process initiated by an agency submitting a SF-115 application for the disposition of federal records?

**Response to Question 3.1.:**

NARA is the agency that has the ultimate authority to make determinations of “temporary” or “permanent” status for records. 36 C.F.R. § 1220.12. NARA bases these determinations on the SF-115, its own research, communications with the agency, and NARA’s Appraisal Policy. See NARA’s Appraisal Policy, publicly available at <http://www.archives.gov/records-mgmt/initiatives/appraisal.html#appendix-1>. In addition, NARA invites the public to comment on NARA’s initial record status appraisal (i.e., temporary or permanent). See 44 U.S.C. § 3303(c). NARA provides a publication of notice in the Federal Register advising the public of NARA’s initial appraisal. The public may then request a copy of NARA’s appraisal report, and provide to NARA its comments on that appraisal report.

\*\*\*

- 3.2. What is NARA’s definition of a record [and]:

**Response to Question 3.2.:**

The NARA definition of “record” is that in the Federal Records Act:

Records include all books, papers, maps, photographs, machine readable materials, or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations or other activities of the Government or because of the informational value of the data in them.

44 U.S.C. § 3301.

\*\*\*

3.2.1. How does it differ, if at all, from its definition of an item or a document?

**Response to Question 3.2.1.:**

NARA does not define the terms “items” or “documents.”

\*\*\*

3.2.2. What is NARA’s lowest basic unit?

**Response to Question 3.2.2.:**

NARA does not use the term “lowest basic unit.” NARA does not appraise a document collection submitted to it on a document-by-document or item-by-item basis. Rather, NARA conducts its analysis at the record series level. NARA defines a “record series” as “file units or documents arranged according to a filing or classification system or kept together because they relate to a particular subject or function, result from the same activity, document a specific kind of transaction, take a particular physical form, or have some other relationship arising out of their creation, receipt, or use, such as restrictions on access and use.” 36 C.F.R. § 1220.18.

\*\*\*

3.3. Is it DOE’s understanding that NARA permits preserving undifferentiated pages of material as opposed to archiving complete documents?

**Response to Question 3.3.:**

DOE does not view its LSNdc as consisting of “undifferentiated pages of material.” NARA will permit archiving of the LSNdc in its present structure and format (with the possible exception that compressed TIFF files and the JPEG image files may need to be changed to comply with NARA resolution requirements, absent an exemption from

those requirements, in the event NARA appraises the LSNdc as permanent). DOE's file formats (*i.e.*, TIFF, HTML, and XML) otherwise comply with NARA's published guidance. DOE's determination is based on NARA's published guidance--*i.e.*, "Expanding Acceptable Transfer Requirements: Transfer Instructions for Existing Permanent Electronic Records Scanned Images of Textual Records."<sup>1</sup>

\*\*\*

3.4. What is the difference between a disposition schedule and a retention period?

**Response to Question 3.4.:**

A "retention period" is "the length of time that records must be kept." 36 C.F.R. § 1220.16. A disposition schedule is a "records schedule." *See id.* § 1220.18. A records schedule includes additional information beyond the retention period such as a description of the records that are the subject of the schedule and transfer instructions to the Federal Records Center. *Id.*

\*\*\*

3.4.1. Does the designation of a disposition schedule depend upon the record status (*i.e.*, temporary or permanent)?

**Response to Question 3.4.1:**

A disposition schedule is prepared regardless of whether records covered by it are appraised as temporary or permanent. The assignment of "temporary" or "permanent" status for a record is reflected in the disposition (records) schedule for the record.

\*\*\*

3.4.2. Are only temporary records given a disposition schedule?

**Response to Question 3.4.2.:**

No. Disposition (records) schedules are required for temporary and permanent records.

\*\*\*

---

<sup>1</sup> <http://www.archives.gov/records-mgmt/initiatives/scanned-textual.html>. *See also* NARA FAQ's About Selecting Sustainable Formats for Electronic Records (NARA documentation expressly identifying TIFF, HTML and XML as sustainable formats suitable for agencies to use for long-term electronic records), available at <http://www.archives.gov/records-mgmt/initiatives/sustainable-faq.html>.

- 3.5. What entity (agency, NARA, or others) determines the disposition schedule for temporary records?

**Response to Question 3.5.:**

NARA has the ultimate authority to determine a record's retention period.

\*\*\*

- 3.6. For temporary records, does NARA dictate the records retention period and disposition schedule for a complete document collection (RIS, emails, electronic files, and paper files) or for individual documents?

**Response to Question 3.6.:**

Pursuant to 44 U.S.C. § 3303(a), NARA has ultimate authority to appraise federal records as temporary or permanent. NARA does not appraise records for their retention period on a document-by-document basis. NARA will assign a record retention period at the record series level as defined by 36 C.F.R. § 1220.18. A complete document collection may be subject to one retention period, or NARA, in consultation with the submitting agency, may classify groups of records into a discrete records series level.

\*\*\*

- 3.7. Does DOE foresee any possibility that NARA may specify different records status for the various components of the collection?

**Response to Question 3.7.:**

It is DOE's understanding based on consultations with NARA that NARA generally specifies one retention period for an entire records collection. Thus, it is likely that NARA will specify one retention period for the entire LSNdc. Nonetheless, it is possible that NARA could specify different retention periods for one or more records series within the LSNdc. NARA defines the term "record series" at 36 C.F.R. § 1220.18, see the response to 3.2.2. NARA makes these determinations based on its investigation of the document collection.

\*\*\*

- 3.8. For DOE records categorized as temporary and that may be stored at a Federal Records Center facility,

- 3.8.1. Will legal title continue to reside with DOE with this storage option?

**Response to Question 3.8.1:**

Yes. 36 C.F.R. § 1232.10 provides that temporary records transferred to a Federal Records Center remain in the legal custody of the submitting agency.

\*\*\*

3.8.2. What other options are available for storage and custody of temporary records?

**Response to Question 3.8.2.:**

In addition to NARA Federal Records Centers, DOE may transfer temporary records to the following types of storage facilities as long as they meet the facility standards in 36 C.F.R. Part 1234 (*see* 36 C.F.R. § 1232.10): (1) NARA-certified records centers operated by or on behalf of Federal agencies other than NARA (*e.g.*, DOE's LM facility in Morgantown, WV); and (2) NARA-certified commercial records storage facilities operated by private entities.

\*\*\*

3.8.3. Would DOE still be responsible for addressing legal and FOIA requests until temporary records are destroyed in accordance with NARA regulations?

**Response to Question 3.8.3:**

Yes.

\*\*\*

3.9. Is the custody of all the records that NARA deems as permanent turned over to the National Archives and what steps are taken to accomplish this transfer?

**Response to Question 3.9.:**

Yes. In accordance with 36 C.F.R. § 1235.22, legal custody of permanent records passes from the agency to NARA when the appropriate NARA official signs a Form SF 258 acknowledging receipt of the records. The general requirements and process for transfers to the National Archives are covered in 36 C.F.R. Part 1235. The specific transfer requirements are set forth in 36 C.F.R. § 1235.18:

Agencies transfer records by submitting a signed SF 258, Agreement to Transfer Records to the National Archives of the United States. Each SF 258 must correlate to a specific records series or other aggregation of records, as identified in an item on the SF 115 or cited on the SF 258.

\*\*\*

- 3.10 What makes a format “suitable for Federal Record Material” as stated in Attachment A to DOE’s 2/4/10 Filing?

