LLW notes

Volume 31 Number 3 May/June 2016

Texas Compact

Texas Compact Commission's Draft Management Rule Concept Paper

In early June 2016, the Texas Low-Level Radioactive Waste Disposal Compact Commission (Texas Compact Commission) announced that it had initiated a rulemaking process to develop its management rules. As part of the process, the Texas Compact Commission's Rules Committee sought input prior to the development of a draft rule proposal for publication in the *Texas Register*.

In particular, the Texas Compact Commission sought comments on an outline for rulemaking for the development of a concept paper for Rule 675.24 relating to the importation of low-level radioactive waste that is below the criteria applicable for disposal in the Compact Waste Disposal Facility.

The concept paper for the management rule has been posted to the Rules Page of the Texas Compact Commission's website at http://www.tllrwdcc.org/rules/.

Overview

The Texas Compact Commission is authorized by Section 3.05(3), (4) and (6) of the Texas Compact to promulgate rules relating to the importation of material into the compact that is not to be shipped for disposal to the Compact Waste Disposal Facility.

In this regard, Section 3.05(6) of the Texas Compact reads as follows:

> Section 3.05. The commission may:
>
> (6) Enter into an agreement with any person, state, regional body, or group of states for the importation of low-level radioactive waste into the compact for management or disposal provided that the agreement receives a majority vote of the commission. The commission may adopt such conditions and restrictions in the agreement as it deems advisable.

(Continued on page 14)

In This Issue

COPYRIGHT POLICY

The Low-Level Radioactive Waste Forum, Inc. is dedicated to the goals of educating policy makers and the public about the management and disposal of low-level radioactive wastes, and fostering information sharing and the exchange of views between state and compact policy makers and other interested parties.

As part of that mission, the LLW Forum publishes a newsletter, news flashes, and other publications on topics of interest and pertinent developments and activities in the states and compacts, federal agencies, the courts and waste management companies. These publications are available to members and to those who pay a subscription fee.

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Low-Level Radioactive Waste Forum, Inc.

LLW Notes
Volume 31, Number 3 May/June 2016
Editor and Writer: Todd D. Lovinger
Layout and Design: Rita Houskie, Central Interstate Low-Level Radioactive Waste Compact

LLW Notes is published several times a year and is distributed to the Board of Directors of the Low-Level Radioactive Waste Forum, Inc. — an independent, non-profit corporation. Anyone — including compacts, states, federal agencies, private associations, companies, and others — may support and participate in the LLW Forum, Inc. by purchasing memberships and/or by contributing grants or gifts. For information on becoming a member or supporter, please go to our website at www.llwforum.org or contact Todd D. Lovinger — the LLW Forum, Inc.'s Executive Director — at (754) 779-7551.

Directors that serve on the Board of the Low-Level Radioactive Waste Forum, Inc. are appointed by governors and compact commissions. The LLW Forum, Inc. was established to facilitate state and compact implementation of the Low-Level Radioactive Waste Policy Amendments Act of 1985 and to promote the objectives of low-level radioactive waste regional compacts. The LLW Forum, Inc. provides an opportunity for state and compact officials to share information with each another and to exchange views with officials of federal agencies and other interested parties.

Table of Contents

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Key to Abbreviations

U.S. Department of Energy	DOE
U.S. Department of Transportation	DOT
U.S. Environmental Protection Agency	EPA
U.S. Government Accountability Office	GAO
U.S. Nuclear Regulatory Commission	NRC
Naturally-occurring and accelerator-produced radioactive material	NARM
Naturally-occurring radioactive material	NORM
Code of Federal Regulations	CFR

Low-Level Radioactive Waste Forum, Inc.(LLW Forum)

Registration Open for the Fall 2016 LLW Forum Meeting

Embassy Suites Hotel in Saratoga Springs, New York
November 7-8, 2016

The Low-Level Radioactive Waste Forum (LLW Forum) is pleased to announce that registration is now open for our fall 2016 meeting, which will be held at the Embassy Suites by Hilton Saratoga Springs Hotel on November 7-8, 2016. Please mark your calendars accordingly and save the date!

Interested stakeholders are encouraged to register and make hotel reservations for the meeting at your earliest convenience, as there is limited space available in our discount room block. The New York State Energy and Research Development Authority (NYSERDA) is sponsoring the meeting.

The meeting documents—including a meeting bulletin and registration form—have been posted to the LLW Forum's web site at www.llwforum.org. As a new option for interested stakeholders, a registration form may be completed and submitted online by going to the bottom of the LLW Forum web site's home page at www.llwforum.org.

Attendance

Officials from states, compacts, federal agencies, nuclear utilities, disposal operators, brokers/ processors, industry, and other interested parties are invited and encouraged to attend.

The meeting is an excellent opportunity to stay up-to-date on the most recent and significant developments in the area of low-level radioactive waste management and disposal. It also offers an important opportunity to network with other government and industry officials and to participate in decision-making on future actions and endeavors affecting low-level radioactive waste management and disposal.

Location and Dates

The fall 2016 LLW Forum meeting will be held on Monday, November 7 (9:00 am – 5:00 pm) and Tuesday, November 8 (9:00 am – 1:00 pm) at:

Embassy Suites by Hilton Saratoga Springs
86 Congress Street
Saratoga Springs, New York 12866

Located in the heart of downtown Saratoga Springs, the Embassy Suites is walking distance to the Saratoga Heritage Area Visitor's Center, Congress Park, the Canfield Casino, and Broadway for its restaurants and shopping.

Registration

All persons must pre-register for the meeting and pay any associated registration fees in order to be allowed entry. Registration forms are needed in order to ensure that you receive a meeting packet and name badge. Accordingly, interested attendees are asked to please take a moment to complete the registration form at your earliest convenience and return it Cecilia Snyder of the LLW Forum at the address, e-mail or fax number listed at the bottom of the form.

The meeting is free for up to two individuals representing members of the LLW Forum. Additional and non-member registration is $500, payable by check only to the "LLW Forum, Inc." (Credit card payments are not accepted.)

Reservations

Persons who plan to attend the meeting are strongly encouraged to make their hotel reservations and send in their registration forms as soon as possible, as we have exceeded our block at the last few meetings.

A limited block of hotel rooms has been reserved for meeting attendees for Sunday (November 6) and Monday (November 7) at the prevailing federal per diem rate (which is currently $120/night) plus tax/single or double. A limited number of rooms are available at this rate for one day prior to and one day following the meeting, subject to availability.

To make a reservation, please call 1-800-HILTONS and ask for a room in the "LLW Forum block" at the Embassy Suites Saratoga Springs or use the following dedicated link: http://embassysuites.hilton.com/en/es/groups/personalized/A/ALBESES-LLW-20161105/index.jhtml?WT.mc_id=POG

In order to receive the discounted rate, please make your reservation by October 6, 2016.

Transportation and Directions

Saratoga Springs is a 30-minute drive from the Albany International Airport. A taxi from the airport to the hotel is a minimum estimated charge of $50/each way. Driving directions from both airports can be found at http://embassysuites3.hilton.com/en/hotels/new-york/embassy-suites-by-hilton-saratoga-springs-ALBESES/maps-directions/index.html. Parking at the hotel is free.

For additional information, please contact Todd D. Lovinger, the LLW Forum's Executive Director, at (754) 779-7551 or go to www.llwforum.org.

Save the Date Notice for Spring 2017 LLW Forum Meeting

Embassy Suites Downtown Hotel in Denver, Colorado
April 24-25, 2017

Please mark your calendars for the spring 2017 meeting of the Low-Level Radioactive Waste Forum (LLW Forum), which will be held at the Embassy Suites Downtown/Convention Center Hotel in Denver, Colorado from April 24-25, 2017.

Meeting Logistics

This will be a one and one-half day meeting beginning at 9:00 a.m. on Monday and concluding at 1:00 p.m. on Tuesday.

The meeting is being co-sponsored by the Rocky Mountain Low-Level Radioactive Waste Board and the Midwest Interstate Low-Level Radioactive Waste Compact Commission.

Meeting registration and the hotel block information will be released in late 2016.

Attendance

Officials from states, compacts, federal agencies, nuclear utilities, disposal operators, brokers/processors, industry, and other interested parties are encouraged to attend the spring 2017 LLW Forum meeting.

LLW Forum meetings are an excellent opportunity to stay up-to-date on the most recent and significant developments in the area of low-level radioactive waste management and disposal. They also offer an important opportunity to network with other government and industry officials and to participate in decision-making on future actions and endeavors affecting low-level radioactive waste management and disposal.

Background

The LLW Forum is a non-profit organization of representatives appointed by Governors and compact commissions that seeks to facilitate state and compact implementation of the Low-Level Radioactive Waste Policy Act of 1980 and its 1985 amendments, as well as to promote the objectives of regional low-level radioactive waste disposal compacts.

The LLW Forum meets twice per year—once in the spring and once in the fall—at different locations throughout the country. LLW Forum members take turns sponsoring the meetings.

If you have questions or require additional information, please contact Todd D. Lovinger, Esq.—Executive Director of the LLW Forum and Project Director of the Disused Sources and Part 61 Working Groups (DSWG/P61WG)—at (754) 779-7551 or at LLWForumInc@aol.com.

Central Interstate Compact

Central Interstate Compact Commission Holds Annual Meeting

On June 14, 2016, the Central Interstate Low-Level Radioactive Waste Commission held its annual meeting. The meeting—which was held at the Hilton Hotel in Shreveport, Louisiana—began at 9:00 a.m. CDT.

The purpose of the meeting was to take necessary action and discussion on proposed changes to the By-Laws and Rules, reports, meeting minutes, export applications, export fee schedule (Rule 1), administrative budget, election of Chairman for fiscal year 2016-2017, and all other business to come before the Commission.

The following items were on the draft agenda for the meeting:

- call to order and roll call
- general public comment period
- future of the Commission progress
  - discussion: move to Oklahoma
  - discussion: proposed Commission By-Law changes
  - discussion: proposed Commission Rule changes
- reports
  - Commission Administrator
- ratify action taken
  - export applications approved
    - November 2015
    - December 2015
    - January 2016
    - February 2016
    - April 2016
    - May 2016
- approve meeting minutes
  - special teleconference on November 17, 2015
- review and approve Commission administrative budget
  - budget adjustments for fiscal year 2015 – 2016
  - export fee schedule (Rule 1) for fiscal year 2016 – 2017
  - administrative budget for fiscal year 2016 - 2017
- election of Commission Chairman for fiscal year 2016 – 2017
- confirm date and location for next Commission meeting
- executive session: personnel matters — Administrator review
- adjourn

For additional information, please contact Rita Houskie, Administrator of the Central Interstate Low-Level Radioactive Waste Compact Commission, at (402) 476-8247 or at rita@cillrwcc.org or visit their web site at www.cillrwcc.org.

Midwest Compact

Midwest Compact Commission Holds Annual Meeting

On June 28, 2016, the Midwest Interstate Low-Level Radioactive Waste Compact Commission (MCC) held its annual meeting. The meeting—which was held by teleconference call—began at 10:00 a.m. CDT (11:00 a.m. for Indiana and Ohio).

The following items were on the draft agenda for the meeting:

- call to order and roll call
- review of the minutes of the June 9, 2015 meeting
- review of the financial report
- Chair's report: 2017 LLW Forum meeting and MCC website
- consultant agreements
  - legal counsel proposal
  - accounting/audit proposal
- adoption of 2016-17 budget
- election of Chair and Vice-Chair
- other business
- adjournment
- special guest: Cecelia Snyder, LLW Forum consultant, who will explain how to use the MCC website and the LLW Forum Drop Box

For additional information, please contact Stanley York, Chair of the Midwest Interstate Low-Level Radioactive Waste Compact Commission, at (608) 267-4793 or at stanyork080@gmail.com or visit their web site at www.midwestcompact.org.

Northwest Compact/State of Utah

Utah Waste Management and Radiation Control Board Meets

In May and June 2016, the Utah Waste Management and Radiation Control Board (Board) held regularly scheduled meetings in Salt Lake City, Utah.

The meetings, which were open to the public, were held in Conference Room 1015 of the Department of Environmental Quality (DEQ) Board Room on the first floor of the Multi Agency State Office Building in Salt Lake City, Utah.

