LLW notes

Volume 32 Number 1 January/February 2017

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

Deadline Approaching for Spring 2017 LLW Forum Meeting

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

The deadline is approaching for registration and hotel reservations for the spring 2017 meeting of the Low-Level Radioactive Waste Forum (LLW Forum). The meeting will be held at the Embassy Suites Downtown Convention Center Hotel in Denver, Colorado on April 24-25, 2017.

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 Rocky Mountain Low-Level Radioactive Waste Board and Midwest Interstate Low-Level Radioactive Waste Compact Commission are co-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. A draft agenda will be posted to the website by mid-March.

As a new option for interested stakeholders, a registration form may be completed and submitted online by going to the Meetings page of the LLW Forum web site at www.llwforum.org.

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

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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.

Current members are allowed to distribute these written materials to a limited number of persons within their particular organization (e.g., compact commissioners, state employees, staff within a federal agency, employees in a commercial enterprise.) It has become clear, however, that there will be instances where members and subscribers wish to share LLW Forum materials with a broader audience of non-members.

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Low-Level Radioactive Waste Forum, Inc.

LLW Notes
Volume 32, Number 1 January/February 2017
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.

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LLW FORUM, INC.

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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

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future actions and endeavors affecting low-level radioactive waste management and disposal.

Location and Dates

The spring 2017 LLW Forum meeting will be held on Monday, April 24 (9:00 am – 5:30 pm) and Tuesday, April 25 (9:00 am – 1:00 pm) at:

Embassy Suites Downtown
Convention Center Hotel
1420 Stout Street
Denver, Colorado 80202

The hotel offers a gateway to Denver's lively downtown scene. Boasting a contemporary convention venue, the hotel is within walking distance of the best attractions in the downtown area.

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 submit it online or return it to the Administrator of the Rocky Mountain Board at the mailing 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 discount hotel block at the last few meetings.

A limited block of hotel rooms has been reserved for Sunday, April 23rd and Monday, April 24th at the rate of $178.00 plus tax per night (for single/ double occupancy).

To make a reservation, please call (800) 445-8667. Please ask for the LLW Forum block in order to get the discounted meeting rate.

The deadline for reserving a room at the discounted rate is Wednesday, April 5, 2017.

Transportation and Directions

From Denver International Airport (DIA), one way taxi fare is available for approximately $70.00. Another option is the train from DIA to Union Station downtown. From Union Station, you can walk or take the 16th street mall shuttle the additional 1.2 miles to the hotel off of Stout Street.

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.

LLW Forum Announces Details re Fall 2017 LLW Forum Meeting

Alexandria, Virginia on October 16-17, 2017

The Low-Level Radioactive Waste Forum (LLW Forum) is pleased to announce that our fall 2017 meeting will be held at the Hilton Hotel in Old Town Alexandria, Virginia on October 16-17, 2017. Please mark your calendars accordingly and save the date!

The Southeast Compact Commission for Low-Level Radioactive Waste Management and the Central Interstate Low-Level Radioactive Waste Compact Commission are co-sponsoring the meeting.

Fall 2017 LLW Forum Meeting

The fall 2017 LLW Forum meeting will be held on Monday, October 16 (9:00 am – 5:00 pm) and Tuesday, October 17 (9:00 am – 1:00 pm) at:

Hilton Alexandria Old Town Hotel
1767 King Street
Alexandria, Virginia

Located in the historic, vibrant King Street neighborhood, the Hilton Alexandria Old Town hotel is one of the most convenient hotels in Alexandria, Virginia for business and leisure travelers visiting the Washington, DC metropolitan area. The hotel is just steps away from King Street Metro station and close to Reagan National Airport. Downtown DC attractions and government buildings are minutes away by metro.

Spring 2017 LLW Forum Meeting

As a reminder, registration is currently open for the spring 2017 meeting, which will be held at the Embassy Suites Downtown Convention Center Hotel in Denver, Colorado on April 24-25, 2017. (See related story, this issue)

The Rocky Mountain Low-Level Radioactive Waste Board and Midwest Interstate Low-Level Radioactive Waste Compact Commission are co-sponsoring the spring 2017 LLW Forum meeting.

Interested stakeholders are encouraged to register and make hotel reservations for the spring 2017 meeting at your earliest convenience, as there is limited space available in our discount room block.

The spring 2017 LLW Forum 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 via the web site.

LLW Forum Meetings Overview

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

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.

LLW Forum Launches New Website with Enhanced Features

The Low-Level Radioactive Waste Forum (LLW Forum) is pleased to announce the launch of our new website with enhanced features including

- an interactive calendar that allows stakeholders to keep track of relevant meetings and events, including a new feature that allows you to add them to your personal calendar;
- news briefs providing the most recent and up-to-date information on significant industry topics such as the U.S. Nuclear Regulatory Commission's (NRC's) Part 61 rulemaking initiative, tracking of and financial assurance for byproduct material radioactive sealed sources, and implementation of the Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP);
- a dedicated page to provide information about upcoming LLW Forum meetings, including a new option for online registration;
- updated contact information for designated representatives of low-level radioactive waste compacts, host states, unaffiliated states, federal agencies, waste facility operators, brokers and processors, industry associations and other stakeholders; and,
- up-to-date information regarding activities of the LLW Forum's Disused Sources and Part 61 Working Groups (DSWG/P61WG).