**Response to Question 3.10.:**

Formats that are “suitable for Federal Record Material” are those that: (a) are general industry standard formats (*e.g.*, TIFF), rather than proprietary; and (b) have a long life expectancy (like TIFF, versus, *e.g.*, proprietary word processing application formats). For clarification, the column labeled “Format for Federal Record Material” in Attachment A to DOE’s 2/4/10 Filing refers to the formats listed in the Attachment A column labeled “Format in DOE’s LSN Collection.” See also fn, 1 above (identifying NARA documentation that identifies TIFF, HTML and XML as sustainable formats suitable for agencies to use for long-term electronic records).

\*\*\*

**4. DOE Archiving Plans**

- 4.1. In non-technical terms, is not the DOE archiving plan tantamount to asking NARA to accept numerous drums of unnumbered, loose pages from millions of documents mixed between the drums with no way to easily sort them into useable or readily retrievable documents? If not, why not?

**Response to Question 4.1.:**

No. The individual pages that make up the documents in the LSNdc are not “unnumbered, loose pages...with no way to easily sort them into useable...documents.” Rather, the individual pages are stored in directories at the document level. Each directory contains all the component pieces of an individual document. A better analogy is boxes filled with 3-ring binders each containing numerous individual sheets. Each binder would have a cover sheet affixed to the front with detailed bibliographic data containing a description of the binder’s contents. To continue the analogy, the NRC portal site (via the NRC index) currently acts as an automated card catalog that directs a user to the correct box, binder, and sheet based on the search criteria. That identification functionality will be preserved under DOE’s archiving plan.

\*\*\*

- 4.2. If at some point the application is withdrawn and the appellate review exhausted, describe all the specific steps that will be taken to preserve DOE’s LSNdc, assuming that the collection has been deemed as temporary and that the use of the custom code, applicable servers as well as the LSN portal will no longer be supported. As part of this, explain the following:

- 4.2.1. Procedures for re-compiling the documents from the individual pages;

**Response to Question 4.2.1.:**

DOE does not believe that the documents in the LSNdc would need to be re-compiled from individual pages for these purposes. The files that comprise the LSNdc will be put on magnetic tapes and transferred to LM. The tapes will be stored in an LM facility in Morgantown, West Virginia, and the data will be loaded onto a storage area network which can be electronically searched and retrieved in a manner that allows identification and retrieval of full documents. LM will include on that network a separate compiled PDF image of each imageable document.

\*\*\*

- 4.2.2. Requirements for converting the documents into a searchable format;

**Response to Question 4.2.2.:**

The header and text files in the LSNdc are currently in a searchable format. LM would use its replacement index utility to search for documents using those same files. No files would need to be converted for that purpose.

\*\*\*

- 4.2.3. Designation of the retention schedule for the various types of documents including those in the Record Information System/Records Processing Center collection (40%), emails (45%), paper sweep files (10%), and electronic sweep files (5%);

**Response to Question 4.2.3.:**

While the final retention schedule will be determined by NARA, DOE will recommend identical retention schedules for all 4 components of the LSNdc consistent with its consideration of the LSNdc as a single document collection. DOE is currently considering proposing a 100-year retention period for the LSNdc for NARA approval.

\*\*\*

- 4.2.4. Storage type and facility location for the various types of documents;

**Response to Question 4.2.4.:**

DOE will store all the files in the LSNdc on magnetic tapes as well as on multiple servers configured as a storage area network at LM's Morgantown, West Virginia facility.

\*\*\*

4.2.5. Estimated costs to perform this preservation.

**Response to Question 4.2.5.:**

LM has not yet finalized an estimate of the costs to make the magnetic tapes, load them, create PDFs and get the LM storage area network for the LSNdc operational in order to preserve the LSNdc after there is a final non-appealable order terminating the proceeding.

\*\*\*

4.3. If at some point the application is withdrawn and all appellate review is exhausted, describe all the specific steps that will be taken to preserve DOE's LSNdc, assuming that the collection has been deemed as permanent and that the use of the custom code/applicable servers as well as the LSN portal will no longer be supported. As part of this description, explain the following:

4.3.1. Procedures for re-compiling the documents from the individual pages;

**Response to Question 4.3.1.:**

DOE does not believe that the documents in the LSNdc would need to be re-compiled from individual pages for these purposes. However, DOE will satisfy whatever conditions NARA requires in the event NARA appraises the LSNdc as permanent records.

\*\*\*

4.3.2. Requirements for converting the documents into a searchable format;

**Response to Question 4.3.2.:**

The LSNdc is already in a searchable format because it is comprised of searchable text files. However, DOE will satisfy whatever conditions NARA requires in the event NARA appraises the LSNdc as permanent records.

\*\*\*

4.3.3. Storage type and facility location for the various types of documents;

**Response to Question 4.3.3.:**

To be determined by NARA.

\*\*\*

4.3.4. Estimated costs to perform this preservation.

**Response to Question 4.3.4.:**

Unknown.

\*\*\*

4.4. If this proceeding is terminated and in light of the need to locate and compile single pages from DOE's LSNdc to form a complete document,

4.4.1. Is there any means by which DOE's custom software and documentation can be preserved as well?

**Response to Question 4.4.1.:**

Yes, the DOE custom software (FetchDoc) and its associated documentation can be preserved.

\*\*\*

4.4.2. How can it be useable (and not outdated) in a decade or less?

**Response to Question 4.4.2.:**

It will not be necessary to maintain FetchDoc for any extended period. When LM loads the LSNdc onto its storage area network, it plans on using FetchDoc to create a compiled PDF image of each imageable document in the LSNdc and thereafter will preserve those PDF image files. FetchDoc thereafter will not be necessary.

\*\*\*

4.4.3. What effect, if any, would a NARA designation of DOE's documents as a special collection have on the preservation and utility of the archived custom software and documentation?

**Response to Question 4.4.3.:**

None. See the answer to 4.4.2.

\*\*\*

4.5. What is the status of DOE's filing of SF-115 with NARA to initiate the preservation process?

**Response to Question 4.5.:**

DOE's draft SF-115 for its LSNdc is undergoing internal reviews.

\*\*\*

4.6. How long will that process take?

**Response to Question 4.6.:**

Once DOE submits its SF-115, the time NARA will take to approve a disposition schedule for the LSNdc is outside DOE's control. Based on DOE's experience, that process can take up to a year or more to be completed.

\*\*\*

4.7. Confirm that DOE's commitment to "keep the LSN website compliant and accessible via the NRC's LSN portal" until all appellate review is exhausted and these proceedings are terminated means that DOE will not take its LSNdc offline even if NARA grants disposition authority before such time.

**Response to Question 4.7.:**

DOE confirms that commitment.

\*\*\*

4.8. If after all appellate review is exhausted and these proceedings are terminated before a disposition authority is granted by NARA, does DOE anticipate taking its LSNdc offline prior to final NARA action?

**Response to Question 4.8.:**

DOE does not believe it is necessary to keep its LSNdc available through the NRC LSN portal after all appellate reviews are exhausted and this proceeding is terminated, even if NARA has not granted final disposition authority at that time. LM would be able to continue to search for and access documents in the LSNdc in that circumstance.