May 2016 Meeting

The following items, among others, were on the agenda for the May 2016 Board meeting:

I. Call to Order

II. Approval of Meeting Minutes for the April 14, 2016 Board Meeting *(Board Action Item)*

III. Underground Storage Tanks Update

IV. X-Ray Program

A. Approval of Mammography Imaging

Medical Physicists (MIMPs) in Accordance with UCA-19-6-104(2)(b) *(Board Action Item)*

V. Low-Level Radioactive Waste Section

A. Energy*Solutions'* Request for a Site-Specific Treatment Variance from the Hazardous Waste Management Rules—i.e., Energy*Solutions* Seeks Authorization to Dispose of Waste Containing High Subcategory Mercury by Stabilization Rather than Retort and Recovery *(Information Item Only)*

B. Energy*Solutions'* Request for a Site-Specific Treatment Variance from the Hazardous Waste Management Rules—i.e., Energy*Solutions* Seeks Authorization to Treat Waste Containing Hazardous Contaminants and PCBs *(Information Item Only)*

VI. Hazardous Waste Section

A. Proposed Stipulation and Consent Order Between the Board and Heckmann Woods Cross *(Board Action Item)*

VII. Other Business

A. Miscellaneous Information Item

B. Scheduling of Next Board Meeting and Discussion of Possible Board Tours/Dates

VIII. Election of Board and Vice-Chair

IX. Recognition of Dwayne Woolley *(Retiring)*

X. Adjourn

June 2016 Meeting

The following items, among others, were on the agenda for the June 2016 Board meeting:

I. Call to Order

II. Approval of Meeting Minutes for the May 12, 2016 Board Meeting *(Board Action Item)*

III. Underground Storage Tanks Update

IV. UST Program Overview and Summary of Proposed Changes to R-311, Underground Storage Tank Rules *(Information Item Only)*

V. Administrative Rules

A. Approve for filing with the Division of Administrative Rules a Five-Year Review Notice and Statement of Continuation for the Following Radiation Control Rules: R313-12 General Provisions; R313-14 Violations and Escalated Enforcement; R313-16 General Requirements Applicable to the Installation, Registration, Inspection and Use of Radiation Machines; R313-17 Administrative Procedures; R313-18 Notices, Instructions, Reports to Workers by Licensees of Registrants; R313-19 Requirements to General Applicability to Licensing of Radioactive Materials; R313-22 Specific Licenses; R313-25 License Requirements for Land Disposal of Radioactive Waste; R313-28 Use of X-Rays in the Healing Arts; R313-32 Medical Uses of Radioactive Material; R313-36 Special Requirements for Industrial Radiographic Operations;

and, R313-70 Payments, Categories and Types of Fees *(Board Action Item)*

B. Final Adoption of Amendments to Hazardous Waste Rules R315-124, R315-260, R315-261, R315-262, R315-264 and R315-273 *(Board Action Item)*

C. Approval to Proceed with Formal Rulemaking and a 30-day Public Comment Period for Amendments to the Hazardous Waste Rules R315-261 and to Set an Effective Date of August 15, 2016 *(Board Action Item)*

D. Final Adoption of Proposed Changes to Radiation Control Rules R313-19 and R313-22 to Incorporate Changes Made by the U.S. Nuclear Regulatory Commission (NRC) *(Board Action Item)*

VI. Low-Level Radioactive Waste Section

B. Energy*Solutions'* Request for a Site-Specific Treatment Variance from the Hazardous Waste Management Rules—i.e., Energy*Solutions* Seeks Authorization to Dispose of Waste Containing High Subcategory Mercury by Stabilization Rather than Retort and Recovery *(Board Action Item)*

C. Energy*Solutions'* Request for a Site-Specific Treatment Variance from the Hazardous Waste Management Rules—i.e., Energy*Solutions* Seeks Authorization to Not Be Required to Meet Land Disposal Restriction Treatment Standard for PCBs *(Board Action Item)*

VII. Other Business

C. Miscellaneous Information Item

D. Scheduling of Next Board Meeting and Discussion of Possible Board Tours/Dates

VIII. Adjourn

Background

The Board—which is appointed by the Utah Governor with the consent of the Utah Senate—guides development of Radiation Control policy and rules in the state.

The Board holds open meetings ten times per year at locations throughout the state. A public comment session is held at the end of each meeting.

Copies of the Utah Waste Management and Radiation Control Board meeting agendas and packet information can be found at http://www.deq.utah.gov/boards/waste/meetings.htm.

For additional information, please contact Rusty Lundberg, Deputy Director of the Division of Waste Management and Radiation Control at the Utah Department of Environmental Quality, at (801) 536-4257 or at rlundberg@utah.gov.

Rocky Mountain Compact

Rocky Mountain Board Holds Annual and Regular Meetings

On June 27, 2016, the Rocky Mountain Low-Level Radioactive Waste Board held both a Regular Meeting and an Annual Meeting in Denver, Colorado. The meetings—which were held at the Westin Denver International Airport—began at 1:00 p.m.

Regular Meeting

The following items were on the draft agenda for the Regular Meeting:

- Approval of Minutes of the Regular Meeting on October 15, 2015 and Notice of Telephonic Meeting on January 13, 2016
- Update from the Clean Harbors Regional Facility
- Update from URENCO USA
- Update from International Isotopes
- Discussion of Naturally Occurring Radioactive Material (NORM) Oil and Gas Issues
- Update on National Developments
- Executive Director's Report
  - Fiscal Status/Investment Summary
  - Permit Fee Revenue for 2015 and 2016
  - Expenditure/Budget Comparison
  - Status of Volumes Authorized for Export and Disposal in 2015 and 2016

Annual Meeting

The following items were on the draft agenda for the Annual Meeting:

- Election of Officers
- Consideration of Fiscal Year 2016-2017 Budget

Interested parties and the public were invited to attend the meetings and an opportunity was provided for public comment.

For additional information, please contact Leonard Slosky, Executive Director of the Rocky Mountain Board, at (303) 825-1912 or lslosky@rmllrwb.us.

Southeast Compact

2017 Hodes Award Nominations Sought

The Southeast Compact Commission for Low-Level Radioactive Waste Management is accepting nominations for the 2017 Richard S. Hodes, M.D. Honor Lecture Award—a program that recognizes an individual, company, or organization that contributed in a significant way to improving the technology, policy, or practices of low-level radioactive waste management in the United States. The award recipient will present the innovation being recognized at a lecture during the Waste Management '17 Symposium in Phoenix, Arizona. The award recipient will receive a $5,000 honorarium and all travel expenses will be paid.

Nominations must be received by August 31 .2016 ,

Background

Dr. Richard S. Hodes was a distinguished statesman and a lifetime scholar. He was one of the negotiators of the Southeast Compact law, in itself an innovative approach to public policy in waste management. He then served as the Chair of the Southeast Compact Commission for Low-Level Radioactive Waste Management from its inception in 1983 until his death in 2002.

Throughout his career, Dr. Hodes developed and supported innovation in medicine, law, public policy, and technology. The Richard S. Hodes, M.D. Honor Lecture Award was established in 2003 to honor the memory of Dr. Hodes and his achievements in the field of low-level radioactive waste management.

Past Recipients

The following individuals and entities are past recipients of the Richard S. Hodes, M.D. Honor Lecture Award:

- W.H. "Bud" Arrowsmith (2004);
- Texas A & M University Student Chapter of Advocates for Responsible Disposal in Texas (2004 *honorable mention*);
- William Dornsife (2005);
- California Radioactive Materials Management Forum (2006);
- Larry McNamara (2007);
- Michael Ryan (2008);
- Susan Jablonski (2009);
- Larry Camper (2010);
- Christine Gelles (2011);
- Lawrence "Rick" Jacobi (2012);
- James Kennedy (2013);
- Energy*Solutions*, the Utah Department of Environmental Quality (DEQ), the Conference of Radiation Control Program Directors (CRCPD), and the U.S. Department of Energy's (DOE) Global Threat Reduction Initiative (2013 *honorable mention*);
- Electric Power Research Institute (2014) ;
- Division of Radiation Control of the Utah DEQ and Energy*Solutions* (2015); and
- Louis Centofanti (2016).

The Award

The Richard S. Hodes Honor Lecture Award—established in March, 2003—is awarded to an individual, company, or organization that contributed in a significant way to improving the technology, policy, or practices of low-level radioactive waste management in the United States.

The award recipient will be recognized with a special plaque and an invitation to present a lecture about the innovation during the annual international Waste Management Symposium (WM '17). The 2017 symposium is sponsored by the University of Arizona and will be held in Phoenix, Arizona in the spring of 2017.

A special time is reserved during the Symposium for the lecture and the award presentation. The Southeast Compact Commission will provide the award recipient a $5,000 honorarium and will pay travel expenses and per diem (in accordance with Commission Travel Policies) for an individual to present the lecture.

Criteria

The Richard S. Hodes Honor Lecture Award recognizes innovation industry-wide. The award is not limited to any specific endeavor—contributions may be from any type of work with radioactive materials (nuclear energy, biomedical, research, etc.), or in any facet of that work, such as planning, production, maintenance, administration, or research. The types of innovations to be considered include, but are not limited to:

- conception and development of new approaches or practices in the prevention, management, and regulation of radioactive waste;

- new technologies or practices in the art and science of waste management; and,
- new educational approaches in the field of waste management.

The criteria for selection include:

1. *Innovation*. Is the improvement unique? Is it a fresh approach to a standard problem? Is it a visionary approach to an anticipated problem?
2. *Safety*. Does the practice enhance radiation protection?
3. *Economic*s. Does the approach produce significant cost savings to government, industry or the public?
4. *Transferability*. Is this new practice applicable in other settings and can it be replicated? Does it increase the body of technical knowledge across the industry?

Eligibility

To be eligible for the award, the individual/group must consent to being nominated and must be willing to prepare and present a lecture about the innovation being recognized at the Waste Management Symposium. Individuals or organizations can nominate themselves or another individual, company, institution, or organization.

Nominations

To nominate yourself or another individual, company, or organization for this distinguished award, please contact:

Awards Committee
c/o Ted Buckner
Executive Director
Southeast Compact Commission
Post Office Box 5427
Cary, NC 27512
(919) 380-7780
(919) 380-7710 - FAX
tedb@secompact.org

or visit the Southeast Compact Commission's website at http://www.secompact.org/.

Nominations must be received by August 31, 2016.

Southwestern Compact/State of California

San Onofre Steam Generator Tube Degradation Lessons Learned Report

On April 13, 2016, the U.S. Nuclear Regulatory Commission (NRC) issued Regulatory Issue Summary (RIS) 2016-03 to highlight issues involving 10 CFR 50.59, "Changes, tests, and experiments," and 10 CFR Part 50, Appendix B, Criterion III, "Design Control," related to the process of identifying which changes, tests, or experiments are subject to an evaluation against the 10 CFR 50.59 criteria.

These issues were identified with respect to the replacement steam generators at San Onofre Nuclear Generating Station (SONGS).

Summary

On March 6, 2015, the NRC staff issued a report, "Review of Lessons Learned from the San Onofre Steam Generator Tube Degradation Event," along with an accompanying White Paper, "10 CFR 50.59; the Process, Application to Substantial Modifications to Licensee Facilities, and NRC Staff Assessment of Licensee Implementation," dated February 25, 2015. The SONGS lessons learned report highlights important aspects of the guidance in NEI 96-07, Revision 1, related to issues with the San Onofre 10 CFR 50.59 screening and evaluation for the replacement steam generators.

In an augmented inspection report dated November 9, 2012, NRC inspectors identified a minor violation of 10 CFR 50.59(d)(1) which requires that the licensee maintain records of changes in the facility for changes that do not require license amendment. Specifically, the minor violation identified an inadequate 10 CFR 50.59 written evaluation for the San Onofre replacement steam generators related to whether the change from one computer code to another (ANSYS to ABAQUS) constituted a departure from the method of evaluation. The licensee revised the SONGS updated final safety analysis report (UFSAR) to reflect that the stress analyses for the original SONGS Units 2 and 3 steam generators utilized the ANSYS computer program to evaluate reactor coolant system structural integrity. The analyses employed for the replacement steam generators used the ABAQUS computer program. The NRC inspection report stated that the licensee inappropriately evaluated this change against 10 CFR 50.59(a)(2)(i) (i.e., as a change to an element of a method) rather than against 10 CFR 50.59(a)(2)(ii) (as a change from one method to another method). As such, NRC determined that the licensee's 10 CFR 50.59 evaluation did not address 10 CFR 50.59(a)(2)(ii) for changing to another method by describing whether "that method [ABAQUS] has been approved by NRC for the intended application." The NRC determined that the 10 CFR 50.59 written evaluation for this change did not provide an appropriate basis for the determination and that the change in the method of evaluation did not require a license amendment prior to implementing the change, which constituted a minor violation of 10 CFR 50.59(d). The NRC inspection report describes that the licensee subsequently cited examples where ABAQUS had been approved by the NRC for the intended application. However, the listed examples included three NUREG contractor reports of research done for the NRC Office of Nuclear Regulatory Research and do not constitute NRC approval. Specifically, NEI 96-07, Revision 1, Section 4.3.8.2, "Guidance for Changing from One Method of Evaluation to Another," identifies two paths for NRC approval. The first path consists of a vendor's submittal of a topical report, and NRC issuing a safety evaluation report documenting generic NRC approval for the use of a specific analysis methodology by a given class of power plants. The second path consists of NRC approval of a specific analysis for a given plant via a license amendment.

A second issue involved the guidance in NEI 96-07, Revision 1, which defines "method of evaluation" as the calculational framework used for evaluating behavior or response of the facility. Per this definition, a method of evaluation could consist of a calculational framework of numerous calculations (e.g., a computer program), but it also might consist of a single calculation that is very simple (e.g., adding two numbers together). As such, NRC states that the licensee's 10 CFR 50.59 is required to evaluate a change in a method of evaluation (e.g., from a computer program to a simple manual calculation) to determine whether the change requires prior NRC approval per 10 CFR 50.59(c)(2)(viii) as a "departure from the method of evaluation" as defined in 10 CFR 50.59(a)(2).