As with the prior website, the new site has a restricted-access, member-only section that provides LLW Forum members and subscribers with exclusive access to dedicated pages providing links to

- LLW Forum publications including the *LLW Notes* (our highly acclaimed bi-monthly publication), meeting presentations, annual contact list, working group reports, maps and charts, and other state and compact documents;
- all ten operating low-level radioactive waste compacts, unaffiliated states and state organizations;
- federal agencies and offices including the executive branch, legislative branch, judicial branch and political analysis; and,
- other industry stakeholders including associations, international groups, radioactive waste businesses, newspapers, general interest, universities and citizens groups.

We invite everyone to review the new website, which can be found at http://llwforum.org.

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.

LLW Forum/Disused Sources Working Group

Disused Sources Working Group Holds Winter Meeting

On February 6-7, 2017, the Disused Sources Working Group (DSWG) of the Low-Level Radioactive Waste Forum (LLW Forum) held a meeting in San Diego, California with organizational representatives of the Conference of Radiation Control Program Directors (CRCPD), the Organization of Agreement States (OAS) and the Health Physics Society (HPS).

Agenda Items

The following items, among other things, were on the winter 2017 DSWG meeting agenda:

- review and response to the recent *Federal Register* notice in which the U.S. Nuclear Regulatory Commission (NRC) announced that the agency is seeking input from licensees, Agreement States and the public to inform the staff's assessment of potential revisions to regulations or processes requiring Category 3 source protection and accountability;

- development and distribution of working group documents including educational materials for current and prospective licensees, source disposal costs and import/ export authorities and requirements for the ten operating low-level radioactive waste compacts;

- source calculation and methodology re number of sealed sources in the United States;

- development of regional workshops for stakeholders interested in management and disposition of sealed sources and radioactive devices;

- outreach by designated organizational liaisons and feedback received on the outstanding recommendations from the March 2014 DSWG report; and,

- charting the next steps and a path forward.

For additional information and ongoing updates, interested stakeholders are encouraged to go to the DSWG web site at www.disusedsources.org.

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.

In September 2011, the LLW Forum formed the Disused Sources Working Group (DSWG) to develop recommendations from the states and compacts for improving the management and disposition of disused sources.

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

Central Interstate Compact

Central Interstate Compact Relocates Offices to Oklahoma

Effective February 1, 2017, the offices of the Central Interstate Low-Level Radioactive Waste Compact Commission were relocated from Lincoln, Nebraska to Oklahoma City, Oklahoma.

In addition, Kristie Valtierra is now serving as the new Administrator of the Commission, following the retirement of Rita Houskie.

Overview

Effective February 1, 2017, the Central Interstate Commission's new address and contact information are as follows:

Central Interstate LLRW Commission
707 North Robinson Avenue
P. O. Box 1042
Oklahoma City, OK 73101
(405) 702-5220 – phone
(405) 702-5101 – facsimile
admin@cillrwcc.org – email

The Commission's webpage address remains the same at http://www.cillrwcc.org/.

Background

The Central Interstate Compact is comprised of the member states of Arkansas, Kansas, Louisiana and Oklahoma.

For additional information, please contact Central Interstate Commission Chair Jon Roberts at (405) 702-7111 or at jon.roberts@deq.ok.us.

Northwest Compact

Northwest Compact Appoints New Executive Director

On December 16, 2016, Kristen Schwab started her new role as the Executive Director of the Northwest Interstate Compact on Low-Level Radioactive Waste Management. Schwab succeeds Mike Garner, who retired at the end of June 2016. She will serve as the designated Director for the Northwest Compact to the Low-Level Radioactive Waste Forum, Inc. (LLW Forum).

Staff work on the Northwest Compact is being transitioned from the Washington Department of Ecology to the Washington Department of Health. State officials will be proposing the required legislation in January 2017.

New Executive Director

Schwab has been with the Washington Department of Health since 2001. Her most immediate work has been in the Waste Management Section of the Office of Radiation Protection, where she worked as a Project Manager for Washington's disposal site operated by US Ecology and the radioactive waste broker, Perma-Fix Northwest—both of which are located in Richland, Washington.

"With her excellent understanding of the low-level radioactive waste industry and a strong technical background, [Schwab] … was the clear choice to succeed Mike Garner as the compact's [E]xecutive [D]irector," stated Earl Fordham, Deputy Director of the Office of Radiation Protection at the Washington Department of Health and the State of Washington's designated Director to the LLW Forum.

Schwab holds two Master's Degrees—one in Radiologic Health Physics and the other in

Environmental Engineering. Prior to working for the state, Scwhab performed research at the Pacific Northwest National Laboratory (PNNL), worked as a nuclear power plant health physicist, and worked in an environmental lab testing for radioactive contaminants. Prior to her career in health physics, Schwab worked with developmentally disabled adults.

Transition to Department of Health

Prior to his retirement, Garner initiated work toward the proposed move of the Northwest Compact from the Washington Department of Ecology to the Washington Department of Health. Senior managers decided to continue the transition after Garner's retirement and will be proposing the required legislation in January 2017.

The primary reason the Washington Department of Ecology approached the Washington Department of Health several years ago was to streamline their focus on the Hanford reservation. The transfer started in 2012 when the state's legislature moved the site use permit program from the Washington Department of Ecology to the Washington Department of Health after Diane Hallisy retired.