\*\*\*

4.9. Should the LSN document collection be taken offline while the NARA process is still ongoing,

4.9.1. What media will the database be stored on?

**Response to 4.9.1.:**

The files that comprise the LSNdc will be put on magnetic tapes and loaded onto a storage area network at LM's Morgantown facility. LM additionally will create and store a compiled PDF image of each imageable document in the LSNdc.

\*\*\*

4.9.2. Will it include the application software and any custom software needed to make it work?

**Response to Question 4.9.2.:**

Yes. See answer to Question 4.4.2.

\*\*\*

4.9.3. How will it be stored?

**Response to Question 4.9.3.:**

The files that comprise the LSNdc will be put on magnetic tapes and the data loaded onto a storage area network along with a compiled PDF image of each imageable document. See also the answers to Questions 2.9 and 4.4.2.

\*\*\*

4.9.4. Where will it be stored?

**Response to Question 4.9.4.:**

The LM Business Center in Morgantown, WV.

\*\*\*

4.9.5. What office in DOE will have custodianship during such period?

**Response to Question 4.9.5.:**

LM will have custodianship.

\*\*\*

4.9.6. In nontechnical terms, would not such storage be the equivalent of placing the material on a shelf in a storage room until appropriate disposition can proceed?

**Response to Question 4.9.6.:**

No. The data will be electronically searchable and retrievable by LM records coordinators.

\*\*\*

4.10. In the event that the DOE collection is taken offline and NARA subsequently designates it as “permanent” and requires it to be restructured into utilitarian items (i.e., PDF files of complete documents),

4.10.1. Exactly what steps need to be taken to accomplish that?

**Response to Question 4.10.1.:**

LM will create PDF image files of complete documents after it receives the magnetic tapes containing the LSNdc. Whether NARA would accept these PDF image files as is or whether some files would need to be reconfigured in the event NARA appraises them as permanent records remains to be determined.

\*\*\*

4.10.2. What is the cost?

**Response to Question 4.10.2.:**

Unknown, because DOE does not know what changes NARA might require.

\*\*\*

4.10.3. How long will it take to accomplish this?

**Response to Question 4.10.3.:**

Unknown, because DOE does not know what changes NARA might require.

\*\*\*

4.10.4. How effective would the reconstruction be if the NARA decision is made 6-months after the DOE collection has been taken offline?

**Response to Question 4.10.4.:**

To be clear, under the hypothetical posed in these questions, DOE would not destroy or disassemble the documentary material in its LSNdc. Nor would the directory functionality as described in response to Question 2.2. be destroyed or disassembled. As a result, the six-month time period assumed in Question 4.10.4 would not affect the efficacy of complying with whatever NARA may require.

\*\*\*

4.11. What would be the difference in the steps, costs and schedule if the NARA decision was reached 1, 2, 5, or 10 years after DOE's collection had been taken offline?

**Response to Question 4.11.:**

DOE would not expect there to be a difference in the stated scenarios because of the preservation steps LM will take, as discussed above.

\*\*\*

- 4.12. Is there any requirement that the records status of the DOE LSNdc has to be consistent with permanent designation presently given to NRC's collection?

**Response to Question 4.12.:**

To DOE's knowledge, there is no requirement that designations be the same for records held by two separate agencies.

\*\*\*

- 4.13. Does DOE currently have a records disposition schedule in place for temporary records in either its LSNdc or the underlying technical databases?

**Response to Question 4.13.:**

DOE does not yet have a disposition schedule for its LSNdc. The disposition schedule for the LSNdc will developed following submittal of a SF-115 form for that document collection.

The referenced technical databases are covered by applicable portions of an existing NARA-approved SF 115 as temporary records with a retention period of "project termination plus 25 years" (Department of Energy Research and Development Records Schedule N1-434-96-9, N1-434-07-01, and N1-434-08-02, Revision 2, June 2008<sup>2</sup> (DOE R&D Schedule)).

\*\*\*

- 4.14. For Attachment A in DOE's 2/4/10 Filing,

- 4.14.1. Who designated the retention schedule as "end of project plus 25 years"?

**Response to Question 4.14.1.:**

The DOE R&D Schedule is a DOE-wide, media neutral schedule that has three different retention periods for separate types of documents, one of which is "End of project plus 25 years." That schedule and the records retention periods therein are the product of recommendations by DOE records officials in a SF 115 for the types of records described therein, together with NARA review and approval.

\*\*\*

---

<sup>2</sup> [http://www.cio.energy.gov/documents/RD\\_revised.pdf](http://www.cio.energy.gov/documents/RD_revised.pdf), p. 2.

4.14.2. What was the justification for doing so?

**Response to Question 4.14.2.:**

DOE records officials determined, based on NARA-approved schedules, that these records be retained for 25 years after project termination because the records relate to “[r]esearch that leads to the development of a “first-of-its-kind” process or product, improved an existing process, product or application, or has implications for future research.” DOE R&D Schedule, p.2.

\*\*\*

4.14.3. Why is the retention schedule for native format not applicable for the paper and electronic files?

**Response to Question 4.14.3.:**

The paper and electronic files were not part of the OCRWM project records and came from a variety of sources that may or may not be subject to retention schedules by their respective organizations. To clarify, the N/A on Attachment A does not refer to the copies that were made of these documents and included in the LSNdc.

\*\*\*

4.15. Explain how DOE archiving plans meet DOE's objective of preserving the core scientific knowledge from the Yucca Mountain project?

**Response to Question 4.15.:**

DOE proposes to preserve the LSNdc for 100 years after there is a non-appealable final order and the proceeding is terminated. The public will be able to make requests for access to those documents through DOE’s LM for that entire period.

OCRWM personnel and contractor staff, as well as those other agencies that support the OCRWM program, have also been directed that they must continue to preserve documents that relate to Yucca Mountain, including documents concerning the science of storage or disposal of high-level waste and spent nuclear fuel, even if they are permitted to dispose of such documents under applicable retention schedules. Moreover, DOE has contacted the Nuclear Waste Technical Review Board (NWTRB) about the NWTRB’s interest in providing independent oversight of DOE’s actions in preserving the scientific information that has been developed by OCRWM. The NWTRB could thus review the planned disposition of the relevant scientific information before its disposition in accordance with NARA approved schedules. NWTRB has expressed an interest in such an arrangement, and DOE and NWTRB will discuss how such oversight could be accomplished.

\*\*\*

- 4.16. To date, have any of the components of DOE's LSNdc been designated as permanent or temporary?

**Response to Question 4.16.:**

No.

\*\*\*

**5. Converting and Restructuring DOE's LSNdc**

- 5.1. Does DOE propose to archive any temporary files in their current format (primarily a string of single sheet image files)?

**Response to Question 5.1.:**

DOE will archive the LSNdc in its current format, and LM will additionally create PDF image files of complete documents that will be preserved. To clarify, DOE does not view its LSNdc as "primarily a string of single sheet image files." See, for example, the answer to Question 2.2.

\*\*\*

- 5.2. In reference to DOE's Status Report stating that NARA confirmed that DOE does not have to convert its records that are deemed as temporary to PDF format or restructure its LSN collection, how was this conclusion reached prior to DOE filing an SF-115?

**Response to Question 5.2.:**

The conclusion was reached based on two discussions with NARA officials. DOE's conclusion is also based on NARA's published guidance -- *i.e.*, "Expanding Acceptable Transfer Requirements: Transfer Instructions for Existing Permanent Electronic Records Scanned Images of Textual Records"<sup>3</sup> -- which would apply to the LSNdc if it were designated as permanent records. This guidance does not require conversion to PDF format, but rather indicates a preference for TIFF files, which comprise the bulk of the LSNdc image files.