The third issue involves the failure of the licensee to properly identify at least 14 methods of evaluation listed in Section 3.9, "Mechanical Systems and Components," of the SONGS UFSAR that were changed as a result of the steam generator replacement efforts and therefore needed to be evaluated under 10 CFR 50.59. However, NRC states that the licensee failed to identify these 14 changes as requiring an evaluation against the criteria in 10 CFR 50.59. As a result, NRC determined that the SONGS 10 CFR 50.59 evaluation did not appropriately discuss whether these changes in the method of evaluation met the definition in 10 CFR 50.59 (a)(2) of a departure from a method of evaluation that would require a license amendment. This issue was not inspected and dispositioned from an enforcement perspective in an NRC inspection report because the issue was raised after the

licensee's decision to permanently cease power operations. NRC states that the issue pertains to 10 CFR 50.59(d)(1), which requires the licensee to prepare a written evaluation providing the bases for the determination that the change, test or experiment does not require a license amendment pursuant to paragraph 10 CFR 50.59(c)(2) (e.g. criterion viii methods of evaluation).

Background

The requirements in 10 CFR 50.59 permit licensees to make changes in the facility or procedures as described in its USFAR, or conduct tests or experiments not described in its UFSAR, without first obtaining a license amendment pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit." According to NRC, the licensee can make these changes or conduct these tests or experiments without a license amendment only if a change to the facility's technical specifications is not required, and if the change, test, or experiment does not meet any of the eight criteria listed in 10 CFR 50.59(c)(2).

Prior NRC approval is required by 10 CFR 50.59 (c)(2)(viii) if the change, test, or experiment would, "Result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses."

The definition in 10 CFR 50.59(a)(2) states the following:

> Departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses means:
>
> (i) Changing any of the elements of the method described in the FSAR (as updated) unless the results of the analysis are conservative or essentially the same; or
>
> (ii) Changing from a method described in the FSAR to another method unless that method has been approved by NRC for the intended application.

Section VIII of each design certification appendix to 10 CFR 52 contains a process similar to 10 CFR 50.59 for changes to Tier 2 of the design certification. A similar evaluation of processes associated with these evaluations is recommended for those affected addressees.

In November 2000, the NRC issued corresponding Regulatory Guide (RG) 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments." RG 1.187 endorsed an industry document, Nuclear Energy Institute (NEI) 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," also issued in November 2000.

RIS 2016-03 has been posted to the NRC Generic Communications web page, along with the URL for access to generic communications files, on the NRC public website at http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2016/.

(Continued from page 1)

The outline for rulemaking states that the Texas Compact Commission "finds that it is important to the public health and safety in the party states that there be a process that provides a record of all low-level radioactive waste that is shipped into the Compact."

Accordingly, the Texas Compact Commission proposes to adopt a rule that

- requires that all low-level radioactive waste (other than such waste that is shipped to the Compact Waste Disposal Facility for disposal pursuant to rules of the Texas Compact

Commission) shipped into the Texas Compact utilizing NRC Form 540 (Uniform Low-Level Radioactive Waste Manifest Shipping Paper) be subject to the following reporting process:

- such waste may only be shipped to a site that has an agreement ("an agreement site") with the Texas Compact Commission and is licensed by the appropriate licensing entity in a party state; and,

- inter alia, the agreement site will agree to report shipments to its site to the Texas Compact Commission by volume and radiation activity not more than a set number of days after the end of each quarter of the Texas Compact Commission's fiscal year;

- contains enforcement criteria for failure of an entity to ship to an agreement site; and,

- contains criteria for the agreement that will be entered into by the Texas Compact Commission with agreement sites within a party state.

Questions for Comment

In addition to seeking comments on the outline for rulemaking for the development of a concept paper for Rule 675.24 relating to the importation of low-level radioactive waste that is below the criteria applicable for disposal in the Compact Waste Disposal Facility, the Texas Compact Commission requested that stakeholders submit specific comments on the following matters:

1. Is the scope of the rule appropriate in that "any person, state, regional body, or group of states" must enter into an agreement with the Texas Compact for importation into Texas or Vermont of low-level radioactive waste for management? Is the scope too broad? Is the scope too narrow?

2. Is it appropriate for all waste shipped into the Texas Compact under an NRC Form 540, 541 and 542 to be covered by this rule? What would be potential exemptions or exclusions that the Texas Compact Commission should consider? And why?

3. The Texas Compact is considering requiring the following information to be reported quarterly:

   - volume;
   - activity (in curies);
   - low-level radioactive waste generator;
   - the low-level radioactive waste compact, unaffiliated state, territory or possession of the waste generator;
   - ultimate disposition of the waste;
   - does the waste contain disused sources; and,
   - how is the waste stored, processed or otherwise managed once imported;

The Texas Compact Commission sought comment on the above information that would be required to be reported quarterly. Is there additional information that should be requested? Is any of the above-listed information unnecessary to report? Should the Texas Compact Commission choose weight, instead of volume? Are curies the correct unit?

4. Is quarterly reporting an appropriate reporting timeframe?

Submitting Comments

Interested stakeholders were instructed to submit comments to the Texas Compact Commission's Rules Committee. Comments received will be reviewed to develop rules for proposal in the *Texas Register*.

The comment period deadline ended on June 27, 2016. No stakeholder meetings have yet been scheduled.

For additional information, please contact Texas Compact Commission Consulting Supervisory Director Leigh Ing at (512) 217-8045 or at leigh.ing@tllrwdcc.org.

Texas Compact/State of Texas

WCS Files License Application with NRC to Operate a Consolidated Interim Storage Facility for Used Nuclear Fuel

On April 28, 2016, Waste Control Specialists LLC (WCS) announced that it has submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a license to construct and operate a Consolidated Interim Storage Facility (CISF) for used nuclear fuel. "The application is being led by WCS," states the company's press release, "along with its partners AREVA and NAC International, both global industry leaders in the transportation and storage of used nuclear fuel."

WCS submitted the application after a year of pre-application meetings with NRC and in accordance with a timeline that the company outlined in February 2015. According to WCS, a CISF could be completed as early as 2021.

Overview

The WCS application proposes an initial 40-year storage license for 40,000 metric tons of heavy metal (MTHM) to be built in eight phases. Each of the eight storage systems would be able to accommodate 5,000 MTHM for an eventual capacity of 40,000 MTHM. The proposal includes opportunities for 20-year renewals after the initial license period.

According to WCS, Phase 1 of the CISF will require approximately 155 acres, plus an additional 12 acres for administrative and parking facilities. The entire site through Phase 8 will require approximately 332 acres, which WCS notes is less than 2.5 percent of the company's site-wide acreage.

As proposed, the primary operations performed at the WCS site would be transferring the sealed canisters of used fuel from a transportation cask into an engineered interim fuel storage system, where it would be monitored until its departure to an offsite permanent disposal location.

"Consolidated interim storage would provide system-wide benefits and flexibilities to strengthen the U.S. Used Nuclear Fuel Management Program and help advance a permanent geologic disposal program," said Rod Baltzer, President and CEO of WCS. "It creates a robust opportunity to develop and deploy the repackaging technology to prepare the used nuclear fuel currently in dry storage for final offsite disposal in a geologic repository."

According to WCS' press release, other benefits of consolidated interim storage include the opportunity to reduce the risk of further degradation of on-site infrastructure at permanently shut down reactor sites and to address public concerns about transportation by demonstrating successful transport of this material.

Another chief benefit of an accelerated schedule for moving fuel away from shutdown sites, states WCS, is to reduce the liability to taxpayers for the federal government's failure to meet its contractual obligations to dispose of this material.

Background

Various lawsuits have been filed that allege that the federal government has failed to meet its statutory obligation to take title to used nuclear fuel by 1998. The government has estimated that

its liability will total $13 billion by 2020 and may increase by approximately $500 million per year if a solution is not found by 2022.

The Nuclear Waste Fund's 2015 Audit Statement found the net value of the fund to be $37.4 billion. Expenditures over the past five years have been approximately $4 billion.

WCS operates a privately owned facility in Andrews County, Texas that has been licensed to treat, store and dispose of Class A, B and C low-level radioactive waste. WCS is a subsidiary of Valhi, Inc.—a company that is engaged in the titanium dioxide pigments, component products (security products and high performance marine components), waste management, and real estate management and development industries.

World Institute for Nuclear Security (WINS)

WINS Releases Special Report re Alternative Technologies

In May 2016, the World Institute for Nuclear Security (WINS) issued a special report titled, "Considerations for the Adoption of Alternative Technologies to Replace Radioactive Sources."

The WINS report describes the advantages and disadvantages of several alternative technologies used in medicine, industry, research and academia to help interested stakeholders consider whether it would be appropriate to replace some or all of the radioactive source technologies that are currently being used with an alternative—particularly if the replacement is more effective, less burdensome, and less costly. In addition, the report presents a process that will help stakeholders decide whether to adopt an alternate technology, suggests several issues to consider when assessing the viability of such changes, discusses some of the challenges others have faced when making this decision, and provides references to support stakeholder considerations. Finally, Appendix A of the report provides a set of questions that will help stakeholders determine whether or not the use of alternative technologies would be viable in their individual circumstances.

In preparing the special report, the WINS considered the experience of medical, industrial and academic practitioners and regulators. The WINS also considered guidance material published by the International Atomic Energy Agency (IAEA), selected national regulators and two WINS workshops focused on the international community's experience with alternative technologies.

For additional information and a link to a copy of the WINS report, please go to the resources page of the Disused Sources Working Group (DSWG) web site at http://www.disusedsources.org/resources/.

For additional information on the DSWG, please contact Todd D. Lovinger, Esq. at LLWForumInc@aol.com or at (754) 779-7551.

Nuclear Power Plants and Other NRC Licensees

News Briefs for Nuclear Power Plants Across the Country

The following news briefs provide updates on recent activities, enforcement actions and general events at nuclear power plants and other licensees around the country. The briefs are organized by compact and state.

For additional information, please contact the referenced facility or licensee.

Atlantic Compact/States of Connecticut and South Carolina

Plus LLC In May 2016, the U.S. Nuclear Regulatory Commission proposed a $42,000 fine against Plus LLC of Stamford, Connecticut for willful violations of requirements related to importing, possessing and distributing watches containing radioactive material. The NRC found the company imported watches containing the radioactive isotope tritium and distributed them to unlicensed individuals in violation of the NRC's import, possession and distribution regulations. Tritium watches are exempt from regulation once they are initially distributed, so retailers and consumers do not need a license to own them; however, the initial distribution must be made under an NRC license to ensure that the devices meet safety requirements. The watches contain a small amount of tritium encapsulated in glass vials. The radioactive material ionizes a luminescent coating on the inside of the glass vial to produce light, so that the markers on the watch face and hands can be seen in low light. On March 14, 2016, the company and the NRC held a pre-decisional enforcement conference to discuss the violations. The amount of the fine provides Plus LLC credit for taking corrective actions, which include ceasing distribution of the watches and obtaining possession and exempt-distribution licenses from the NRC. But the amount is double the $21,000 base fine because the company made a deliberate decision not to follow NRC requirements for economic benefit. Plus LLC has the option to deny the violation, or to seek mediation under the NRC's alternative dispute resolution program. The company is not required to provide a written response to NRC's notice of violation. *For additional information, please contact Maureen Conley at (301) 415-8200.*

Catawba Nuclear Power Plant On May 4, 2016, NRC announced that the agency has approved a request by Duke Energy to increase the generating capacity of Catawba Nuclear Station Unit 1 by 1.7 percent. The NRC staff found that Duke Energy could safely increase the reactor's output primarily through more accurate means of measuring feed water flow. The staff determination was based on its review of Duke Energy's evaluations showing the plant's design can handle the increased power level. The NRC safety evaluation of the plant's proposed power uprate focused on several areas including the nuclear steam supply systems, instrumentation and control systems, electrical systems, accident evaluations, radiological consequences, fire protection, operations and training, testing, and technical specification changes. For added confidence in the analysis, the NRC staff also conducted independent calculations and evaluations of selected areas. The power uprate for the Catawba plant—which is located approximately 18 miles south of Charlotte, North Carolina—will increase Unit 1's generating capacity from approximately 1,167 to 1,187 megawatts electric. Duke Energy intends to implement the uprate in May 2016. On November 4, 2014, NRC published a notice about the power uprate application, providing the public an opportunity to comment or request a hearing. The agency's evaluation of the Catawba power uprate is available through the NRC's ADAMS electronic document database. *For additional information, please contact David McIntyre at (301) 415-8200.*

Oconee Nuclear Power Plant On June 17, 2016, NRC announced its finding that modifications completed by Duke Energy at the three-unit Oconee nuclear plant would adequately protect the plant from a potential failure of the Jocassee Dam. The plant is located near Seneca, South Carolina—approximately 30 miles west of Greenville. In 2008, the NRC staff issued a letter to Duke requesting information related to external flooding, including the potential failure of the Jocassee Dam, which is located approximately 12 miles upstream from the plant. There were numerous meetings and conversations between the NRC and Duke, and the detailed flood hazard analysis took two years to complete. In 2010, Duke submitted the flood analysis and the NRC issued a confirmatory action letter (CAL) documenting the company's commitments. As Duke and the NRC continued to work through the flooding issues, the company also implemented some interim compensatory measures, which were inspected by the NRC in 2010. The Fukushima Dai-ichi accident happened in 2011 and the NRC issued another letter in 2012 requesting additional information on flooding as the agency worked to ensure that lessons learned from the situation in Japan were applied to U.S. plants including Oconee. Duke submitted its flood hazard reevaluation report in 2013 and then a revised flood hazard reevaluation report in 2015. The NRC accepted that 2015 report for the purposes of the meeting the CAL. In addition to that report, NRC inspectors have evaluated the Oconee plant's modifications as the company completed each of those steps. The modifications included building new or enhanced floodwalls and other features as well as moving some power lines and equipment to less flood-prone locations. In April 2016, Duke informed the NRC that the flooding modifications were complete, and a subsequent inspection led the NRC to determine that the company had satisfied the commitments in the 2010 CAL. *The Duke letter stating that the modifications were complete is available on the NRC website at www.nrc.gov. For additional information, please contact Roger Hannah at (404) 997-4417 or Joey Ledford at (404) 997-4416.*