The Washington Department of Ecology is one of two agencies overseeing the remediation and cleanup of Hanford, with the other one being the U.S. Environmental Protection Agency (EPA). According to state officials, the Northwest Compact work did not fit neatly into their overall agency mission. However, the Washington Department of Health deals with the low-level radioactive waste site operated by US Ecology on a regular basis. In this regard, the Washington Department of Health licenses the low-level radioactive waste disposal site, conducts inspections and reviews site operations—including any closure plans. Accordingly, state officials determined that the Northwest Compact work more closely aligns with the Washington Department of Health's overall goals for the disposal site. The Washington Department of Ecology will still be involved with the chemical remediation investigation at the low-level radioactive waste site.

Background

The Northwest Compact was created in 1981 and consists of the member states of Alaska, Hawaii, Idaho, Montana, Oregon, Utah, and Washington.

The U.S. Congress ratified the Northwest Compact in 1985. The eighth state, Wyoming, joined the Compact in March of 1992.

According to their website, the Northwest Compact is "a cooperative effort of the party states to protect their citizens, and maintain and enhance economic viability, while sharing the responsibilities of low-level radioactive waste management."

For additional information, please contact Kristen Schwab at (360) 236-3232 or at Kristen.schwab@doh.wa.gov or go to www.ecy.wa.gov/nwic/index.asp.

Northwest Compact/State of Utah

Utah Waste Management and Radiation Control Board Meets

In January and February 2017, 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.

January 2017 Meeting

The following items, among others, were on the agenda for the January 12, 2017 Board meeting:

I. Call to Order

II. Approval of Meeting Minutes for the November 10, 2016 Board Meeting *(Board Action Item)*

III. Underground Storage Tanks Update

IV. Administrative Rules

A. Approval to file five-year review notices for: R313-15, *Standards for Protection Against Radiation;* R313-21, *General Licenses;* R313-24, *Uranium Mills and Source Material Mill Tailings Disposal Facility Requirements;* R313-30, *Therapeutic Radiation Machines;* R313-34, *Requirements for Irradiators;* R313-35, *Requirements for X-Ray Equipment Used for Non-Medical Applications;* R313-37, *Security;* and, R313-38, *Licenses and Radiation Safety Requirements for Well Logging (Board Action Item)*

V. Low-Level Radioactive Waste Section

A. Energy*Solutions* LLC request for a site-specific treatment variance from the Hazardous Waste Management Rules. Energy*Solutions* seeks authorization to receive Cemented Uranium Extraction Process Residues for disposal. *(Board Action Item)*

VI. Director's Report

VII. Other Business

A. Miscellaneous Information Item

B. Scheduling of Next Board Meeting

VIII. Adjourn

February 2017 Meeting

The following items, among others, were on the agenda for the February 9, 2017 Board meeting:

I. Call to Order

II. Introduction of New Assistant Attorney General Bret Randall

III. Laura Lockhart Retirement

IV. Approval of Meeting Minutes for the January 12, 2017 Board Meeting *(Board Action Item)*

V. Underground Storage Tanks Update

VI. Underground Storage Tank Rules

A. Approval to File Five-Year Review Notices for Underground Storage Tank Rules: R311-200, R311-201, R311-202, R311-203, R311-204, R311-205, R311-206, R311-207, R311-208, R311-209, R311-210, R311-211 and R311-212 *(Board Action Item)*

VII. Used Oil Program

A. Final Adoption of Changes to Used Oil Rules: R315-15-13 *(Board Action Item)*

VIII. Legislative Update

IX. Other Business

A. Miscellaneous Information Item

B. Scheduling of Next Board Meeting

X. 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.

Northwest Compact/State of Wyoming

License Issued for Reno Creek Uranium Recovery Facility

On February 24, 2017, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency has issued an operating license to AUC LLC for the Reno Creek uranium recovery facility in Campbell County, Wyoming. AUC submitted the application in October 2012 for the in situ recovery facility, which uses a solution to extract uranium from underground ore, then pumps it to the surface for further processing.

The NRC's review of the application included an environmental review published in December 2016 as a Supplemental Environmental Impact Statement (SEIS) that looked at site-specific impacts and referenced the agency's Generic EIS for in situ recovery facilities. The NRC also published a Safety Evaluation Report. The report concluded that the proposed facility can, in a safe manner, operate, manage radiological and chemical hazards, protect groundwater, and eventually cleanup and decommission.

The Reno Creek license and additional information on the Reno Creek application are available on the NRC website at www.nrc.gov. For additional information, please contact Maureen Conley of the NRC at (301) 415-8200.

Rocky Mountain Compact/State of New Mexico

Federal and State Officials Attend WIPP Reopening Ceremony

On January 9, 2017, U.S. Department of Energy (DOE) Secretary Ernest Moniz and DOE Office of Environmental Management (EM) Assistant Secretary Monica Regalbuto joined New Mexico Governor Susana Martinez and others to mark the reopening and resumption of waste operations at the Waste Isolation Pilot Plant (WIPP), which is located approximately 40 miles southeast of Carlsbad, New Mexico. U.S. Senator Martin Heinrich, U.S. Reps. Steve Pearce and Michelle Lujan Grisham, and Carlsbad Mayor Dale Janway also attended the celebration.

Waste emplacement activities were suspended at WIPP following a waste drum rupture in an underground storage panel and a separate underground fire in early 2014. "The tireless efforts by the workforce, the contractor and federal management and the community to make WIPP a safer place to fulfill its critical mission is a remarkable feat," said Energy Secretary Moniz.