\*\*\*

---

<sup>3</sup> <http://www.archives.gov/records-mgmt/initiatives/scanned-textual.html>.

- 5.3. Should the records appraisers at NARA direct that the disposition schedules assigned to collections be categorized as “permanent” rather than “temporary,” describe the additional requirements that should be expected from NARA, how long it will take DOE to fulfill those requirements, and how much it will cost?

**Response to Question 5.3.:**

As a general matter, NARA’s requirements for transfer of permanent records to NARA are contained in 36 C.F.R. Part 1235. DOE will comply with such requirements to the extent NARA appraises the LSNdc as permanent. The file formats currently employed by DOE in its LSNdc should comply with NARA’s technical requirements. There may be individual instances when certain records do not conform to NARA requirements, but NARA and DOE will not know what modifications will have to be made to any such records until NARA conducts its investigation of DOE’s LSNdc.

\*\*\*

- 5.4. For files designated permanent, does DOE consider it likely that NARA will require the collection to be reformatted into PDF and restructured into a document collection? Explain.

**Response to Question 5.4.:**

No. The file structure currently employed in the LSNdc meets NARA’s requirements and, as mentioned, DOE will create compiled PDF images of the documents for archiving. There is the possibility that compressed TIFF and JPEG files may need changes absent a waiver from NARA.

\*\*\*

- 5.5. Assuming NARA will require the collection to be reformatted into PDF and restructured into a document collection, does DOE propose to request an exemption from NARA requirements and archive DOE’s permanent files in their current format (primarily a string of single sheet image files)?

**Response to Question 5.5.:**

DOE does not consider its LSNdc to be “primarily a string of single sheet image files,” and DOE’s LSNdc does not need to be “restructured into a document collection.” Moreover, as described in DOE’s response to 4.4.2, LM will compile a PDF image of each document in the LSNdc and preserve those images. Subject to those qualifications, Yes.

\*\*\*

- 5.6. What is DOE's estimate of the amount of time and cost necessary to comply with NARA requirements if DOE's exception request is denied and DOE is required to convert its records into a PDF format and restructure its LSN collection into document level records?

**Response to Question 5.6.:**

DOE does not have an estimate, and cannot provide an estimate, because an estimate depends on the specifics of what NARA would require. DOE will comply with NARA's requirements, however.

\*\*\*

- 5.7. Whether temporary or permanent files, if DOE does not convert its files to PDF format and does not restructure its collection from single sheet to document level compilations, would archiving mean that, while the TIFF and JPEG image files will still be functional as image files, the pages would be preserved as one long file of 37 million images without knowing where one document ends and another one begins once removed from a document management software system? If not, explain why not.

**Response to Question 5.7.:**

No. As discussed more fully in the response to 2.2 above, the DOE LSNdc is compiled into documents at the directory level. Each directory contains the bibliographic header file, the text file, and all of the image files comprising a document. The directory name corresponds to the participant accession number of the document. Thus, even without a document management software system, the directory structure defines where one document ends and another begins. Moreover, as described in DOE's response to Question 4.4.2, LM will compile a PDF image of each imageable document in the LSNdc and preserve those images.

\*\*\*

- 5.8. If the answer to question 5.7 is no, does this mean that, while the individual sheets will be preserved as individual page images, document unitization will not be preserved, the information integrity will not be effectively preserved, and the context of information will be lost?

**Response to Question 5.8.:**

No. The directory for each document in DOE's LSNdc will contain a bibliographic header, text file and all the image pages of that document. Because each directory name corresponds to the participant accession number of that document, "document unitization" and "information integrity" will be preserved. Another way to look at this electronic structure is to think of the "directory" as a redweld that is labeled with an

accession number. Inside each redweld is a bibliographic header for that document. The HTML text for that document follows the header. Behind the HTML text are the individual TIFF or JPEG images representing each page of the document.

\*\*\*

- 5.9. If only single page images are preserved, how will a complete document be accessible via the LSN or by any other means if such material is not available, and how does this meet DOE's stated goal of "preserving the core scientific knowledge from the Yucca Mountain project"?

**Response to Question 5.9.:**

LM will preserve the LSNdc intact along with compiled PDF images. LM will be able to identify and access complete documents.

\*\*\*

- 5.10. If NARA/National Archives takes possession of the documents,

- 5.10.1. How could the documents that are derived from these sheets be retrieved without DOE's custom code?

**Response to Question 5.10.1.:**

As described in response to questions 2.4.1 and 4.4.2 above, DOE's custom code (FetchDoc) is not required to search for or retrieve text and images of documents in the LSNdc. The documents would be retrieved in the same fashion they are now using the directory system and a search index or system. Compiled PDF images also would be created and stored, thus avoiding the need to use FetchDoc.

\*\*\*

- 5.10.2. Assuming DOE's collection is preserved in its current single page format, what steps would need to take place to retrieve a complete document from this archive?

**Response to Question 5.10.2.:**

DOE's LSNdc is not simply preserved in a "single page format." NARA could thus use a search index or system to retrieve a complete document, just as LM could and as occurs on the LSN portal today. Compiled PDF images also would be created and stored.

\*\*\*

5.10.3. What is the status of DOE’s investigation into restructuring the directory structure of its LSN collection to allow each document to be archived as a single file?

**Response to Question 5.10.3.:**

DOE has determined that no such restructuring is required. As noted, though, DOE will create and store compiled PDF images of the imageable documents in the LSNdc.

\*\*\*

5.10.4. What steps would need to take place to retrieve and re-establish the LSN should the project be revived within 3 to 5 years after it was archived?

**Response to Question 5.10.4.:**

In such an event, DOE would retrieve the archived magnetic tapes from NARA and work with the NRC to make the documents electronically available.

\*\*\*

5.10.5. Clarify the statement on page 2 of DOE’s Status Report that “such transition will not affect the functionality of DOE’s LSN collection.”

**Response to Question 5.10.5.:**

DOE intends to maintain the existing functionalities of the LSNdc via the NRC portal until all appellate review is exhausted and the licensing proceeding is terminated. This includes: 1) adding documents to the LSNdc if any relevant documents are generated or discovered; 2) modifying documents currently on the LSNdc by changing their status from full text to header only or vice versa if a privilege is claimed or waived; 3) adding redacted documents if necessary; 4) producing privilege logs if necessary; and 5) producing documents when requested in accordance with subpart J and applicable case management orders. This commitment is independent of which office within DOE is assigned responsibility for overseeing these responsibilities.

\*\*\*

## **6. Records Transfer to Morgantown, West Virginia**

6.1. In regards to DOE's plan to transfer records to its Morgantown, WV facility,

6.1.1. What components of DOE's collection are to be shipped to this facility?

### **Response to Question 6.1.1.:**

The entire LSNdc would be transferred to LM's Morgantown, WV facility as a single document collection.

\*\*\*

6.1.2. Would this decision be affected by whether the records are permanent or temporary?

### **Response to Question 6.1.2.:**

If NARA has appraised the LSNdc as permanent before the magnetic tapes with the LSNdc have been transferred to Morgantown, those records would be transferred directly to the National Archives. If the records are appraised as temporary, they would be stored at the Morgantown facility. The records also would be transferred to Morgantown if NARA has not yet appraised their status when the LSNdc is taken offline.