Appalachian Compact/States of Pennsylvania and West Virginia

C&D Technologies On May 2, 2016, NRC issued a Confirmatory Order to C&D Technologies, which is a Blue Bell, Pennsylvania maker of safety-related batteries for nuclear power plants. The company has agreed to a series of actions to ensure it complies with requirements to promptly report manufacturing defects. The confirmatory order is a result of the NRC's Alternative Dispute Resolution (ADR) process, which C&D Technologies requested to address three apparent violations related to evaluating and reporting potential manufacturing defects. An NRC inspection in September 2015 determined that the company failed to properly evaluate a defect in a battery manufacturing process and therefore failed to meet the NRC's Part 21 requirements for defect reporting. The defect did not affect safety at any nuclear power plant. Through the ADR process, the company agreed to actions that will ensure ongoing compliance with Part 21 regulations. Some of the commitments outlined in the Confirmatory Order include: ensuring any outstanding Part 21 evaluations meet quality assurance standards; contracting with an independent third party to review C&D Technologies' corrective action program; ensuring all employees understand the company's expectations and commitment to meeting NRC requirements; and, improving training for all employees on complying with NRC requirements. The company has agreed to the Confirmatory Order's specific deadlines for these actions. C&D Technologies will regularly update the NRC in writing on completion of the actions. The ADR process involves mediation facilitated by a neutral third party with no decision-making authority who assists the NRC and a licensee in reaching an agreement when there are differences regarding

an enforcement action. *For additional information, please contact Scott Burnell at (301) 415-8200.*

Novelis On May 13, 2016, NRC announced that agency staff is proposing a $7,000 fine for an Atlanta-based company for a violation of agency requirements. The violation involves maintenance inappropriately done on a fixed nuclear gauge at the firm's manufacturing facility in Fairmont, West Virginia. Based on the results of an NRC inspection and investigation carried out at Novelis Corp.'s Fairmont plant, the agency is also issuing a Severity Level III violation to the company. Novelis performs aluminum sheet and light-gauge fin/foil cold rolling activities at the facility. The company held an NRC license for the possession and use of fixed nuclear gauges at this location. The gauges are used to measure the thickness of the sheet metal products. The NRC inspection and investigation was completed on January 21, 2016. It determined that on September 12-13, 2014, there was a violation involving the deliberate actions of plant employees. Specifically, an engineering reliability and automation engineer directed an electrical technician to repair nuclear gauge components related to the radiological safety of the device even though Novelis' NRC license prohibits such activities. In a letter dated March 8, 2016, Novelis acknowledged that the violation occurred, but it disagreed that the employees acted deliberately. After reviewing the information, the NRC staff concluded that the enforcement action was still appropriate. Based on the apparent economic incentive for the violation, the NRC used discretion to double the fine from base amount of $3,500. Novelis has notified the NRC of prompt and comprehensive corrective and preventive actions in response to the issue including the termination of its NRC license, which occurred on January 12, 2016. The NRC is also issuing a Severity Level III violation to the engineering reliability and automation engineer who authorized the technician to work on the gauge. The company was required to respond to the violation and proposed civil penalty within 30 days. *For additional information, please contact Diane Screnci at (610) 337-5330 or at Neil Sheehan at (610) 337-5331.*

Central Compact/State of Arkansas

Arkansas One Nuclear Power Plant On June 20, 2016, NRC announced that the agency has issued a Confirmatory Action Letter documenting actions that Entergy Operations, Inc. officials have agreed to take to address performance issues at Arkansas Nuclear One. The plant is located in Russellville, Arkansas. On March 4, 2015, the NRC moved Arkansas Nuclear One into Column 4 of the agency's Action Matrix (where operating plants with significant performance issues receive the second highest level of NRC oversight) following inspection findings of substantial safety significance stemming from a heavy equipment incident as well as degraded flood protection at the site. Some of the Entergy commitments outlined in the Confirmatory Action Letter include: actions to address the root and contributing causes for the findings involving the heavy equipment incident and degraded flood protection, including plant deficiencies, vendor oversight, change management, conservative decision making, and risk management; identification, assessment, and correction of performance deficiencies to include improvement in the implementation and oversight of the corrective action program, self-assessment and performance monitoring, the quality of problem evaluations, and the use of operating experience; improvements in human performance to include leadership behaviors and organizational capacity, as well as procedure quality, standards, and accountability; improvements in equipment reliability and engineering programs to ensure that key plant equipment remains available, reliable, and capable of meeting the plant design and licensing bases, including resolving specific equipment conditions; and, actions to improve nuclear safety culture values and behaviors to include commitment by leaders and individuals to emphasize safety over competing goals. NRC

plans to conduct follow-up inspections approximately quarterly to review Entergy's progress toward completing the committed actions. Issuance of the Confirmatory Action Letter does not preclude the NRC from taking additional steps, including enforcement actions, for any violations of agency requirements that are identified in subsequent inspections. *For additional information, please contact Victor Dricks at (817) 200-1128.*

Midwest Compact/State of Wisconsin

LaCrosse Nuclear Power Plant On May 24, 2016, NRC announced that the agency has approved the transfer of the license for the La Crosse Boiling Water Reactor from the Dairyland Power Cooperative to LaCrosse*Solutions*. On October 8, 2015, Dairyland submitted an application to the NRC requesting transfer of the license to LaCrosse*Solutions*, which is a subsidiary of Energy*Solutions*. The license transfer would allow LaCrosse*Solutions* to expedite decommissioning activities on the site. Under the terms of the transfer, Dairyland will remain the owner of the site and retain title to and responsibility for the spent nuclear fuel, which is currently stored in dry casks on the site. LaCrosse*Solutions* will lease the above-ground structures (other than the spent fuel storage site) and assume responsibility for decommissioning under NRC requirements. The La Crosse plant—which is located in Genoa, Wisconsin—has been shut down since 1987. At that time, the NRC modified the original operating license to a possession-only license for the purpose of storage of nuclear materials and waste and decommissioning activities. Energy*Solutions* entered into a similar arrangement as that being done for the La Crosse nuclear power plant when it began to decommission the shuttered Zion nuclear power plant in Illinois in 2010. *The NRC's order approving the transfer and its safety evaluation of the transfer are available in the NRC's ADAMS document database at ML16123A049. For additional information, please contact Maureen Conley of the NRC at (301) 415-8200.*

Southeast Compact/States of Tennessee

Clinch River Nuclear Site On May 12, 2016, the Tennessee Valley Authority (TVA) submitted an application to the NRC for an Early Site Permit (ESP) at the Clinch River Nuclear Site in Tennessee. The NRC staff is reviewing the application to determine if it is sufficiently complete to begin the agency's extensive safety and environmental reviews. The staff expects to complete this initial review in mid-July 2016. If the NRC concludes that the application is complete, the staff will docket it and publish a notice of opportunity to request an adjudicatory hearing before the NRC's Atomic Safety and Licensing Board. Under the ESP process, the NRC conducts a review to determine if the site is suitable for building and operating a nuclear power facility. Even if the NRC eventually concludes a permit is justified, however, TVA would have to file a separate application for permission to build and operate a nuclear power plant. *Information about the ESP review process, as well as a copy of the Clinch River ESP application, is available on the NRC web stie at www.nrc.gov. For additional information, please contact Scott Burnell at (301) 415-8200.*

Watts Bar Nuclear Plant On May 24, 2016, NRC staff held a meeting with Tennessee Valley Authority (TVA) officials to discuss TVA's response to an NRC "chilling effect" letter that was issued in March 2016 to the Watts Bar nuclear plant. The plant is located near Spring City, Tennessee—approximately 60 miles southwest of Knoxville. The NRC had found that some operations employees may not have felt free to raise safety concerns, and some licensed operators may have been unduly influenced and directed by sources external to the control room. That hesitancy to raise concerns is what the NRC calls a chilling effect. The NRC met with Watts Bar officials on March 22, 2016 and issued the letter on March 23, 2016. That letter requested a

response outlining what TVA is doing to address the concerns. During the meeting on May 24, 2016, the Watts Bar staff briefed the NRC on the current status and progress of actions to improve the chilled work environment in the operations department at the plant. The public was allowed to observe the meeting, which was held in the NRC's Region II office in Atlanta, Georgia. *For additional information, please contact Roger Hannah at (404) 997-4417 or Joey Ledford at (404) 997-4416.*

State of Michigan

Palisades Nuclear Power Plant On May 16, 2016, NRC announced that the agency has issued a Confirmatory Order to Entergy Nuclear Operations Inc. under which the company will perform a series of actions to address failures in handling a leak from the safety injection refueling water tank (SIRWT) into the control room at the Palisades Nuclear Plant. The plant is located in Covert, Michigan—approximately five miles south of South Haven. The order stems from a settlement reached under the NRC's alternative dispute resolution (ADR) process requested by plant-owner Entergy to address the violations identified in the NRC's investigation. The violations are connected to the discovery of leakage from the plant's control room ceiling on May 18, 2011. Even though the leak did not result in damage to control room or other safety equipment, the NRC determined that four Palisades employees willfully failed to enter information that identified the tank as the source of the control room leak into the corrective actions program. This delayed Entergy's response to the issue. In addition, Entergy failed to perform an adequate analysis of the tank's ability to fulfill its safety function, and failed to follow requirements associated with a missed tank surveillance test. The tank is designed to provide borated water to cool the reactor in case of an accident. Entergy has already taken a number of actions to address the causes of the violations, which include repairs to the tank to prevent further leakage and strengthening the safety culture at Palisades. The NRC independently reviewed the company's efforts and noted improvement in these areas. As a result of the ADR meeting, the company agreed to a number of additional commitments to improve its safety culture. These commitments include: ensuring personnel at Palisades and other Entergy fleet facilities understand lessons learned from this matter; sharing these insights with other nuclear plants; and, reviewing applicable procedures. In addition to addressing programmatic and operational issues, the company agreed to modify its interactions with the public on Palisades. Those commitments include: conducting five public meetings by the end of 2018; inviting key stakeholders, such as concerned individuals, non-government organizations, federal, state and local officials to these meetings; focusing meeting discussion on plant safety and operation; and, adopting a meeting format which allows members of the public to raise questions and concerns. The ADR process includes mediation facilitated by a neutral third party, with no decision- making authority, who assists the NRC and a licensee in reaching an agreement when there are differences regarding an enforcement action. *A copy of the Confirmatory Order will be available on the NRC's web site at www.nrc.gov. For additional information, please contact Viktoria Mitlyng at (630) 829-9662 or Prema Chandrathil at (630) 829-966.*

Information Notices and Regulatory Issues Summaries

The following is a list of Information Notices (IN) and Regulatory Issue Summaries (RIS) that were recently issued by the U.S. Nuclear Regulatory Commission (NRC) for nuclear power plants and other licensees around the country.

For additional information, please go to the NRC's web site at www.nrc.gov.

Information Notices

Over the course of the past few months, NRC has issued the following Information Notices:

- Operating Experience Regarding Complications from a Loss of Instrument Air: IN 2016-05, dated April 27, 2016 (ML6028A308), was issued in order to inform addressees of several reactor events during which operator response was complicated by a loss of instrument air. It includes descriptions of such circumstances at the Pilgrim Nuclear Power Station; Millstone Power Station, Unit 3; and, Turkey Point Nuclear Generating Station, Unit 3.

- Uranium Hexafluoride Cylinders with Potentially Defective 1-Inch Valves: IN 2016-06, dated May 12, 2016 (ML150303A504), was issued in an effort to remind addressees, including more recent NRC licensees, of performance and safety concerns regarding UF6 cylinders with 1-inch valves manufactured by the Hunt Valve Company of Salem, Ohio. The document describes events involving transportation of cylinders fitted with Hunt valves that have occurred within the past 5 years.

- Operating Experience Regarding Impacts on Site Electrical Power Distribution From Inadequate Oversight of Contractor Activities: IN 2016-07, dated June 20, 2016 (ML16057A842), is intended to inform addressees of adverse effects to off-site power availability that have resulted from inadequate licensee oversight of contractor activities. It includes descriptions of such circumstances at the Wolf Creek Generating Station, Unit 1; Arkansas Nuclear One, Units 1 and 2; Comanche Peak Nuclear Power Plant, Units 1 and 2; and, the Joseph M. Farley Nuclear Plant, Unit 2.

- Inadequate Work Practices Resulting in Faulted Circuit Breaker Connections: IN 2016-08, dated June 17, 2016 (ML16104A214), informs addressees of operating experience related to circuit breaker overheating and fires caused by inadequate and high-resistance connections. Information from these events may apply to the design, installation, testing, inspection, and maintenance of circuit breakers. It includes descriptions of such circumstances at the Fort Calhoun Station, Unit 1; Browns Ferry Nuclear Plant, Unit 3; Nine Mile Point Nuclear Station, Unit 2; and, the Palo Verde Nuclear Generating Station, Unit 2.