Overview

On December 23, 2016, DOE and the New Mexico Environment Department (NMED) authorized WIPP to reopen following almost three years of recovery operations due to the early 2014 underground fire and subsequent unrelated fire. Twelve days later, on January 4, 2017, the Nuclear Waste Partnership (NWP) began moving waste underground from the Waste Handling Building.

The Waste Handling Building, which contains approximately 40,000 square meters of storage space, was originally intended to store waste before underground disposal at the WIPP facility. However, it began being used for indefinite storage following the suspension of disposal operations in early 2014. NMED, which serves as the WIPP facility's primary state regulator, has set a deadline to clear out the Waste Handling Building by June 30, 2017—although DOE is considering a more ambitious timeframe according to various news outlets. Transuranic waste stored at the Waste Handling Building must be disposed below ground before WIPP can resume accepting new shipments of nuclear waste from across the DOE nuclear complex.

According to DOE, the WIPP facility is expected to accept approximately five shipments per week once shipments are resumed to the mine. Prior to the 2014 accidents, the WIPP facility was accepting more than 15 shipments per week. According to the Department's 2016 Annual Transuranic Waste Inventory Report, there was approximately 45,000 cubic meters of contact-handled transuranic waste destined for the WIPP facility across 14 sites in the DOE's nuclear complex. In addition, there was approximately 2,500 cubic meters of remote-handled transuranic waste at 11 sites. These figures, according to the report, do not include transuranic waste that DOE expects to generate from ongoing and future Department cleanup operations.

In July 2016, DOE approved strict new waste acceptance criteria for the WIPP facility. DOE sites will not be able to ship waste to the facility unless it meets the new criteria, which has created some challenges in cases where waste was packaged under the old criteria, but will now need to be certified to meet the new criteria. DOE has not yet announced which sites will ship waste to WIPP first.

DOE Perspectives

The following are excerpts from an interview with Todd Shrader, Manager of EM's Carlsbad Field Office (CBFO), as published in EM's January 2017 newsletter. Shrader, who has more than 26

years of DOE headquarters and field experience, is an engineer with experience in transuranic (TRU) waste packaging and disposal, engineering for underground repository environments, project management and safe conduct of operations.

1. **How can you be sure all the requirements to restart WIPP have been adequately addressed, so that WIPP is safe to operate?**

   In order to ensure WIPP is safe to operate, many improvements at WIPP have been implemented in response to the February 2014 incidents — in the safety management programs such as ground control, work controls, radiological controls, and others. Areas of weakness were identified as Judgments of Need in the DOE Accident Investigation Board Reports. Each Judgment of Need required for resumption of operations has been fully addressed by appropriate corrective actions that were documented in formal, approved Corrective Action Plans. These improvements have been successfully implemented and validated. Additionally, the New Mexico Environment Department (NMED) has provided detailed oversight, as have the Defense Nuclear Facility Safety Board, DOE Office of Enterprise Assessments, Environmental Protection Agency and the Mine Safety and Health Administration. We have reviewed and overseen WIPP recovery activities to ensure that all findings and recommendations from the reviews have been properly addressed and the corrective actions validated.

   Beginning in the fall of 2016, WIPP underwent a series of readiness assessments that included an internal management self-assessment and a contractor operational readiness review (ORR), which was performed by subject-matter experts from across the DOE complex. In late November, DOE conducted the final operational readiness review necessary for restart of operations. Corrective actions were developed for all pre-start findings, and were implemented and validated by CBFO and the DOE ORR team. Corrective action plans were reviewed and approved for all post-start findings and we continue working to close out all actions.

   In December, representatives from NMED conducted their annual inspection for compliance with the hazardous waste facility permit and approved WIPP's return to normal operations.

2. **Why did it take so long to resume operations?**

   We took the time we needed to do things safely and to do them right. It has been roughly 35 months since the fire and radiological release incidents at WIPP in 2014. The recovery process was a first-time experience for everyone involved. The initial reentries into the underground and investigations were done slowly and methodically, to ensure worker safety and to avoid altering the environment that was important to understanding the cause of the incidents.

   Recovery activities were complex and required detailed planning and training: cleaning and restoring electrical services impacted by the fire, improvement to safety basis and safety management programs, upgrades to equipment, infrastructure and facilities, ground control (rock bolting, mine stability), characterization and

decontamination, etc. The safety of the workers, members of the public, and the environment has always been our priority. I'm very proud of the progress we've made to get where we are today.

3. **Looking back over the 35 months it took, what was the most challenging part of resuming operations?**

   Each aspect of recovery presented its own set of challenges and it would be difficult to identify one specific area as most challenging. Moving from working in a clean (uncontaminated) environment, to an environment with potential airborne radioactive contamination was a significant departure from what the workforce had previously experienced. Another challenge was catching up and maintaining ground control after the nine-month hiatus following the events. Ground control, including roof bolting, side bolting and floor leveling, is paramount to worker safety and was necessary to ensure the future stability of the WIPP underground. Catch-up bolting was particularly challenging in the contaminated areas where ground-control teams had to operate bolters in personal protective clothing and respirators. What I'm most proud of is that, at every step of the way, safety has driven our decisions and our workforce has risen to the challenges.