\*\*\*

6.2. What is the schedule for this move?

### **Response to Question 6.2.:**

The archiving of the LSNdc to the Morgantown facility would occur after all appellate review is exhausted and the licensing proceeding is terminated.

\*\*\*

6.3. If NARA concludes that DOE's records are permanent, how would this move affect this designation or how would this move be affected by this designation?

### **Response to Question 6.3.:**

Moving the records to Morgantown will not affect whether NARA appraises them as permanent. If NARA appraises the records as permanent after they have been transferred to Morgantown, the records will thereafter be transferred to NARA.

\*\*\*

- 6.4. In order to assure that “such transition will not affect the functionality of DOE’s LSN collection” (DOE’s Status Report at 2), would there be a need to keep the old and new systems operating at the same time for some period while the ASLBP re-points the 83 million URLs to the new servers?

**Response to Question 6.4.:**

No. The archiving of DOE’s LSNdc to Morgantown will not occur until after the appeal process is exhausted and this proceeding is terminated. The proceeding will thus be over, and the commitment to maintain the functionality of the LSNdc during the course of the proceeding will have been fulfilled.

\*\*\*

- 6.5. What are the software/database technical expertise and financial resources available in WV to support continued functionality?

**Response to Question 6.5.:**

The continued functionality of the LSNdc will be maintained at CACI’s COPS facility in Arlington, Virginia under LM supervision. DOE has budgeted \$8.1 million for CACI for FY2010. LM has estimated that it would cost \$1.7 million per year to maintain the functionality of the LSNdc until there is a final non-appealable order and this proceeding is terminated. As noted already, DOE reaffirms its commitment to maintain the LSNdc functionality during this period of time.

\*\*\*

- 6.6. If DOE were to transfer its entire LSN holdings, including all the underlying databases referenced by TDIFs in the LSN and deliver that to the Morgantown, WV facility, would that data be migrated into a different record system or data management software system?

**Response to Question 6.6.:**

DOE will not archive its LSNdc to Morgantown before the proceeding is completed. When these proceedings are completed and DOE archives its LSNdc to the Morgantown, WV facility, however, the LSNdc will be accessible on LM’s storage area network. LM will also create PDF images of each document in the LSNdc.

\*\*\*

- 6.7. If so, what would that mean to the integrity of the URLs used by the LSN portal to access that information?

**Response to Question 6.7.:**

As discussed above, DOE will not archive its LSNdc before the proceeding is over. So, the integrity of the URLs used by the LSN portal will not be affected by the move assumed in this question.

\*\*\*

- 6.8. If DOE were to transfer its entire LSN holdings, including all the underlying databases referenced by TDIFs in the LSN and deliver that to the Morgantown, WV facility, would the Morgantown facility be willing to preserve that entire collection as a virtualized database environment?

**Response to Question 6.8.:**

DOE will comply with all requirements of the Federal Records Act and associated regulations and DOE records-related rules and regulations. DOE is not intending to establish additionally a virtualized database environment for any databases.

\*\*\*

**7. Costs to comply with LSN Requirements and Termination Preservation**

- 7.1. How much has DOE invested in the development of its LSNdc and the establishment of its LSN computer environment (including all O and M and litigation support contractor costs, hardware acquisitions, software development, and federal staff FTEs converted to dollars)?

**Response to Question 7.1.:**

DOE estimates that it has spent approximately \$150 million for all LSNdc activities, including development, database population, operations and maintenance, starting with FY2003 through April, 2010.

\*\*\*

- 7.2. How much has DOE invested, (including all O and M contractor costs, hardware acquisitions, software development, and federal staff FTEs converted to dollars) in the development of its RIS that is not accounted for in the numbers provided in response to question 7.1?

**Response to Question 7.2.:**

DOE's financial records do not enable it to answer this question.

\*\*\*

- 7.3. How much has DOE invested (including all O and M support contractor costs, hardware acquisitions, software development, and federal staff FTEs converted to dollars) in the development of the underlying databases that is not accounted for in the numbers provided in response to questions 7.1 and 7.2?

**Response to Question 7.3.:**

DOE's financial records do not enable it to answer this question.

\*\*\*

- 7.4. What have been the yearly costs (including federal staff FTEs converted to dollars) to operate and maintain DOE's LSNdc over the past 5 years?

**Response to Question 7.4.:**

The following table sets forth the total costs for the LSNdc during the last five years (the costs for FY2010 are estimated).

Fiscal Year	Approx. Total (in millions of dollars)
2006	19
2007	16
2008	16
2009	9
2010	8

\*\*\*

- 7.5. What is the estimated budget to preserve DOE's LSNdc and how is that being achieved with 2010 funds?

**Response to Question 7.5.:**

As previously stated, DOE will maintain the functionality of the LSNdc until all appeals are exhausted and the proceeding is terminated. DOE's FY 2010 budget for CACI is approximately \$8.1 million, which is sufficient to maintain the current functionality this fiscal year. LM has not yet finalized an estimate of the costs to archive the LSNdc in order to preserve it after there is a final non-appealable order terminating the proceeding. DOE will ensure that LM has the necessary funds to maintain the LSNdc functionality until all appeals are exhausted and the proceeding is terminated, and to thereafter preserve the documents as described in its above responses.

\*\*\*

- 7.6. How will any additional funds be obtained to perform this function?

**Response to Question 7.6.:**

No additional funds need to be requested for FY2010. In the future, DOE will ensure that LM has the necessary funds to maintain the LSNdc functionality until all appeals are exhausted and the proceeding is terminated.

\*\*\*

**8. Merger of the Office of Civilian Nuclear Radioactive Waste Management (OCRWM) into the Office of Nuclear Energy (NE)**

- 8.1. What is the anticipated schedule for the merger of OCRWM into NE?

**Response to Question 8.1.:**

OCRWM is scheduled to be terminated at the end of this fiscal year (FY 2010). Critical functions are being transferred to other organizations within DOE. Beginning FY2011, NE will maintain scientific and engineering expertise in the area of spent fuel storage, transportation, and disposal. Maintenance and administration of the Standard Contract with utilities and support for ongoing litigation is being transferred to the Office of General Counsel.

\*\*\*

8.2. In regards to maintenance of DOE's LSNdc,

8.2.1. Who was responsible at OCRWM for this maintenance?

**Response to Question 8.2.1.:**

OCRWM has an LSN certifying official. DOE has maintained an interagency agreement with the U.S. Department of Justice (DOJ) since 2003, under which CACI, as a contractor to DOJ, provides technical support and development, operations and maintenance services for the LSNdc.

\*\*\*

8.2.2. Who will be assuming this role in NE?

**Response to Question 8.2.2.:**

DOE's current management plan is for an official in LM to assume this role. DOE anticipates that John V. Montgomery, Team Leader, Archives and Information Management Team of the Office of Legacy Management will serve in that role. Once a final appointment has been made with respect to this position, DOE will inform this Board.

\*\*\*

8.2.3. What are the estimated annual funding requirements needed to maintain the LSN in the status quo?

**Response to Question 8.2.3.:**

This fiscal year will be approximately \$8.1 million. The annual funding requirements subsequently should be considerably less because DOE would have minimal need to process new documents onto the LSNdc. LM has estimated that the annual cost to maintain DOE's LSNdc functionality until there is a final non-appealable order and this proceeding has been terminated is \$1.7 million per year. DOE is committed to maintaining the functionality of the LSNdc until there is a non-appealable final order and this proceeding is terminated.