For additional information and copies of the above-referenced Information Notices, please go to http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/2016/.

Regulatory Issue Summaries

Over the course of the past few months, NRC has issued the following Regulatory Issue Summaries:

- Containment Shell or Liner Moisture Barrier Inspection: RIS 2016-07, dated May 9, 2016 (ML16068A436), reiterates the NRC staff's position in regard to in-service inspection requirements for moisture barrier materials, as discussed in the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (hereinafter "the ASME Code"), Section XI, "Rules for Inservice

Inspection of Nuclear Power Plant Components," Subsection IWE. It reviews several instances in which containment shell or liner moisture barrier materials were not properly inspected in accordance with ASME Code Section XI, Table IWE-2500-1, Item E1.30 including at the Watts Bar Nuclear Plant, Unit 2, and at the Surry Power Station, Units 1 and 2. *For additional information and a copy of RIS 2016-07, please go to http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2016/.*

- Process for Scheduling and Allocating Resources in Fiscal Year 2019 for the Review of New Licensing Applications for Light-Water Reactors and Non-Light-Water Reactors: RIS 2016-08, dated June 7, 2016 (ML16082A218), was issued to, among other things, assist the agency in determining FY 2019 resource and budget needs with respect to future construction-related activities, and other anticipated 10 CFR Part 50 and Part 52 licensing and design certification rulemaking actions for large light-water reactors (LWRs), non-LWRs, small modular reactors (SMRs), and other reactor technologies. (See related story, this issue.)

- Preparation and Scheduling of Operator Licensing Examinations: RIS 2016-09, dated June 16, 2016 (ML16116A275), informs addressees of NRC staff's need for updated information on projected site-specific operator licensing examination schedules, as well as on the estimated number of applicants planning to take operator licensing examinations, and the NRC's generic fundamentals examinations (GFEs). This information will help the NRC plan its resources more effectively. It seeks information regarding proposed examination preparation schedules, initial operator license examinations, and proposed generic fundamentals examination schedules. RIS 2016-09 supersedes in its entirety RIS 2015-05, "Preparation and Scheduling of Operator Licensing Examinations."

For additional information and copies of the above-referenced Regulatory Issue Summaries, please go to http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2016/.

US Ecology Closes Acquisition of Canada-Based Environmental Services

On May 3, 2016, US Ecology, Inc. announced that it has acquired all of the stock of Environmental Service Inc., (ESI)—an environmental services company based in Tilbury, Ontario, Canada.

The new US Ecology Tilbury facility will complement the company's existing fixed facilities in Michigan and Quebec and allow US Ecology to better provide a full range of environmental, field, and industrial services to customers in the region. Terms of the transaction were not disclosed.

Overview

ESI, located approximately 45 miles east of Detroit, is focused primarily on hazardous and non-hazardous transportation and disposal, hazardous and non-hazardous waste treatment, industrial services, confined space rescue and emergency response work throughout Ontario. Current capabilities include waste consolidation, chemical treatment, solidification, blending and bulking of hazardous and non-hazardous waste and biological treatment of impacted soils.

"The addition of ESI to US Ecology's family of permitted waste treatment facilities will enhance our geographic reach in the Canadian market to better meet the needs of our combined customers in the region, while complementing our treatment and disposal assets in Michigan and Québec,"

commented Jeff Feeler, US Ecology's Chair and CEO. "Our expanding commitment to the Ontario market should provide growth opportunities across our Environmental Services, and Field and Industrial Services businesses."

Background

US Ecology is a leading North American provider of environmental services to commercial and government entities. The Company addresses the complex waste management needs of its customers by offering treatment, disposal and recycling of hazardous, non-hazardous and radioactive waste, as well as a wide range of complementary field and industrial services.

US Ecology focuses on safety, environmental compliance, and best–in-class customer service in an effort to enable the company to effectively meet the needs of its customers and to build long-lasting relationships.

Operating since 1952, US Ecology is headquartered in Boise, Idaho, with operations in the United States, Canada and Mexico.

For additional information, please go to www.usecology.com.

US Ecology Sells Non-Hazardous Waste Processing Facility

On April 5, 2016, US Ecology, Inc. announced the sale of its non-hazardous solid and liquid waste processing facility located in Augusta, GA (USE Augusta) to Covanta Environmental Solutions—a leading provider of comprehensive environmental services. Terms of the transaction were not disclosed.

Overview

"We view this as a positive outcome for the facility, our employees and our company," commented US Ecology Chair and CEO Jeff Feeler. "The Augusta facility, while led by an excellent team of industry professionals, was not well aligned with our core environmental services assets or sales focus. US Ecology continues to be focused on developing its core environmental service offerings and evaluating the disposition of non-core assets."

USE Augusta is reported as part of US Ecology's Environmental Services segment. Its financial contribution to the company was not material for the fiscal year ended December 31, 2015. The sale has no impact to US Ecology's previously provided 2016 earnings guidance, which the company reported in their earnings release dated February 18, 2016.

Background

US Ecology is a leading North American provider of environmental services to commercial and government entities. The Company addresses the complex waste management needs of its customers by offering treatment, disposal and recycling of hazardous, non-hazardous and radioactive waste, as well as a wide range of complementary field and industrial services.

US Ecology focuses on safety, environmental compliance, and best–in-class customer service in an effort to enable the company to effectively meet the needs of its customers and to build long-lasting relationships.

Operating since 1952, US Ecology is headquartered in Boise, Idaho, with operations in the United States, Canada and Mexico.

For additional information, please go to www.usecology.com.

U.S. Department of Defense (DoD) and U.S. Nuclear Regulatory Commission (NRC)

MOU Signed re Unlicensed Radioactive Material Cleanup at Military Bases

In early May 2016, the U.S. Department of Defense (DoD and the U.S. Nuclear Regulatory Commission (NRC) announced the that they had finalized a Memorandum of Understanding (MOU) describing roles in the cleanup of radium and other unlicensed radioactive materials at military sites.

The MOU, which culminates several years of discussions between the parties, can be found on the NRC's web site at www.nrc.gov.

Background

Until the 1960's, Luminescent radium paint was widely used in vehicle instrumentation and other military applications. Given that exposure to radium can increase the risk of adverse health effects, the military has a program to control or remediate legacy radium contamination and store and decontaminate equipment containing radium. The military is also cleaning up other unlicensed radiological material.

Pursuant to legislation that was passed in 2005, Congress gave the NRC jurisdiction over radium and radium contamination. In addition, the U.S. Environmental Protection Agency (EPA) oversees cleanup work at some military sites under Superfund, which is more formally known as the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). As documented in the MOU, the NRC also has an independent federal oversight role at the other sites where the military is cleaning up radioactive materials.

Overview

The MOU provides two ways in which the NRC will be involved in military cleanup projects.

The first way is to stay informed of remediation activities. At sites where the EPA has oversight under Superfund, NRC staff would limit its involvement to staying informed about remedial actions, oversight activities and issues. This approach could involve document reviews, site visits and meetings with the Army, Air Force, Navy, Defense Logistics Agency, EPA and state agencies.

The second way is to monitor remediation activities. At sites without EPA oversight, the NRC will monitor the cleanup of unlicensed radiological material, which could include document review and comment, site observations, and confirmatory radiological surveys. This monitoring will provide independent federal oversight to confirm the remediation adequately protects public health and safety and the environment.

For additional information, please contact Maureen Conley of the NRC at (301) 415-8200.

U.S. Department of Energy (DOE) and U.S. Nuclear Regulatory Commission (NRC)

Final Supplement Issued for Yucca Mountain EIS

In early May 2016, the U.S. Nuclear Regulatory Commission (NRC) published the staff's final Environmental Impact Statement (EIS) supplement on a proposed permanent repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain in Nevada. The supplement analyzes potential impacts on

groundwater and surface groundwater discharges and determines all impacts would be "small."

The supplement to the Yucca Mountain EIS is available on the NRC's website at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2184/.

Overview

The May 2016 NRC document supplements Environmental Impact Statements that the U.S. Department of Energy (DOE) prepared on the proposed repository. DOE issued the final EIS in 2002, then supplemented it in June 2008 when it submitted a construction authorization application to the NRC.

Under the Nuclear Waste Policy Act, the NRC is to adopt DOE's EIS to the extent practicable. In September 2008, NRC staff recommended adoption of DOE's Environmental Impact Statements, but noted the need to supplement the study of groundwater effects in the Yucca Mountain aquifer beyond DOE's analyzed location at the site boundary. DOE ultimately deferred to the NRC to prepare the supplement.

Background

In August 2015, NRC published a draft of the supplement for public comment. (See *LLW Notes*, July/August 2016, pp. 28-29.) During the 91-day comment period, NRC staff conducted public meetings to present the report and receive comments in Rockville, Maryland and in Las Vegas and Amargosa Valley, Nevada.

The NRC received more than 1,200 comments on the draft supplement, including comment letters and oral comments. The NRC staff's responses to these comments, and descriptions of changes made to the final report in response to comments, can be found in Appendix B of the supplement.

For additional information, please contact David McIntyre of the NRC at (301) 415-8200.

DOE and NRC Hold Second Advanced Reactor Workshop

On June 7-8, 2016, the U.S. Department of Energy (DOE) and the U.S. Nuclear Regulatory Commission (NRC) continued their joint workshop series on innovative reactor technologies in Bethesda, Maryland.

"These workshops bring all the interested parties to the table to discuss the opportunities and challenges for safely developing and deploying advanced non-light water reactors," said Jennifer Uhle, Director of the NRC's Office of New Reactors. "We're going to focus on DOE's and NRC's strategic activities to support advanced reactor design, regulatory review and deployment."

The workshop, which was open to the public, began at 8:30 a.m. on June 7. It included presentations as well as structured and open discussions, using a facilitator.

For additional information on the workshop, please contact the DOE's Craig Welling at (301) 903-0110 or at craig.welling@nuclear.energy.gov and Tom Sowinski at (301) 903-0112 or at thomas.sowinski@nuclear.energy.gov; or, the NRC's George Tartal at (301) 415- 0016 or at george.tartal@nrc.gov and Diane Jackson at (301) 415-5641 or at diane.jackson@nrc.gov.

U.S. Nuclear Regulatory Commission (NRC)

Transfer of Control (Change of Ownership) of Specific Materials Licenses

In May 2016, the U.S. Nuclear Regulatory Commission (NRC) issued Regulatory Issue Summary (RIS) 2014-08, Revision 1, Regulatory Requirements for Transfer of Control (Change of Ownership) of Specific Materials Licenses.

RIS 2014-08 has been posted to the NRC Generic Communications web page under Accession Number ML15181A223. The document can be found on the NRC web site at http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2014/.

Purpose

NRC issued RIS 2014-08, Revision 1, to clarify which information is required to be submitted to the agency prior to a change of ownership or control for specific materials licenses issued under 10 CFR Part 30 or 10 CFR Part 40.

RIS 2014-08, Revision 1, also provides clarification on reporting requirements under 10 CFR 2.1301, "Public Notice of Receipt of a License Transfer Application," and 10 CFR 2.1305, "Written Comments."

RIS 2014-08, Revision 1, does not transmit any new requirements. Rather, it clarifies that all transfer of control (TOC) applications for specific materials licensees will be placed on the NRC's web site.

Revision 1 of RIS 2014-08 supersedes, in its entirety, the original RIS. No specific action or written response is required in response to RIS 2014-08, Revision 1.

Summary

Holders of material licenses issued under 10 CFR Parts 30 or 40 should review NUREG-1556, Volume 15, for guidance on submitting requests to the NRC prior to transferring control of a license. Additionally, while written specifically for licensees holding 10 CFR Part 70 material licenses, all material licensees should also review RIS 08-19, "Lessons-Learned from Recent 10 CFR Part 70 License-Transfer Application Reviews," for further insight regarding the required information to be submitted to NRC with respect to materials TOC applications. RIS 08-19 discusses the complexity of TOC's in general and is also applicable to 10 CFR Parts 30 and 40.

The length of time needed for the NRC to complete its review is directly related to the complexity of the licensed activity, the proposed transaction and to the degree of public involvement. For most licenses and transactions, full information on a proposed TOC should be submitted to the appropriate NRC regional or headquarters office no less than 90 days prior to the proposed transfer. However, certain sites involved in the TOC may have extensive decommissioning needs such as groundwater contamination or may involve foreign owned or controlled entities. Those types of sites may require additional time to process the TOC, and should be submitted no less than six months prior to the proposed transfer. Examples of sites that should be submitted six months prior to the TOC include uranium recovery and complex material facilities. In order to allow the NRC sufficient time to post a notice of an application for TOC, to provide the required opportunity for a petition to intervene, to provide for the submission of written comments—as well as to request additional information from the licensee to complete the review, if needed—any licensee that intends to transfer control of a specific materials license should submit the TOC application to the NRC as soon as possible. The NRC will review information pertaining to the transfer so that the agency can ensure that:

- radioactive materials are possessed, used, owned, or controlled only by persons who have valid NRC licenses;
- materials are properly handled and secured;
- persons using such materials are capable, competent, and committed to implementing appropriate radiological controls;
- licensees provide adequate financial assurance for compliance with the applicable NRC requirements; and,
- public health and safety are not compromised by the use of such materials.

Although the burden of notification is on the existing licensee, it may still be necessary for the transferee to provide supporting information or to independently coordinate the TOC with the appropriate NRC office.