4. **How long will WIPP have to operate in a contaminated environment?**

   With the decision to withdraw from the far south end of the mine, the area of the WIPP underground still considered contaminated was reduced by approximately 60 percent. In addition, due to the hygroscopic (recrystallization of salt brine) nature of the salt, surface contamination levels continue to decrease over time as the radioactive particles are absorbed into the surface of the salt. Therefore, the overall footprint of the contaminated area will continue to decrease, creating an opportunity for some areas to be available for down posting, but in all likelihood some portion of the underground will remain designated as a contaminated area until Panel 7 has been filled and associated closure bulkheads have been installed.

5. **When will "normal" operations resume?**

   We have a new "normal" at WIPP now, based on the program changes and safety enhancements, as well as the reality of operating in a contaminated underground area. When we begin receiving shipments, we will start slowly and ramp up to about five shipments per week. This rate may be slightly increased as we identify efficiencies. These rates are based on the 110,000-cubic-feet-per-minute (cfm) level of underground ventilation that is currently available. We cannot return to higher shipping rates until the new exhaust shaft and filter building projects are completed sometime after 2021, which will provide underground ventilation rates at about 450,000 cfm.

6. **When will transuranic waste shipments from off-site resume? How will DOE determine the order of waste shipments from generator sites?**

   Shipments are expected to resume sometime in the spring of 2017, at the rate of up to five shipments per week. The shipping schedule and queue is under development. Considerations in

determining priorities will include: the WIPP emplacement rate; waste available for shipping; generator site regulatory commitments and agreements; WIPP transportation/waste acceptance capabilities; programmatic, logistical, and TRU waste storage capacity factors at the generator sites; and, operational needs at WIPP and TRU waste generator sites.

7. What are you most proud of today?

I'm most proud of our workforce here at WIPP. Much of the work that was a priority for recovery was in underground areas that had surface contamination or the potential for airborne contamination. Many of the workers have been operating in personal protective equipment and respirators, which made work conditions difficult. In fact these conditions can reduce work efficiency by as much as 75 percent. However, our workforce stepped up and continued to work through the adversity to get us where we are today. I'd like to especially mention the ground-control crews who nearly doubled production over the last few months to help ensure we had safe access to Panel 7 for waste emplacement.

Background

Transuranic waste began accumulating in the 1940s with the beginning of the nation's nuclear defense program. As early as the 1950's, the National Academy of Sciences (NAS) recommended deep disposal of long-lived transuranic radioactive wastes in geologically stable formations, such as deep salt beds. Sound environmental practices and strict regulations require such wastes to be isolated to protect human health and the environment.
Bedded salt is free of fresh flowing water, easily mined, impermeable and geologically stable—an ideal medium for permanently isolating long-lived radioactive wastes from the environment. However, its most important quality in this application is the way salt rock seals all fractures and naturally closes all openings.

Throughout the 1960's, government scientists searched for an appropriate site for radioactive waste disposal, eventually testing a remote desert area of southeastern New Mexico where, 250 million years earlier, evaporation cycles of the ancient Permian Sea had created a 2,000-foot-thick salt bed.

In 1979, Congress authorized the WIPP facility, which was constructed during the 1980's. Congress limited WIPP to the disposal of defense-generated transuranic wastes. In 1998, EPA certified WIPP for safe, long-term disposal of TRU wastes.

In February 2014, DOE suspended operations at WIPP following an accidental radiation release and unrelated underground fire. DOE spent nearly three years on recovery operations at an estimated cost of approximately $1.5 billion, including NWP's management and operations contract. DOE is still working to return the underground ventilation back up to pre-accident levels, which is expected to push the total bill for the recovery closer to $2 billion.

Additional information is available on the U.S. Department of Energy's website at http://www.wipp.energy.gov/wipprecovery/recovery.html.

Southwestern Compact/State of California

San Onofre Nuclear Plant Decommissioning Contract Awarded

In late-December 2016, following a ten-month competitive bid process, Southern California Edison announced that it has selected a joint venture of AECOM and Energy*Solutions* as the Decommissioning General Contractor for the San Onofre Nuclear Generating Station (SONGS). This is one of the country's largest commercial nuclear plant decommissioning projects.

"We are pleased to announce the selection of the AECOM/Energy*Solutions* team, a global joint venture with extensive commercial and government decommissioning experience around the world, as the prime contractor to safely and efficiently dismantle the San Onofre nuclear plant," said SCE President Ron Nichols. "SCE will maintain strict oversight of the contractor and will continue to engage with the community and all stakeholders during decommissioning."

The joint venture will be known as SONGS Decommissioning Solutions.

Overview

The major SONGS dismantlement work will not begin before 2018 when, as required by the California Environmental Quality Act, state regulators are expected to complete their environmental review. The project is expected to create about 600 jobs during the 10-year dismantlement phase, including workers from local companies.

AECOM, a fully integrated global infrastructure firm, was named one of Fortune magazine's "World's Most Admired Companies" in 2016. AECOM designs, builds, finances and operates assets in more than 150 countries. Energy*Solutions,* which specializes in nuclear plant decommissioning and waste management, is currently in the demolition phase of decommissioning both the Zion and Dairyland nuclear power stations.

The $4.4 billion nuclear plant decommissioning is financed through existing trust funds, including SCE's share of the project as majority owner. The total cost includes the dismantlement work awarded to SONGS Decommissioning Solutions and continued on-site storage of San Onofre's used nuclear fuel until the federal government provides a required repository and restoration activities.

SCE shares responsibility for decommissioning with San Onofre co-owners San Diego Gas & Electric and the city of Riverside, as well as former co-owner the city of Anaheim.