\*\*\*

8.3. Does NE have the necessary funds to perform the preservation tasks?

**Response to Question 8.3.:**

DOE intends for LM to be the DOE organization to maintain the LSNdc until there is a non-appealable final order and this proceeding is terminated. DOE will ensure that LM has the necessary funds to maintain the LSNdc functionality until all appeals are exhausted and the proceeding is terminated, and to thereafter preserve the documents as described in its above responses.

\*\*\*

8.4. What organization/contractor within NE will be available to resolve ongoing document integrity issues on the LSN so long as it is operational, and how will NE acquire the institutional knowledge from OCRWM to perform this function?

**Response to Question 8.4.:**

At present, DOE intends to continue using the services of the existing LSNdc support contractor under the direction of DOE staff in LM, Archives and Information Management Team, the DOE Office of the General Counsel (OGC), and the DOJ. Even if another DOE office ultimately assumes these responsibilities, DOE will ensure that the institutional knowledge required to resolve any document integrity issues will be maintained.

\*\*\*

8.5. In regards to oversight responsibility,

8.5.1. What Deputy Assistant Secretary will be responsible for this function?

**Response to Question 8.5.1.:**

DOE intends for the Team Leader of the Archives and Information Management Team within LM to be responsible for this function.

\*\*\*

8.5.2. Has this position been filled, and, if not, who is to assume these responsibilities until the position is filled?

**Response to Question 8.5.2.:**

This position will be filled by John V. Montgomery, Team Leader, Archives and Information Management Team.

\*\*\*

- 8.6. Who at NE will answer specific questions about problems with DOE documents or images that may be reported by other parties to the proceeding?

**Response to Question 8.6.:**

John V. Montgomery, Team Leader, Archives and Information Management Team of LM, will serve as LM's relevant point of contact.

\*\*\*

- 8.7. In dealing with FOIA matters,

- 8.7.1. Who is the FOIA officer for NE?

**Response to Question 8.7.1.:**

John V. Montgomery will serve as LM's point of contact for Yucca Mountain related FOIA requests.

\*\*\*

- 8.7.2. What steps have been taken to transfer institutional knowledge of the program activities, its records, its issues, and its historical approach to FOIA requests on HLW issues?

**Response to Question 8.7.2.:**

This will be facilitated by the continuing involvement of the DOE OGC and the DOE FOIA office.

\*\*\*

- 8.8. Who will be the point of contact in NE for access to restricted access or otherwise privileged information?

**Response to Question 8.8.:**

John V. Montgomery will serve as the point of contact in LM for access to such information.

\*\*\*

- 8.9. Should the LSN document collection be taken offline while the NARA process is still ongoing, what office in NE will have custodianship during such period?

**Response to Question 8.9.:**

The LSNdc would be transferred to LM in that scenario. DOE reiterates that it will not take its LSNdc offline until all appeals in the licensing proceeding are exhausted and the proceeding is terminated.

\*\*\*

**9. Virtualization**

- 9.1. Is DOE amenable to virtualizing the entire DOE LSNdc, including all the underlying databases referenced by TDIFs in the LSNdc and delivering that to the DOE Office of Scientific and Technical Information (OSTI)?

**Response to Question 9.1.:**

DOE will comply with all requirements of the Federal Records Act and associated regulations and DOE records-related rules and regulations. DOE is not intending to establish additionally a virtualized database environment for any databases.

\*\*\*

- 9.2. If so, how long will it take to generate that product?

**Response to Question 9.2.:**

N/A. See the answer to Question 9.1.

\*\*\*

- 9.3. How much will it cost?

**Response to Question 9.3.:**

N/A. See the answer to Question 9.1.

\*\*\*

- 9.4. How much computer storage capacity will be required to house a virtualized LSN environment at OSTI?

**Response to Question 9.4.:**

Unknown. DOE will comply with all requirements of the Federal Records Act and associated regulations and DOE records-related rules and regulations. DOE is not intending to establish additionally a virtualized database environment for any databases.

\*\*\*

Statement of Counsel:

The undersigned counsel represents that the responses to the questions set forth above have been provided after making a reasonable investigation in good faith, and that to the best of counsel's knowledge, information and belief the statements made are true.

Respectfully submitted,

**U.S. DEPARTMENT OF ENERGY**

By Electronically Signed by Michael R. Shebelskie

Donald P. Irwin  
Michael R. Shebelskie  
HUNTON & WILLIAMS LLP  
Riverfront Plaza, East Tower  
951 East Byrd Street  
Richmond, Virginia 23219-4074

Scott Blake Harris  
Sean A. Lev  
James Bennett McRae  
U.S. DEPARTMENT OF ENERGY  
Office of General Counsel  
Department of Energy  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585

Counsel for the U.S. Department of Energy

**NUCLEAR REGULATORY COMMISSION**  
**ATOMIC SAFETY AND LICENSING BOARD**  
**Before Administrative Judges:**

**09-892-HLW-CAB04**  
**Thomas S. Moore, Chairman**  
**Paul S. Ryerson**  
**Richard E. Wardwell**

In the Matter of	)	May 24, 2010
U.S. DEPARTMENT OF ENERGY	)	Docket No. 63-001-HLW
(High Level Waste Repository	)	
Construction Authorization Application)	)	

**CERTIFICATE OF SERVICE**

I hereby certify that copies of the **U.S. DEPARTMENT OF ENERGY ANSWERS TO ASLB QUESTIONS FROM ORDER (Questions for Several Parties and LSNA) DATED APRIL 21, 2010** have been served on the following persons on this 24<sup>th</sup> day of May 2010 through the Nuclear Regulatory Commission's Electronic Information Exchange.

**CAB 04**  
**Atomic Safety and Licensing Board Panel**  
**Thomas S. Moore, Chair**  
E-mail: [tsm2@nrc.gov](mailto:tsm2@nrc.gov)  
**Paul S. Ryerson**  
E-mail: [psr1@nrc.gov](mailto:psr1@nrc.gov)  
**Richard E. Wardwell**  
E-mail: [rew@nrc.gov](mailto:rew@nrc.gov)

**Parties Served**  
Adams, Marta  
Andersen, Robert M.  
Bailey, Annie  
Barlow, Gregory  
Baughman, Mike  
Bauser, Michael A.  
Bell, Kevin W.

**E-mail Addresses**  
[madams@ag.nv.gov](mailto:madams@ag.nv.gov)  
[robert.andersen@akerman.com](mailto:robert.andersen@akerman.com)  
[baileys@lcturbonet.com](mailto:baileys@lcturbonet.com)  
[lca@lcturbonet.com](mailto:lca@lcturbonet.com)  
[mikebaughman@charter.net](mailto:mikebaughman@charter.net)  
[mab@nei.org](mailto:mab@nei.org)  
[kwbell@energy.state.ca.us](mailto:kwbell@energy.state.ca.us)

**Parties Served**

Berkey, Curtis  
Berger, Michael  
Beutel, Theodore  
Bollwerk III, G. Paul  
Borski, Laurie  
Brooks, Felicia M.  
Carter, Lorraine  
Cereghino, Stephen  
Choate, Zoie  
Colburn, Ross  
Cottingham, Anne  
Crosland, Martha S.  
Culler, Sara  
Curran, Diane  
Damele, Ronald  
Deucher, Joseph  
Dinunzio, Nicholas  
Dobie, Julie  
Dreher, Michael  
Dudley, Sherry  
Dunning, Michael  
Durbin, Susan  
Eiteim, Anthony C.  
ThinElk, Shane  
Eredia, Sally  
Fitz, Andrew  
Fitzpatrick, Charles J.  
Francis, Karin  
Fraser, Matthew  
Frishman, Steve  
Gitter, Rebecca  
Gilman, Joseph  
Ginsberg, Ellen C.  
Gores, Jennifer A.  
Gottshall, Thomas R.  
Graser, Daniel J.  
Gutierrez, Jocelyn  
Hanna, Robert S.  
Harich, Patricia  
Harrington, Arthur J.  
Harris, Scott Blake  
Hawkens, E. Roy  
Hearing Docket  
Heinzen, Steven A.