The NRC requires, in accordance with 10 CFR 2.1301 and 10 CFR 2.1305, that a notification of an application for a TOC be posted for a 30-day public comment period. Except in extenuating circumstances where the NRC determines that it is in the interest of ensuring public health and safety, consent for a TOC will not be granted by the NRC until this 30-day posting period has elapsed and the NRC has found that the transfer is in accordance with the Atomic Energy Act (AEA). Any application for a TOC must include the information outlined in 10 CFR 30.34(b)(2) or 10 CFR 40.46(b) for 10 CFR Part 30 and 10 CFR Part 40 licenses, respectively. Licensees are encouraged to follow the guidance in NUREG-1556, Volume 15, when preparing a TOC application. A notice of each TOC application for a materials license will be posted on the NRC's "Hearing Opportunities and License Applications" webpage located at http://www.nrc.gov/about-nrc/regulatory/adjudicatory/hearing-license-applications.html. The NRC had previously noticed TOCs for uranium recovery facilities and complex materials sites in the *Federal Register*. With the publication of RIS 2014-08, Revision 1, the staff will now only publish notices for these TOCs on the NRC's web site as specified in 10 CFR 2.1301(a).

Background

Under Section 184 of the AEA of 1954, as amended, transfer of control of any license is prohibited unless the Commission finds that the transfer is in accordance with the Act and consents to the transfer in writing. The NRC has issued regulations implementing this requirement, including 10 CFR Part 30.34(b)(1) and 10 CFR Part 40.46(a), which provide that no license granted under 10 CFR Parts 30 through 36, Part 39, or Part 40 can be "transferred, assigned or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the Commission . . . [gives] its consent in writing." NUREG-1556, Volume 15, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Changes of Control and About Bankruptcy Involving Byproduct, Source, and Special Nuclear Material," further outlines the need for licensees to obtain prior written permission from the Commission before transferring control of licenses to other parties. Furthermore, NUREG-1556, Volume 15 clarifies that transferring control of an NRC license without proper notification is considered to be an act of noncompliance with the NRC regulations and, more specifically, is typically considered to be a Severity Level III violation and may warrant escalated enforcement action, to include civil penalties and orders against one or both of the parties involved, if indicated by the circumstances.

Under Section 189.a(1)(A) of the AEA of 1954, as amended, an application for TOC of a license shall be subject to an opportunity for hearing. In 1998, the NRC issued a final rule, "Streamlined Hearing Process for NRC Approval of License Transfers" (1998 Rule). This rule amended 10 CFR Part 2, "Agency Rules of Practice and

Procedure," to provide "uniform" procedures and "rules of practice" that would be applicable to all license transfers requiring prior NRC approval. Under the 1998 Rule along with the 1999 final rule, "Electronic Availability of NRC Public Records and Ending of NRC Local Public Document Room Program" (1999 Rule), the following documents must be placed at the NRC web site at http:// www.nrc.gov:

- the license transfer application and any associated requests;
- the NRC correspondence with the applicant or licensee related to the application;
- the NRC staff Safety Evaluation;
- any NRC staff order which acts on the license transfer application; and,
- if a hearing is held, the hearing record and decision.

The procedures for requesting a hearing and petitions to intervene are set forth in 10 CFR 2.309, "Hearing Requests, Petitions to Intervene, Requirements for Standing, and Contentions." Under those procedures, interested persons have 60 days from the date the transfer is noticed on the NRC web site to submit a request for hearing or petition to intervene and must do so in accordance with the e-filing and other requirements set forth in 10 CFR 2.309.

Under 10 CFR 2.1301 and 10 CFR 2.1305, as amended by the 1998 Rule and 1999 Rule, members of the public may submit written comments as an alternative to a request for a hearing or petition to intervene, and "[the NRC] will notice receipt of each application for direct or indirect transfer of a specific NRC license by placing a copy of the application at the NRC Web site, http://www.nrc.gov." Furthermore, "if appropriate, [the NRC will] respond to submitted comments, but these comments do not otherwise constitute part of the decisional record."

The NRC requires that written comments be submitted to the agency within 30 days after public notice of the receipt of the application. The NRC will provide the licensee with a copy of any received comments. While the licensee is not required to respond to the written comments, if it chooses to do so, any response must be submitted to the NRC within 10 days of the licensee's receipt of the comments.

RIS 2014-08 has been revised to clarify the NRC's process for TOC applications of uranium recovery and complex material facility licensees because they are more complex transfers than TOC applications of portable gauge users, medical institutions, and sealed source and device manufacturers and distributors, for example.

For additional information, please contact Tomas Herrera of the NRC's Division of Materials Safety, State, Tribal and Rulemaking Programs at (301) 415-7138 or at Tomas.Herrera@nrc.gov and Ron Linton of the Division of Decommissioning, Uranium Recovery, and Waste Programs at (301) 415-7777 or at Ron.Linton@nrc.gov.

Regulation of Radium-226 at DoD Sites with Radioactive Materials

On May 9, 2016, the U.S. Nuclear Regulatory Commission (NRC) issued Regulatory Issue Summary (RIS) 2016-06 to:

- clarify which discrete sources of radium-226 under military control are subject to NRC regulation as byproduct material under the Atomic Energy Act of 1954, as amended (AEA), including clarification of the discussion of the NRC's jurisdiction over radium-226 under military control in the NRC final rule "Requirements for Expanded

Definition of Byproduct Material" (NARM Rule) as published at 72 *Federal Register* 55,864 on October 1, 2007;

- describe regulatory approaches to implement the NRC's authority over contamination and items and equipment containing naturally occurring and accelerator-produced radioactive material (e.g., radium-226) at military sites; and,

- describe coordination and agreement between the NRC and Department of Defense (DoD) on Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) response actions at military sites with unlicensed AEA byproduct, source, or special nuclear materials under a Memorandum of Understanding (MOU) dated April 28, 2016.

Background

The Energy Policy Act of 2005 (2005 Act) expanded the AEA's definition of byproduct material to include discrete sources of radium-226, discrete sources of naturally occurring radioactive material, and accelerator-produced radioactive material for use for a commercial, medical, or research activity—collectively referred to as NARM. Thereafter, the NRC received inquiries from different branches of the military requesting clarification of the scope of the NRC's jurisdiction over NARM. Section 651 (e)(3)(A) of the 2005 Act amended the definition of byproduct material to include "any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after [August 8, 2005,] for use for a commercial, medical, or research activity." However, neither the 2005 Act nor the AEA define the term "discrete source." Accordingly, the NRC established by regulation a definition of the term "discrete source" to be used for the purposes of the new definition of byproduct material. 10 CFR sections 20.1003, 30.4, 110.2, and 150.3 define a discrete source as "a radionuclide that has been processed so that its concentration within a material has been purposely increased for use for commercial, medical, or research activities." In addition, the statements of consideration (SOC) for the NARM Rule noted that "once a discrete source meets the definition of byproduct material, any contamination resulting from the use of such discrete sources of this byproduct material will also be considered byproduct material."

As explained in the SOC for the NARM Rule, the Commission's interpretation of the 2005 Act is that the NRC has jurisdiction only over those discrete sources of radium-226 used by the military in medical or research activities or in a manner similar to a commercial activity. The NRC does not have jurisdiction over radium-226 used by the military in military operations because, as the NRC noted in SOC for the NARM Rule, to do otherwise would "vitiate any distinction that the … [2005 Act] intended to make for military use..." The SOC clarified that the military use exclusion in the 2005 Act only applies to military operations, which includes that which is traditionally understood as the military's primary mission for national defense—i.e., warfare, combat, battlefield missions, and training for such missions. The term military operations also include "material still under control of the military—i.e., in storage, or material that may be subject to decontamination and disposal."

The SOC provided that the NRC would interact with DoD to obtain a common understanding of the uses of discrete sources of radium-226 and resolve any potential conflicts on a case-by-case basis. Consequently, the NRC staff had numerous interactions with DoD on this matter. The NRC and DoD discussed the historical uses, current military activities, and management of discrete sources of radium-226. Through these interactions, it became apparent to NRC staff that there is uncertainty over the precise meaning and scope of the phrase "material still under control of the military—i.e., material in storage, or material that may be subject to decontamination or disposal." This uncertainty has led agency staff to believe that a generic communication is required

to ensure that NRC regulations are appropriately implemented.

On February 16, 2011, the NRC staff prepared a Commission paper that discussed the military's uses of radium-226, identified issues, and recommended approaches to clarify and implement the NRC's regulatory jurisdiction over certain types of military use of radium-226. On March 24, 2011, the Commission responded to the staff's recommendations by approving publication of a draft guidance document that would clarify these issues. On July 8, 2011, the staff published its draft guidance, in the form of a draft RIS, in the *Federal Register* for public comment.

Clarification of NRC Jurisdiction Over Certain Types of Radium-226 under Military Control

RIS 2016-06 clarifies that if radium in the military's possession is not used in or intended for use in military operations, then it is subject to the NRC regulations. The NRC very specifically discussed the scope of this expanded radium jurisdiction in the SOC, paying close attention to its effect on DoD. The NRC has authority under Section 651(e)(3) of the 2005 Act over certain military radium uses and not others. The exclusion from the coverage of the 2005 Act only applies to a certain type of military use—i.e., NARM used for military operations. As the NRC stated in the SOC to the NARM Rule, if "[radium-226] is intended for use in military operations, it is excluded from coverage of this rule..." If the military does not use or does not intend to use radium under its control in military operations, then this radium is subject to the NRC's regulatory authority.

With respect to material in storage or material that may be subject to decontamination and disposal, radium in the military's control that the military intends to use in military operations is excluded from the NRC's regulatory authority. Items and equipment in storage that the military does not intend to use for military operations are subject to the NRC's regulatory authority. This clarification does not change the NRC's previously adopted regulatory framework.

Military radium-226 that originated from a commercial supplier is byproduct material, except during its use by the military in traditional military operations. When the military is no longer using commercially produced radium-226 for traditional military operations and does not intend to use the radium for traditional military operational use in the future, then the radium-226 is subject to NRC's regulatory authority. The SOC statement that contamination resulting from degradation of byproduct material will also be considered byproduct material would, therefore, apply to military radium-226 contamination because this radium-226 is no longer being used or intended for use in military operations. For example, degradation of buried markers can result in contamination of the surrounding soil or ground water. This contamination is not considered military operational use. In addition, the storage of material or equipment not intended for future military operations, removal of dials and gauges after their usable life, and remediation of radium-226 contamination are similar to commercial activities and thus are subject to NRC's regulatory authority. This clarification is consistent with the NARM Rule SOC statement that material that "has been used...in a manner similar to a commercial activity—e.g., military museums, is covered by the … [2005 Act] and [the NARM] rule."

RIS 2016-06 states that this clarification is consistent with the definition of byproduct material in the 2005 Act and the NRC's regulations. It further notes that the above clarification is also consistent with the NRC's practice of regulating other military radioactive material, except when the material is used in traditional military operations.

To further clarify, RIS 2016-06 states that the following specific categories of discrete sources

of radium-226 under military control are subject to the NRC's regulatory authority:

- Contamination: Examples include contamination in structures; soil; ground water; sewers or storm drains; and, degraded devices and residue from radium paint shops buried in landfills. For the purposes of determining NRC's jurisdiction over radium-226 contamination on DoD sites, the NRC distinguishes "confirmed" and "suspected" contamination. The term "confirmed" is used for "known" contamination and the term "suspected" is used for "potential for" contamination. Contamination can be confirmed based on a wide range of data, including:

  1. very limited data that provides the basis for further investigation;
  2. limited data that can be reasonably extrapolated to a larger area such as a burial site or landfill or sewer lines with limited access for sampling; and,
  3. extensive survey or sampling data considered representative of an entire area.

  Contamination can also be confirmed based on documented descriptions of known radioactive material that was placed in certain specific areas in the past, such as records of disposal in a base landfill. Contamination can be on active military installations or base realignment and closure (BRAC) sites that are planned for transfer to the public and redeveloped by local governments or others after remediation using the CERCLA process.

  The NRC's jurisdiction applies to radium-226 contamination that has been confirmed. Sites where contamination is only suspected, based on historical activities conducted on a military base, should be tracked and appropriately controlled by the military. If suspected contamination is later confirmed, then this contamination is subject to NRC jurisdiction.

  With respect to firing ranges, the NRC has jurisdiction over confirmed radium contamination on closed firing ranges. If DoD were using the CERCLA process for remediation, then the NRC would exercise its jurisdiction and be involved in the remediation process pursuant to the terms of the MOU. The radium contamination on operational firing ranges is not subject to the NRC regulation because this radium is used in traditional military operations on these firing ranges—e.g., the use of targets that contain radium. This clarification is consistent with the SOC in the NARM Rule, which explains that the 2005 Act excludes from NRC's jurisdiction military use of radium in "...training for battlefield missions." Further, the risk for exposure at these active firing ranges is low because of the DoD range controls that limit access due to range activities and unexploded ordnance. The NRC conducted independent dose estimates for targets on firing ranges. The results for typical radium items on targets (approximately in the range of ~0.01 to 10 millirem) are consistent with the DoD's comment that the dose consequence will be low if there were an exposure. RIS 2016-06 notes that these results are well below NRC's public dose limit in 10 CFR 20.1301, of 100 millirem per year.