Background

When operational, San Onofre Units 2 and 3 generated 2,200 megawatts of electricity. In June 2013, SCE announced that it would retire San Onofre Units 2 and 3 and that it had begun the preparations to decommission the facility. SCE has established core principles of safety, stewardship and engagement to guide decommissioning.

An Edison International company, Southern California Edison is one of the nation's largest electric utilities, serving a population of nearly 15 million via 5 million customer accounts in a 50,000-square-mile service area within Central, Coastal and Southern California.

For additional information, please visit songscommunity.com or contact Liese Mosher, Principal Manager, Decommissioning Communications, at Southern California Edison, at (949) 368-9750 or at liese.mosher@sce.com; Kathy Davis, Executive Director, Southwestern

Low-Level Radioactive Waste Compact Commission at (916) 448-2390 or at swllrwcc@swllrwcc.org; or, Stephen Woods, Chief, Division of Food, Drug and Safety, California Department of Public Health, at (916) 440-7883 or at steve.woods@cdph.ca.gov.

Texas Low-Level Radioactive Waste Disposal Compact Commission

Texas Compact Commission Holds February 2017 Meeting

On February 23, 2017, the Texas Low-Level Radioactive Waste Disposal Compact Commission (Texas Compact Commission) held a regularly scheduled meeting in Austin, Texas.

The meeting began at 8:30 a.m. CT. It was held in Room E201S at the offices of the Texas Commission on Environmental Quality (TCEQ), which is located at 12100 Park 35 Circle in Austin, Texas.

The formal meeting agenda is available on the Texas Compact Commission's web site at www.tllrwdcc.org.

Agenda

The following is an abbreviated overview of the agenda for the Texas Compact Commission meeting. Persons interested in additional detail are directed to the formal agenda themselves.

- call to order;
- roll call and determination of quorum;
- introduction of Commissioners, elected officials and press;
- public comment;
- consideration of and possible action on an amendment to an import agreement for importation of low-level radioactive waste from ThermoProcess;
- consideration of and possible action on applications and proposed agreements for importation of low-level radioactive waste from Energy*Solutions* Bear Creek and RAM Services;
- consideration of and possible action on an amendment to an exportation agreement for exportation of low-level radioactive waste from Bionomics TAMU Kingsville;
- consideration of and possible action on applications for exportation of low-level radioactive waste from Bionomics Peleton;
- discussion and consultation with legal counsel concerning pending litigation *United States v. EnergySolutions, Inc. (Civil Action No.: 1:16-cv-01056-GMS)* and responses to inquiries and requests from litigants in the litigation;
- receive reports from Waste Control Specialists LLC (WCS) about recent site operations and any other matter WCS wishes to bring to the attention of the Texas Compact Commission;
- receive reports from Texas Compact Commission committees including the Rules Committee (as Chaired by Commissioner Morris) and the Capacity Committee (as Chaired by Commissioner Weber);
- Chairman's report on Texas Compact Commission activities including reporting on fiscal matters to be taken by the compact and addressing personnel matters;
- report from Leigh Ing, Executive Director of the Texas Compact Commission, on her activities and questions related to Texas Compact Commission operations;

- discussion and possible changes of dates and locations of future Texas Compact Commission meetings in 2017; and,

- adjourn.

Background

The Texas Compact Commission may meet in closed session as authorized by the Texas Open Meetings Act, Chapter 551, Texas Government Code. Texas Compact Commission meetings are open to the public.

For additional information, please contact Texas Compact Commission Executive Director Leigh Ing at (512) 305-8941 or at leigh.ing@tllrwdcc.org.

Texas Compact/State of Texas

NRC to Review WCS Application re Spent Nuclear Fuel Storage Facility

On January 26, 2017, the U.S. Nuclear Regulatory Commission announced that the agency has docketed and accepted for formal review an application from Waste Control Specialists (WCS) to build and operate a spent nuclear fuel Consolidated Interim Storage Facility (CISF) in Andrews, Texas. The NRC's decision follows an acceptance review to determine whether the application contains sufficient information for the agency to begin its formal review. (See *LLW Notes*, November/December 2016, pp. 14-16.)

WCS is seeking to store 5,000 metric tons uranium of spent fuel received from commercial nuclear power reactors across the United States.

Overview

NRC's review will proceed on two parallel tracks—one on safety issues and the other on environmental issues. Both the safety and environmental reviews must be completed before the NRC makes a final licensing decision on the application.

In a letter to WCS dated January 26, 2017, the NRC set a schedule for its safety and environmental reviews. The schedule sets a target of making a licensing decision by the third quarter of fiscal year 2019—assuming that WCS provides high-quality responses, on schedule, to any NRC requests for additional information.

Interested stakeholders will have 60 days from publication of a notice of docketing in the *Federal Register*, which will appear shortly, to submit requests for a hearing and petition to intervene in the licensing proceeding for the proposed facility. Details on how to submit those requests and petitions will be in the *Federal Register* notice.

The NRC's letter to WCS is available on the agency's website at https://www.nrc.gov/docs/ML1701/ML17018A168.pdf.

Public Meetings

The NRC held the following two public meetings near the site of the proposed CISF to take public comments on the scope of the environmental review:

- Hobbs, New Mexico: Lea County Event Center (5101 N. Lovington Highway) from 7:00 – 10:00 p.m. MT on February 13, 2017

- Andrews, Texas: James Roberts Center (855 TX-176) from 7:00 – 10:00 p.m. CT on February 15, 2017

The NRC is also planning to hold additional scoping meetings at the agency's headquarters in Rockville, Maryland during the week following

the local meetings. Details for these meetings are still being finalized.