**E-mail Addresses**

[cberkey@abwwlaw.com](mailto:cberkey@abwwlaw.com)  
[michael@lawofficeofmichaelberger.com](mailto:michael@lawofficeofmichaelberger.com)  
[tbeutel@eurekanv.org](mailto:tbeutel@eurekanv.org)  
[gpb@nrc.gov](mailto:gpb@nrc.gov); [paul.bollwerk@nrc.gov](mailto:paul.bollwerk@nrc.gov)  
[lborski@nuclearlawyer.com](mailto:lborski@nuclearlawyer.com)  
[fbrooks@ndnlaw.com](mailto:fbrooks@ndnlaw.com)  
[lcarter@captionreporters.com](mailto:lcarter@captionreporters.com)  
[stephen\\_cereghino@ymp.gov](mailto:stephen_cereghino@ymp.gov)  
[zchoate@co.nye.nv.us](mailto:zchoate@co.nye.nv.us)  
[rcolburn@ndnlaw.com](mailto:rcolburn@ndnlaw.com)  
[awc@nei.org](mailto:awc@nei.org)  
[Martha.Crosland@hq.doe.gov](mailto:Martha.Crosland@hq.doe.gov)  
[Sara.culler@nrc.gov](mailto:Sara.culler@nrc.gov)  
[dcurran@harmoncurran.com](mailto:dcurran@harmoncurran.com)  
[rdamele@eurekanv.org](mailto:rdamele@eurekanv.org)  
[Joseph.deucher@nrc.gov](mailto:Joseph.deucher@nrc.gov)  
[Nicholas.Dinunzio@hq.doe.gov](mailto:Nicholas.Dinunzio@hq.doe.gov)  
[jdobie@gklaw.com](mailto:jdobie@gklaw.com)  
[michael.dreher@nrc.gov](mailto:michael.dreher@nrc.gov)  
[sdudley@co.nye.nv.us](mailto:sdudley@co.nye.nv.us)  
[MichaelD@atg.wa.gov](mailto:MichaelD@atg.wa.gov)  
[susan.durbin@doj.ca.gov](mailto:susan.durbin@doj.ca.gov)  
[Anthony.Eitreim@nrc.gov](mailto:Anthony.Eitreim@nrc.gov)  
[sthinelk@ndnlaw.com](mailto:sthinelk@ndnlaw.com)  
[seredia@ndnlaw.com](mailto:seredia@ndnlaw.com)  
[andyf@atg.atg.wa.gov](mailto:andyf@atg.atg.wa.gov)  
[cfitzpatrick@nuclearlawyer.com](mailto:cfitzpatrick@nuclearlawyer.com)  
[Karin.francis@nrc.gov](mailto:Karin.francis@nrc.gov)  
[mfraser@harmoncurran.com](mailto:mfraser@harmoncurran.com)  
[steve.frishman@gmail.com](mailto:steve.frishman@gmail.com)  
[rll@nrc.gov](mailto:rll@nrc.gov)  
[jsg1@nrc.gov](mailto:jsg1@nrc.gov)  
[ecg@nei.org](mailto:ecg@nei.org)  
[jgores@armstrongteasdale.com](mailto:jgores@armstrongteasdale.com)  
[tgottshall@hsblawfirm.com](mailto:tgottshall@hsblawfirm.com)  
[djg2@nrc.gov](mailto:djg2@nrc.gov)  
[Jocelyn.Gutierrez@ymp.gov](mailto:Jocelyn.Gutierrez@ymp.gov)  
[robert@lawofficeofmichaelberger.com](mailto:robert@lawofficeofmichaelberger.com)  
[Patricia.harich@nrc.gov](mailto:Patricia.harich@nrc.gov)  
[aharrington@gklaw.com](mailto:aharrington@gklaw.com)  
[Scott.Harris@hq.doe.gov](mailto:Scott.Harris@hq.doe.gov)  
[erh@nrc.gov](mailto:erh@nrc.gov)  
[hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov)  
[sheinzen@gklaw.com](mailto:sheinzen@gklaw.com)

**Parties Served**

Hembacher, Brian  
Horin, William  
Houck, Darcie L.  
James, Gregory L. Esq.  
Johnson, Abigail  
Julian, Emile  
Keskey, Don  
Klevatorick, Phil  
Larimore, Patricia  
Lawrence, John W.  
Leigh, Rovianne  
Lembke, Alisa  
Lenehan, Daniel  
Lev, Sean  
Lewis, Linda  
List, Robert F.  
Loveland, Bryce  
Lunt, Robin  
Lynch, Susan  
Maerten, Daniel  
Mahowald, Phillip  
Malsch, Martin G.  
Martin, Circe  
Martinez, Melanie  
Mathias, Linda  
MacDonald, Diana  
McRae, Ben  
Mercado, Michele  
Miras-Wilson, Rachel  
Montesi, Susan  
Moore, Thomas S.  
Mueller, Edwin  
Murphy, Malachy  
Nelson, Sharon  
Nezhad, Cyrus  
Niegemann, Brian  
OCAA Mail Center  
Overton, H. Lee  
Pak, Christina  
Peebles, John M.  
Pitchford, Loreen, LSN Coordinator  
Pitts, Jason  
Poland, Douglas M.  
Putzu, Frank