  Specifically, NRC staff calculated doses to both workers and members of the public using calculations provided in the International Atomic Energy Agency (IAEA) Code of Conduct on the Safety and Security of Radioactive Sources. These calculations assumed a range of typical radium items on targets and that DoD controls would fail and allow access to the firing range.

- Items and Equipment Not Currently Used in Traditional Military Operations and No Longer Intended for Future Use in Traditional Military Operations: Examples of these items and equipment include vehicles, aircraft, or

other equipment in storage that the military is no longer using and that is not intended to be used in the future and could be decontaminated by removing radium-226 instruments, dials, or components in preparation for release of the equipment or vehicles to the public. These items could also include dials or gauges that the military decides are no longer intended for future use in traditional military operations. These items fall under NRC jurisdiction. DoD informed the NRC that the Air Force and Navy currently regulate radium items and equipment in storage or used for calibration or research and development under the Air Force and Navy MMLs. The Army found that most of its items were already disposed of, and those remaining are scheduled for disposal. The Army controls the number of museum items to remain below the 100 items limit allowed under the NRC general license for museums. RIS 2016-06 states that the NRC will request that DoD confirm in a letter to the NRC that all radium items and equipment are regulated under an appropriate NRC license—i.e., MML or specific license.

Acceptable Regulatory Approaches and Implementation of the NRC's Jurisdiction

For confirmed byproduct, source, or special nuclear material contamination for which DoD is taking CERCLA response actions, the Commission approved the use of an MOU approach instead of licensing. The Commission also directed NRC staff to periodically evaluate the effectiveness of the MOU.

The purpose of the MOU is to minimize dual CERCLA and AEA regulation at DoD environmental remediation sites while ensuring protection of public health, safety, and the environment. The MOU documents the NRC and DoD's roles, responsibilities, and relationship concerning DoD's remediation of AEA material under the CERCLA process. The specifics of an implementation plan for NRC's involvement at DoD sites are given in the MOU provisions but will be jointly refined based on future experience, if necessary.

The two levels of NRC involvement under the MOU are "stay informed" and "monitoring." These approaches do not involve licensing and, accordingly, NRC staff does not conduct licensing reviews. Under a stay-informed approach, for sites where the U.S. Environmental Protection Agency (EPA) has regulatory authority (e.g., sites listed on the NPL), RIS-2006 states that NRC staff stays informed of the radiological aspects of remediation activities but will rely on the CERCLA process and EPA's regulatory oversight. Under a monitoring approach, the NRC will monitor sites where the EPA has no regulatory authority or oversight (e.g., sites not listed on the NPL) but DoD is remediating the site under the Defense Environmental Restoration Program (DERP), which uses the CERCLA remediation process.

As part of NRC's activities under an MOU, RIS 2016-06 states that the NRC will inquire about the appropriate Agreement or Non-Agreement State's involvement with DoD's radiological remediation. It further notes that, on a case-by-case basis, the NRC may consider the results of ongoing state reviews that support the CERCLA remediation process. Agreement States do not have authority to regulate AEA material possessed by federal entities under their Section 274 agreements. However, Agreement States can assist and provide input as part of the CERCLA remediation process.

Benefits Resulting from the RIS and MOU Approach

The following are considered by the NRC staff to be benefits from the work that has gone into RIS 2016-06 and the MOU:

- avoids confusion by clarifying which radium in military possession is subject to NRC jurisdiction;

- avoids dual regulation from the overlap of the AEA and CERCLA for DoD remediation of AEA radioactive material subject to the NRC's jurisdiction;

- clarifies the regulatory approach for unlicensed AEA material, including radium-226, subject to NRC jurisdiction;

- avoids the potential for reopening of completed military remediation and associated impacts on redevelopment if NRC comments are appropriately addressed; and,

- provides independent federal oversight to ensure protection of public health and safety.

The final MOU is available on NRC's web site using Accession No. ML16092A294.

For additional information, please contact Richard Chang at (301) 415-5563 or at Richard.Chang@nrc.gov.

FY 2019 Resources for Review of New Reactor Licensing Applications

On June 7, 2016, the U.S. Nuclear Regulatory Commission (NRC) released Regulatory Issue Summary (RIS) 2016-08 regarding the process for scheduling and allocating resources in fiscal year (FY) 2019 for the review of new licensing applications for light-water reactors and non-light-water reactors.

RIS 2016-08 was issued to

- all holders of, and applicants or potential applicants for, a power reactor construction permit (CP) citing a reactor design under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities;" and,

- all holders of, and applicants or potential applicants for, an early site permit (ESP), combined license (COL), standard design certification (DC), standard design approval (SDA), or manufacturing license (ML) citing a reactor design under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants."

Intent

NRC issued RIS 2016-08 for the following purposes:

- to assist the agency in determining FY 2019 resource and budget needs with respect to future construction-related activities, and other anticipated 10 CFR Part 50 and Part 52 licensing and design certification rulemaking actions for large light-water reactors (LWRs), non-LWRs, small modular reactors (SMRs), and other reactor technologies;

- to communicate to stakeholders the NRC's process for scheduling its reviews;

- to inform stakeholders that the agency has expanded its scheduling process to include all potential 10 CFR Part 50 and Part 52 licensing actions and related activities, which include pre-application activities, new license applications, ESP and limited work authorization (LWA) applications, license amendment (LA) requests, topical report submissions, revisions to applications, reactivation of suspended applications, applications for renewal of ESPs and DCs, construction activities, and license transfer requests; and,

- to request that addressees consider submitting their construction plans and schedules for fabrication of large components and modules to the NRC when these plans and schedules are available.

RIS 2016-08 is intended to include licensees and applicants or potential applicants for large LWRs, non-LWRs, SMRs, and other reactor technology. Non-LWRs are reactors designed to use material other than light water for neutron moderation. For the purpose of RIS 2016-08, SMRs are defined using the International Atomic Energy Agency (IAE) definition, "advanced reactors that produce electric power up to 300 MW(e) [megawatts electric]." Advanced reactors are defined in NRC's Policy Statement on the Regulation of Advanced Reactors, dated October 14, 2008. NRC notes that SMRs can be advanced water-cooled reactors or high temperature gas-cooled reactors as well as liquid metal-cooled reactors with fast neutron spectrum and that non-LWRs can be designed to produce power up to and greater than 300 MW(e).

RIS 2016-08 is intended to promote early communication between the NRC and potential applicants regarding 10 CFR Part 50 and Part 52 planned licensing and construction activities. According to NRC, this information will assist the agency in allocating its FY 2019 resources for focus area reviews, acceptance reviews, licensing reviews, and inspection support. NRC states that RIS 2016-08 is consistent with the agency's policy on standardization, as described in the statement of considerations for the original proposed rule in 10 CFR Part 52 that was published in the *Federal Register* on August 23, 1988. The NRC standardization policy applies to ESPs, LWAs, DCs, SDAs, MLs, COLs, LA requests, and all other applications submitted to the NRC.

RIS 2016-08 supersedes in its entirety RIS 2015-07. RIS 2016-08 does not transmit or imply any new or changed requirements or staff positions. Although no specific action or written response is required, submission of the requested information will enable the NRC to more efficiently and effectively plan its licensing and inspection activities.

Summary

The NRC encourages potential applicants to provide design, licensing, construction, and pre-application plans and schedules for the period of FY 2019 through FY 2021. NRC states that the information will allow the agency to coordinate pre-application activities and take action as appropriate (such as by conducting focus area reviews, readiness assessments, vendor audits, or any combination of these activities as necessary) before submission of the actual application. According to NRC, this will result in more efficient review of the applications.

In SECY-11-0024, "Use of Risk Insights To Enhance the Safety Focus of Small Modular Reactor Reviews," dated May 11, 2011, the Commission directed the staff to use the risk-informed and integrated review framework for pre-application and application review activities related to design applications. NRC states that agency staff has taken advantage of lessons learned from recently completed reactor design reviews to expand the scope of pre-application activities. Information submitted in response to the questions that related to white papers and technical or topical reports will be especially useful in helping the NRC plan and schedule staff activities during the early stages of these projects.

NRC states that the advance notification of the intent for an application submission date, in conjunction with pre-application activities, will facilitate the likelihood of an acceptance review requiring no more than 60 calendar days. The staff's goal is to identify and obligate resources 45 days before the date it expects to receive an application. RIS 2010-10, "Process for Scheduling Acceptance Reviews of New Reactor Licensing Applications and Process for Determining Budget Needs for Fiscal Year 2013," dated November 15, 2010, presented the staff's process for scheduling application reviews with respect to expected submission dates and other pertinent information related to the commencement of the staff's review. The process

is reiterated in RIS 2016-08 to remind addressees of its steps and to emphasize its importance to NRC's project planning and budgeting process for 10 CFR Part 52 and Part 50 (i.e., construction permit and operating license) application reviews.

Declaration of the Expected Application Submission Date The NRC encourages applicants to declare in writing their anticipated application submission date no later than 90 days in advance of the arrival of its submission. Declarations of anticipated application will receive a higher priority than other pre-application interactions because they are the best available tool to help the staff allocate resources for application acceptance reviews. Declaration of desired pre-application interaction timeframes, as well as issues to be addressed during pre-application, would also be helpful in allocating NRC resources.

Schedule Changes The NRC will allocate resources to accomplish its review based on the future applicant's declaration of an expected application or focus area submission date. The staff will work with applicants, and future applications, to the extent practical to accommodate emergent notices of submittals or schedule changes.

Advance Issuance of Acceptance Review Schedule and Start of Application Review For a complete application, the staff will make its schedule for acceptance reviews publicly available approximately 30 days before the projected start date. Furthermore, for COL applications, it should be understood that the start of a detailed review depends on docketing and other considerations, such as the applicant's intended construction and operation plans, and whether NRC staff or NRC contractors will conduct the review. The NRC's priority will be given to applications with plans for construction and operation designated for completion before FY 2025.

Voluntary Response

The NRC develops its schedules for budget cycles 2 to 3 years in advance. In addition, the NRC continuously updates its pre-application, licensing, and project plans for its new-reactor licensing program. To support this effort and assist NRC in planning its resources appropriately for FY 2019 through FY 2021, the NRC is seeking new or updated information on schedules for submitting an application for a CP, ESP, LWA, LA, COL, DC, SDA, or ML, and on the interest and intent for pre-application design-related activities for all types of reactors and nuclear power plant designs. Information provided beyond the timeframe of FY 2019 through FY 2021 is also welcomed.

RIS 2016-08 states that the NRC may share the planned application schedules with other federal agencies to support its planning efforts on the licensing of new plants. If a prospective applicant deems this information proprietary, a request to withhold information from public disclosure in accordance with 10 CFR 2.390, "Public Inspections, exemptions, requests for withholding," must accompany the information.

RIS 2004-11, "Supporting Information Associated with Requests for Withholding Proprietary Information," dated June 29, 2004, provides additional information about requests for withholding proprietary information from public disclosure. The NRC asks potential applicants to request withholding only for information that they currently treat as proprietary, and to provide, where necessary, the proprietary information in designated attachments to their response to RIS 2016-08.

If an addressee chooses to provide a voluntary response, the NRC would like to obtain the information within 45 days of the date of the issuance of RIS 2016-08. As such, NRC requests that respondents provide answers to listed questions, as applicable to their specific reactor

designs, to the best of their ability, providing as much detail as possible.

Question for COL License Holders RIS 2016-08 presents the following question for COL licensee holders:

- How many licensing actions (e.g., license amendment requests, exemption requests, and relief requests) would you expect to submit to the NRC during FY 2019 through FY 2021 time frame?

Licensing Process Questions for all Potential/ Future Applicants RIS 2016-08 presents the following licensing process questions for all potential/future applicants:

- What type(s) of NRC interaction(s) do you plan to seek (e.g., pre-application, focused review, permit, license, design approval, amendment, renewal, or certification)? This may be in the form of a topical report, CP, DC, ESP, LWA, COL, SDA, ML, LA request, or purchasing approval request. If you plan to request an ESP, will you seek approval of either proposed major features of the emergency plans in accordance with 10 CFR 52.17(b)(2)(i) or with 10 CFR 52.17 (b)(2)(ii)?
- In which month and year do you expect to submit your application or other document(s)?
- If applicable at this time, is there a designated reference COL applicant? In what order would you like the NRC to review the subsequent applications?
- Where will the plant be located? How many units or modules will the design contain, or a specific plant contain, if known?
- Will you be part of an organized Design Center Working Group (DCWG)? Who are the other members of the DCWG? Who will be the primary point of contact for each DCWG?

Technical Questions for all Potential/Future Applicants RIS 2016-08 requests that all potential/future applicants respond, to the extent practical and possible, to the following questions:

- What type of reactor design will be used? What type of coolant and fuel will be used?
- What is the current status of the development of the plant design (i.e., conceptual, preliminary, or final)? Have you established a schedule for completing the design?
- Do you plan to submit white papers or technical and topical reports related to the features of your design, or for the resolution of policy or technical issues? Do you have a schedule for submitting such papers or reports?
- Are you interested in licensing and testing a first-of-a-kind plant under the prototype provisions of 10 CFR 50.43(e)? If so, to the extent practical, describe milestones, plans, and intended tests.
- Are vendors or consultants assisting you in preparing the application(s)? If so, please describe their roles and responsibilities for the design and licensing activities.
- Have you established a schedule for qualifying fuel and other major systems and components?
- Have you developed computer codes and models to perform design and licensing analyses? Have you established a schedule for completing the design and licensing analyses?
- Describe, to the extent practical, your schedule for defining principal design criteria, licensing-basis events, and other fundamental design and licensing relationships.