Information about the public meetings will be posted to the NRC public meetings schedule on the agency's website at www.nrc.gov.

Submitting Comments

Interested stakeholders can submit comments on the scope of the Environmental Impact Statement (EIS) for the CISF as follows:

- Federal Rulemaking Website: Submit electronic comments at regulations.gov.

- Mail: Send comments to Cindy Bladey, Office of Administration, Mail Stop: OWFN-12 H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001

Written comments should refer to Docket ID NRC-2016-0231. The NRC will accept public comments through March 13, 2017.

Background

On April 28, 2016, WCS filed an application seeking a 40-year license for a CISF to receive spent fuel from nuclear reactors for storage, pending final disposal. (See *LLW Notes*, May/June 2016, pp. 16-17.) Specifically, WCS is requesting authorization to construct and operate a CISF at the company's 60.3 square kilometer (14,900 acre) site in western Andrews County, Texas. On this site, WCS currently operates facilities that process and store certain types of radioactive material—mainly low-level radioactive waste and mixed waste. The facility also disposes of hazardous and toxic waste.

According to the application, WCS plans to construct the CISF in eight phases. Phase one of the CISF would be designed to provide storage for up to 5,000 metric tons uranium (MTU) of spent nuclear fuel received from commercial nuclear power reactors across the United States. WCS proposes that small amounts of mixed oxide spent fuels and Greater-Than-Class C (GTCC) low-level radioactive wastes also be stored at the CISF. WCS stated that it would design each subsequent phase of the CISF to store up to an additional 5,000 MTU. A total of up to 40,000 MTU would be stored at the site by the completion of the final phase. Each phase would require NRC review and approval.

WCS would receive canisters containing spent nuclear fuel from the reactor sites. Once accepted at the site, WCS would transfer them into onsite dry cask storage systems. WCS plans to employ dry cask storage system technology that has been licensed by the NRC pursuant to 10 CFR Part 72 at various commercial nuclear reactors across the country. According to WCS, the dry cask storage systems proposed for use at the CISF would be passive systems (i.e., not relying on any moving parts) and would provide physical protection, containment, nuclear criticality controls and radiation shielding required for the safe storage of the spent nuclear fuel. WCS also states that the dry cask storage systems would be located on top of the concrete pads constructed at the CISF.

For additional information, please contact Maureen Conley of the U.S. Nuclear Regulatory Commission at (301) 415-8200.

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 New Jersey and South Carolina

Oyster Creek Nuclear Plant On March 9, 2017, U.S. Nuclear Regulatory Commission (NRC) staff will conduct a Regulatory Conference with Exelon to discuss an apparent violation at the Oyster Creek nuclear power plant, which is located in Lacey Township (Ocean County), New Jersey. The meeting will be open to the public. The issue involves one of the plant's safety-related reactor pressure relief valves and has been preliminarily classified as "white" (low to moderate safety significance). If finalized at that level, it would result in additional NRC oversight. The meeting is scheduled to begin at 10:00 a.m. at the NRC's Region I Office, which is located at 2100 Renaissance Boulevard in King of Prussia, Pennsylvania. Following the completion of the NRC's discussion with Exelon, the plant's owner and operator, members of the public will be able to ask questions of agency staff. During an NRC inspection completed at the end of 2016, NRC staff identified the finding involving one of the plant's five electromatic relief valves, which would be used to depressurize the reactor during a pipe break to allow coolant to be injected into the reactor core. This is necessary to keep the nuclear fuel in the reactor covered and cooled during a post-accident shutdown. If requested by a plant's owner, a Regulatory Conference is held to discuss an inspection finding and its safety significance, as well as to allow the company an opportunity to clarify any issues raised in the inspection report. No decision will be made at the conference regarding the apparent violation or any enforcement action. NRC officials will make those decisions at a later time. *For those unable to attend in person, a phone bridge line is available at (888) 391-9420 using passcode 5712746 #. For additional information, please contact Neil Sheehan at (610) 337-5331.*

Oconee Nuclear Plant On February 24, 2017, NRC announced that the agency has determined that Duke Energy's Oconee nuclear plant has completed all activities specified by a 2013 Confirmatory Order to meet requirements connected to its transition to new fire protection standards. The three-unit Oconee plant is located near Seneca, South Carolina—approximately 30 miles west of Greenville. Oconee was one of the first plants in the country to begin the transition to National Fire Protection Association 805, a more risk-based standard for fire protection at nuclear power plants. NRC inspectors have reviewed interim milestones completed by the plant staff since 2013 as part of the Confirmatory Order and finished the most recent inspection in January 2017. The letter and report for that inspection were sent to Duke Energy on February 21, 2017. "The results of that inspection and previous inspections provide adequate assurance that the requirements of the order have been met," said NRC Region II Administrator Cathy Haney. The work at the Oconee site included completion of the protected service water, or PSW, system modification, the analysis of non-power operations, the incorporation of the PSW modification into the plant's fire protection program documents, and confirmation that the PSW system continued to provide adequate protection against fire risk. *The 2013 Confirmatory Order, as well as the letter and inspection report closing the order, are available on the NRC web site at www.nrc.gov. For additional information, please contact Roger*

Hannah at (404) 997-4417 or Joey Ledford at (404) 997-4416.