**E-mail Addresses**

[brian.hembacher@doj.ca.gov](mailto:brian.hembacher@doj.ca.gov)  
[whorin@winston.com](mailto:whorin@winston.com)  
[dhouck@ndnlaw.com](mailto:dhouck@ndnlaw.com)  
[gljames@earthlink.net](mailto:gljames@earthlink.net)  
[eurekanrc@gmail.com](mailto:eurekanrc@gmail.com)  
[Emile.julian@nrc.gov](mailto:Emile.julian@nrc.gov)  
[donkeskey@publiclawresourcenter.com](mailto:donkeskey@publiclawresourcenter.com)  
[klevatorick@co.clark.nv.us](mailto:klevatorick@co.clark.nv.us)  
[plarimore@talisman-intl.com](mailto:plarimore@talisman-intl.com)  
[jlawrence@nuclearlawyer.com](mailto:jlawrence@nuclearlawyer.com)  
[rleigh@abbwlaw.com](mailto:rleigh@abbwlaw.com)  
[alembke@inyocounty.us](mailto:alembke@inyocounty.us)  
[daniel.lenehan@nrc.gov](mailto:daniel.lenehan@nrc.gov)  
[sean.lev@hq.doe.gov](mailto:sean.lev@hq.doe.gov)  
[linda.lewis@nrc.gov](mailto:linda.lewis@nrc.gov)  
[rlist@armstrongteasdale.com](mailto:rlist@armstrongteasdale.com)  
[bloveland@jsslaw.com](mailto:bloveland@jsslaw.com)  
[rlunt@naruc.org](mailto:rlunt@naruc.org)  
[slynch1761@gmail.com](mailto:slynch1761@gmail.com);  
[Daniel.Maerten@caci.com](mailto:Daniel.Maerten@caci.com)  
[pmahowald@piic.org](mailto:pmahowald@piic.org)  
[mmalsch@nuclearlawyer.com](mailto:mmalsch@nuclearlawyer.com)  
[ogcmailcenter@nrc.gov](mailto:ogcmailcenter@nrc.gov)  
[wpnucwst2@mwpower.net](mailto:wpnucwst2@mwpower.net)  
[yuccainfo@mineralcountynv.org](mailto:yuccainfo@mineralcountynv.org)  
[dianam@atg.wa.gov](mailto:dianam@atg.wa.gov)  
[Ben.McRae@hq.doe.gov](mailto:Ben.McRae@hq.doe.gov)  
[michele.mercado@doj.ca.gov](mailto:michele.mercado@doj.ca.gov)  
[rwilson@winston.com](mailto:rwilson@winston.com)  
[smontesi@nuclearlawyer.com](mailto:smontesi@nuclearlawyer.com)  
[tsm2@nrc.gov](mailto:tsm2@nrc.gov)  
[muellered@msn.com](mailto:muellered@msn.com)  
[mrmurphy@chamberscable.com](mailto:mrmurphy@chamberscable.com)  
[sharonn@atg.wa.gov](mailto:sharonn@atg.wa.gov)  
[Cyrus.Nezhad@hq.doe.gov](mailto:Cyrus.Nezhad@hq.doe.gov)  
[bniegemann@ndnlaw.com](mailto:bniegemann@ndnlaw.com)  
[OCAAMAIL@nrc.gov](mailto:OCAAMAIL@nrc.gov)  
[Leo1@atg.wa.gov](mailto:Leo1@atg.wa.gov)  
[Christina.Pak@hq.doe.gov](mailto:Christina.Pak@hq.doe.gov)  
[jpeebles@ndnlaw.com](mailto:jpeebles@ndnlaw.com)  
[lpitchford@comcast.net](mailto:lpitchford@comcast.net)  
[jayson@idtservices.com](mailto:jayson@idtservices.com)  
[dpoland@gklaw.com](mailto:dpoland@gklaw.com)  
[frank.putzu@navy.mil](mailto:frank.putzu@navy.mil)

**Parties Served**

Ramsay, James  
Renfro, Hanna  
Repka, David A.  
Rhoan, Robert  
Robbins, Alan  
Roby, Debra  
Rosenthal, Alan S.  
Rotman, Matthew  
Ryan, Tom  
Ryerson, Paul S.  
Schwartz, Jacqueline  
Sears, Richard  
Shealy, Ross  
Silberg, Jay E.  
Silvia, Andrea L.  
Simkins, Connie  
Simon, Mike  
Sisco, Carlos L.  
Sommer, Josephine  
Sullivan, Timothy E.  
Thompson, Jonathan  
Tucker, Katherine  
VanNiel, Jeffrey D.  
Vazquez, Tameka  
Vibert, Elizabeth A.  
Walsh, Timothy J.  
Wardwell, Richard E.  
Webb, Maria  
Welkie, Andrew  
Whetstine, Jack  
Whipple, Bret  
Williams, Scott  
Woodington, Kenneth  
Young, Mitzi A.  
Zabarte, Ian  
Zobler, Marian L.

**E-mail Addresses**

[jramsay@naruc.org](mailto:jramsay@naruc.org)  
[hrenfro@gklaw.com](mailto:hrenfro@gklaw.com)  
[drepka@winston.com](mailto:drepka@winston.com)  
[rrhoan@ndnlaw.com](mailto:rrhoan@ndnlaw.com)  
[arobbins@jsslaw.com](mailto:arobbins@jsslaw.com)  
[droby@jsslaw.com](mailto:droby@jsslaw.com)  
[Alan.rosenthal@nrc.gov](mailto:Alan.rosenthal@nrc.gov)  
[matthew.rotman@nrc.gov](mailto:matthew.rotman@nrc.gov)  
[Tom.Ryan@nrc.gov](mailto:Tom.Ryan@nrc.gov)  
[psr1@nrc.gov](mailto:psr1@nrc.gov)  
[jschwartz@gklaw.com](mailto:jschwartz@gklaw.com)  
[rwsears@wpcda.org](mailto:rwsears@wpcda.org)  
[rshealy@hsblawfirm.com](mailto:rshealy@hsblawfirm.com)  
[jay.silberg@pillsburylaw.com](mailto:jay.silberg@pillsburylaw.com)  
[alc1@nrc.gov](mailto:alc1@nrc.gov)  
[jcciac@co.lincoln.nv.us](mailto:jcciac@co.lincoln.nv.us)  
[wpnucast1@mwpower.net](mailto:wpnucast1@mwpower.net)  
[csisco@winston.com](mailto:csisco@winston.com)  
[Josephine.Sommer@ymp.gov](mailto:Josephine.Sommer@ymp.gov)  
[timothy.sullivan@doj.ca.gov](mailto:timothy.sullivan@doj.ca.gov)  
[JonaT@atg.wa.gov](mailto:JonaT@atg.wa.gov)  
[Katie.Tucker@nrc.gov](mailto:Katie.Tucker@nrc.gov)  
[nbrjdv@gmail.com](mailto:nbrjdv@gmail.com)  
[purpose\\_driven@yahoo.com](mailto:purpose_driven@yahoo.com)  
[Elizabeth.Vibert@ccdanv.com](mailto:Elizabeth.Vibert@ccdanv.com)  
[timothy.walsh@pillsburylaw.com](mailto:timothy.walsh@pillsburylaw.com)  
[rew@nrc.gov](mailto:rew@nrc.gov)  
[maria.webb@pillsburylaw.com](mailto:maria.webb@pillsburylaw.com)  
[Axw5@nrc.gov](mailto:Axw5@nrc.gov)  
[jgw@nrc.gov](mailto:jgw@nrc.gov)  
[bretwhipple@lcturbonet.com](mailto:bretwhipple@lcturbonet.com)  
[swilliams@abbwlaw.com](mailto:swilliams@abbwlaw.com)  
[kwoodington@dml-law.com](mailto:kwoodington@dml-law.com)  
[may@nrc.gov](mailto:may@nrc.gov)  
[mrizabarte@gmail.com](mailto:mrizabarte@gmail.com)  
[mlz@nrc.gov](mailto:mlz@nrc.gov)

**U.S. DEPARTMENT OF ENERGY**

By Electronically Signed by Stephanie E. Meharg

Donald P. Irwin  
Michael R. Shebelskie  
HUNTON & WILLIAMS LLP  
Riverfront Plaza, East Tower  
951 East Byrd Street  
Richmond, Virginia 23219-4074

Scott Blake Harris  
Sean A. Lev  
James Bennett McRae  
U.S. DEPARTMENT OF ENERGY  
Office of General Counsel  
Department of Energy  
1000 Independence Avenue, S.W.  
Washington, DC 20585

Counsel for the U.S. Department of Energy