- Have you developed procedures regarding the use of thermal fluidic testing facilities and regarding the use of the results of their tests to validate computer models? Have you established a schedule for completing the thermal fluidic testing? Have you established a schedule for the construction of testing facilities?

- Have you identified system and component suppliers (including fuel suppliers), manufacturing processes, and other major factors that could influence design decisions? Have you established a schedule for identifying suppliers and key contractors?

- Do you have a quality assurance program or a schedule to develop one?

- Have you developed probabilistic risk assessment (PRA) models needed to support your applications, including the information needed to support risk-informed licensing approaches (for Chapter 19)? Do you plan to use the PRA for any risk-informed applications (e.g., risk-informed technical specifications, risk-informed in-service inspection, risk-informed categorization and treatment, or risk-informed in-service testing)? Do you plan to use the PRA models in the development of the design? At what level will the PRA be prepared, and at what point during the application process will it be submitted?

- Have you developed the plans for the construction and use of a control-room simulator?

- Do you have a staffing plan? What is your current staffing level for the execution and testing of the reactor design? Do you plan to increase staffing?

- Which systems, structures, and components, including fuel, do you foresee will be fabricated off-site and delivered for the manufacturing, fabrication, and site construction of a completed operational nuclear power plant? What is intended to be assembled and constructed on-site versus at a remote facility? In addition, and as applicable, provide the construction plans and schedules for the fabrication of large components and modules of the applicable SMR or non-LWR designs when these are available.

RIS 2016-08 states that the NRC will use this information to formulate its resource request to support new-reactor program activities. It further states that the NRC resources appropriated for this program will be prioritized to projects as discussed above.

To ensure that the NRC can effectively schedule resources, and facilitate the achievement of an acceptance review in 60 calendar days, the staff requests that 90 days before the expected submission date, an applicant, licensee, or potential applicant (as applicable) declare the expected submission date (month, day, and year) and the estimate on the degree of complexity of each of its submittals to the NRC, to the extent practicable. Addressees who choose to provide a response should send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001.

Background

According to NRC, the information gained as a result of RIS 2016-08 will be used for scheduling and resource allocation efforts. To inform the NRC's resource allocation efforts, some applicants have used the design-centered review approach (DCRA). The DCRA is the NRC's main strategy for simultaneously reviewing multiple combined license applications that refer to the same design certification. The NRC outlined the DCRA in RIS 2006-06, "New Reactor Standardization Needed to Support the Design-Centered Licensing Review Approach," dated May 31, 2006. The DCRA is predicated on a consistent level of standardization in design,

licensing, construction, and pre-application planning documents. DCRA requires that the staff conduct a review of a subject area for the referenced application. Once the staff has reached a conclusion about the subject area, that conclusion can be applied to subsequent applications and incorporated by reference, negating the need to re-review subject areas about which the staff has already come to a conclusion. DCRA can be used for all types of nuclear reactor technology applications. In a similar manner, NRC states that applicants may find review efficiencies and benefits by forming a DCWG.

Following the issuance of COLs for Vogtle Electric Generating Plant, Units 3 and 4, and Virgil C. Summer Nuclear Station, Units 2 and 3, NRC initiated a lessons-learned review to identify potential enhancements to the 10 CFR Part 52 licensing process and contribute to more effective and efficient reviews of future applications. After extensive outreach to external and internal stakeholders, in April 2013 NRC issued the report, "New Reactor Licensing Process Lessons Learned Review: 10 CFR Part 52." In the report, NRC identified pre-application interactions, and submittal of a complete and high-quality application as important factors in the success of the licensing process, and efficiency of the review.

NRC encourages licensees with advanced reactor designs, for which a prototype reactor may be an advantageous licensing vehicle to complete the demonstration of the technical concepts, to engage early with the agency. The NRC formulates its budget by projecting 2 years beyond the current FY in which it is operating. However, the NRC is now trying to project its potential workload through FY 2021. To help the agency plan its resources appropriately, NRC requests that anyone intending to submit an application or a technical portion that will support a future application during FY 2019 through FY 2021 initiate interactions with the staff as early as possible. According to NRC, early notification of future applicant intent will allow the staff to engage in pre-application activities with the future applicant. These pre-application interactions permit the staff to become familiar with the proposed design, and approaches to be used by the potential applicant, to identify and resolve potential policy issues before an application is submitted, as well as to assist the NRC in planning the necessary resources and schedules in preparation for the review once the application is formally submitted.

For additional information, please contact Arlon Costa of the NRC at (301) 415-6402 or at Arlon.Costa@nrc.gov.

NRC Holds Fifth Vendor Oversight Workshop

On June 23, 2016, the U.S. Nuclear Regulatory Commissions hosted its fifth workshop on vendor oversight in St. Louis, Missouri.

"Vendor expertise and high-quality nuclear components are vital for ensuring the safe construction, operation, and maintenance of nuclear facilities," said Jennifer Uhle, Director of NRC's Office of New Reactors. "This workshop provides a great opportunity to share lessons and exchange information with vendors that provide components and services to nuclear power plants."

Logistics

The workshop ran from 8:00 a.m. to 5:30 p.m. at the Hyatt Regency St. Louis. Workshop presenters included the NRC staff, the Nuclear Procurement Issues Committee, the Nuclear Energy Institute (NEI), the Electric Power Research Institute (EPRI) and nuclear vendors.

Overview

The workshop audience included members of the public, companies operating U.S. nuclear power plants, vendors, suppliers of basic components and industry organizations. Discussion topics included relevant NRC regulations, using commercial-grade products in nuclear power plants, key vendor issues, and international laboratory accreditation cooperation related to commercial calibration and testing. Workshop attendees were provided the opportunity to discuss both NRC draft guidance and an EPRI document related to commercial-grade design and analysis computer programs. NRC staff were available at the end of each workshop session for additional discussions.

For additional information, please contact Scott Burnell of the NRC at (301) 415-8200.

NRC to Establish Separate Fees for Small Modular Reactors

In late May 2016, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency is amending its regulations to establish a separate fee structure for light-water small modular reactors (SMRs) because it anticipates that it will soon receive SMR license applications.

SMRs are nuclear power plants that are significantly smaller in size than those in the current operating fleet. Under this fee structure, an SMR's annual fee will be based on how much power it is licensed to generate.

The final rule was published in the *Federal Register* on May 24, 2016. It will become effective on June 23, 2016.

Overview

Without this separate fee structure, an SMR would have been required to pay the same annual fee as a large operating light-water reactor. The fee structure for SMRs complies with the Omnibus Budget Reconciliation Act of 1990, which requires that NRC fees be "fairly and equitably" allocated among its licensees.

Background

On November 4, 2015, the NRC published the proposed rule, "Variable Annual Fee Structure for Small Modular Reactors," in the *Federal Register* for public comment. The agency then held a public meeting on November 16, 2015.

For additional information, please contact Scott Burnell of the NRC at (301) 415-8200.

Kimberly Howell Named Director of NRC's Office of Investigations

On June 13, 2016, the U.S. Nuclear Regulatory Commission (NRC) announced the selection of Kimberly Howell as Director of the Office of Investigations (OI). The OI is responsible for developing policy, procedures, and quality control standards, and investigating licensees, applicants, and their contractors or vendors. Howell replaces Cheryl McCrary, who retired.

"Kimberly Howell brings more than 20 years of federal law enforcement experience to NRC's investigations program and law enforcement liaison activities," said Victor McCree, Executive Director for Operations. "We are pleased she is joining us."

Howell comes to the NRC from the Office of Personnel Management (OPM), Office of the Inspector General, where she served in the Senior Executive Service (SES) as Deputy Assistant Inspector General for Investigations since 2011. Before her SES appointment, Howell held increasingly responsible federal law enforcement positions with OPM, the U.S. Food and Drug Administration, the U.S. Postal Service and the U.S. Secret Service. She began her federal law enforcement career with the Secret Service in 1993.

Howell holds a Bachelor's Degree in Administration of Justice from Howard University and a Graduate Certificate in Inspector General Leadership from American University.

For additional information, please contact Stephanie West of the NRC at (301) 415-8200.

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- NRC Reference Library (NRC regulations, technical reports, information digests, and regulatory guides). ..... **www.nrc.gov**

- EPA Listserve Network • Contact Lockheed Martin EPA Technical Support at (800) 334-2405 or email (leave subject blank and type help in body of message). ..... **listserver@unixmail.rtpnc.epa.gov**

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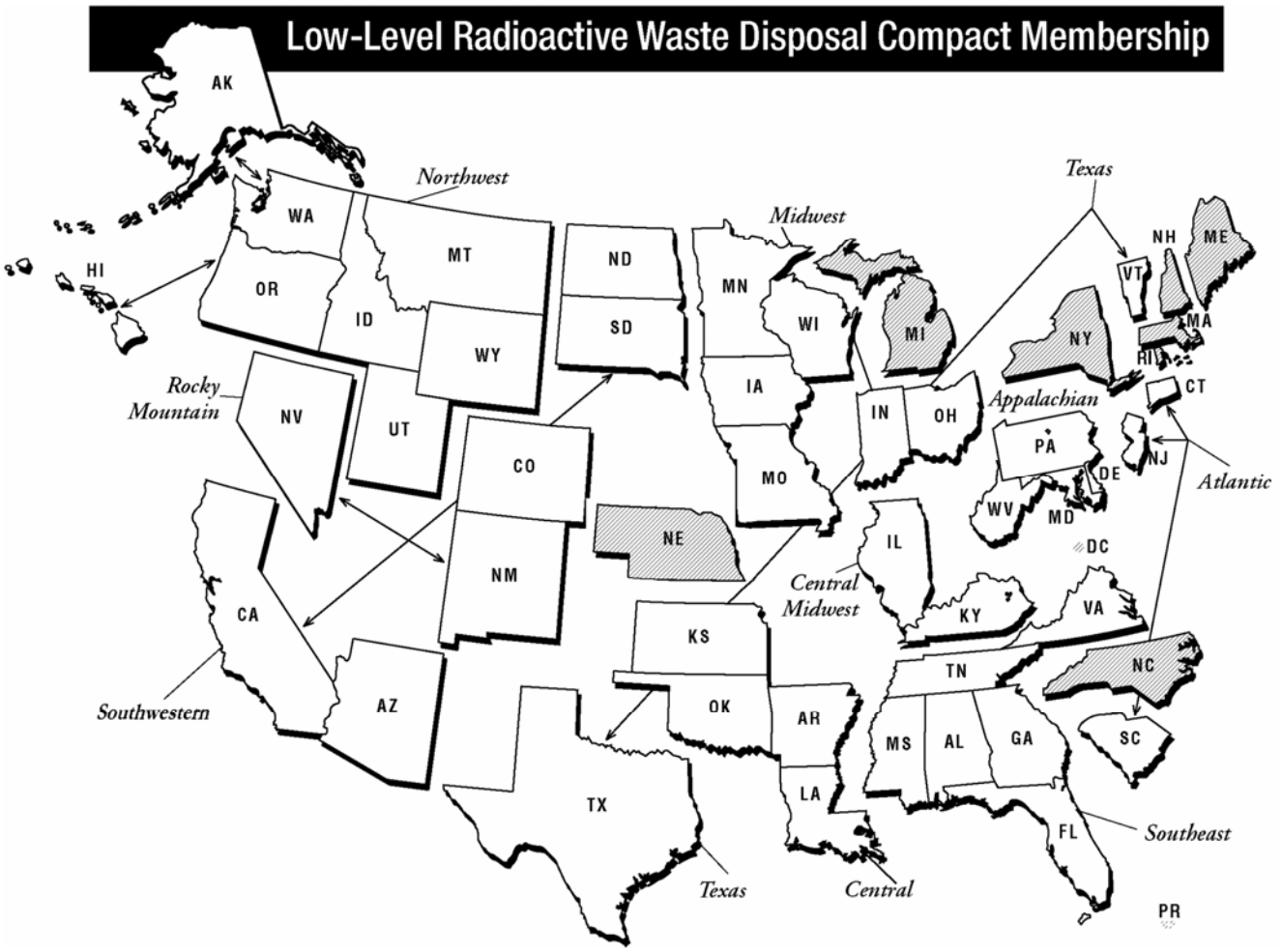
- U.S. Government Printing Office (GPO) (for the Congressional Record, *Federal Register*, congressional bills and other documents, and access to more than 70 government databases). ..... **www.access.gpo.gov**

- GAO homepage (access to reports and testimony) ..... **www.gao.gov**

To access a variety of documents through numerous links, visit the website for the LLW Forum, Inc. at www.llwforum.org

Acknowledgement and Disclaimer

Acknowledgement: This material is based upon work supported in part by the U.S. Department of Energy under Award Numbers DE-EM0001364 and DE-em0003153.



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Midwest Compact
Indiana
Iowa
Minnesota
Missouri
Ohio
Wisconsin

Rocky Mountain Compact
Colorado
Nevada
New Mexico

Northwest accepts Rocky Mountain waste as agreed between compacts

Southeast Compact
Alabama
Florida
Georgia
Mississippi
Tennessee
Virginia

Southwestern Compact
Arizona
California
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South Dakota

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