Midwest Compact/State of Wisconsin

American Engineering Testing, Inc. On February 14, 2017, NRC announced that the agency has issued an Order barring a radiographer from participating in NRC-licensed activities for one year. The enforcement action against Curtis Thompson is based on his deliberate actions in performing radiographic operations without another qualified individual present while at a temporary jobsite in Gary, Indiana. The NRC issued the enforcement action after finding that Thompson alone willfully used a camera with radioactive material on numerous metal welds while working for a client. During the NRC investigation, Thompson admitted to violating NRC requirements in order to complete the work. The NRC also issued a Severity Level III Notice of Violation to American Engineering Testing Inc., Thompson's former employer. The company is located in St. Paul, Minnesota and is licensed by the NRC to use radioactive materials. Implementation of agency regulations ensures the safety of its workers and the public. Thompson's actions resulted in the company violating NRC requirements. "This enforcement action against Thompson and the violation to the company underscore that willful violations of safety requirements will not be tolerated," said NRC Region III Administrator Cynthia Pederson. The company independently identified this issue, informed the NRC of the situation and took corrective actions. As a result, the NRC will not issue a civil penalty to American Engineering Testing Inc. The NRC's Order directs Thompson to cease all activities involving NRC-licensed activities for one year and he must notify the NRC for the following one-year probation period if he becomes involved in NRC-licensed activities. A second qualified accompanying individual is required to prevent unauthorized entry into a restricted area where radiographic operations are being performed and to provide assistance when needed. *The NRC's order and notice of violation are available on the agency's website at www.nrc.gov. For additional information, please contact Viktoria Mitlyng at (630) 829-9662 or Prema Chandrathil at (630) 829-9663.*

Southeast Compact/States of Tennessee and Virginia

Clinch River Site On January 12, 2017, the NRC announced that the agency has accepted for review the Early Site Permit (ESP) application for the Clinch River site near Oak Ridge, Tennessee. The Tennessee Valley Authority (TVA) submitted the application and associated information in May 2016, and provided follow-up information through the remainder of the year. The ESP process determines whether a site is suitable for future construction and operation of a nuclear power plant. The NRC held meetings in Oak Ridge in April 2016 to explain the review process to the surrounding community. TVA is seeking resolution of safety and environmental issues related to a potential small modular reactor at the site, which is located approximately five miles southwest of Oak Ridge. Accepting the application for review, or "docketing" the application, does not indicate whether the Commission will approve or reject the request. The NRC will publish in the *Federal Register* a notice of opportunity to intervene in an adjudicatory hearing. Petitions to intervene in a hearing must be filed within 60 days of the notice, by anyone whose interest the proposed permit may be affected and who wishes to participate as a party in the proceeding. The NRC has established docket number 52-047 for this application. *Additional information on the new reactor licensing process and hearing process is available on the NRC website at www.nrc.gov. The application, minus proprietary and security-related details, is also available on the NRC website. For additional information, please contact Scott Burnell of the NRC at (301) 415-8200.*

North Anna Site On January 19, 2017, NRC announced that agency staff has completed its

Final Safety Evaluation Report for a Combined License for a proposed reactor at the North Anna site near Mineral, Virginia. The report concludes there are no safety aspects that would preclude issuing the license for construction and operation of the proposed reactor, adjacent to two operating reactors approximately 40 miles northwest of Richmond. NRC staff will provide the report and the Supplemental Environmental Impact Statement on the North Anna application to the Commission for the mandatory hearing phase of the licensing process. In the mandatory hearing, expected to take place later this year, the Commission will examine whether the staff's review supports the findings necessary to issue a license. Following the mandatory hearing, the Commission will vote on whether to authorize the staff to issue the license. Dominion Virginia Power submitted its license application for North Anna on November 26, 2007. The application seeks permission to build and operate an Economic Simplified Boiling Water Reactor at the site. The NRC certified the design in 2014. The NRC's Advisory Committee on Reactor Safeguards (ACRS) independently reviewed those aspects of the North Anna application that concern safety. The committee provided the results of its review to the Commission on November 15, 2016. The NRC issued an ESP for North Anna in November 2007. The agency supplemented the permit's environmental review for the proposed North Anna reactor in March 2010. *Additional information on the certification process is available on the NRC website at www.nrc.gov. For additional information, please contact Scott Burnell of the NRC at (301) 415-8200.*

Southwestern Compact/States of Arizona and California

Palo Verde Nuclear Generating Station On February 6, 2017, NRC began a special inspection at the Palo Verde Nuclear Generating Station to review circumstances surrounding the failure of an emergency diesel generator during testing on December 15, 2016. The plant is located in Wintersburg, Arizona. It is operated by Arizona Public Service Co. "The purpose of this special inspection is to better understand the cause of the failure and to review the adequacy of corrective actions proposed by the licensee," NRC Region IV Administrator Kriss Kennedy said. Emergency diesel generators are used to supply power to safety-related systems in the event of a loss of off-site power. NRC requires that each of the three reactors at Palo Verde have two emergency diesel generators that must be tested monthly to ensure operability. During a scheduled test, a piston failed on one of the emergency diesel generators at Unit 3, prompting the licensee to declare an Alert—the second lowest of four levels of nuclear emergency. No site personnel were injured and the Alert was terminated about two hours later. There was no danger to the public and the event had no effect on plant operations. NRC inspectors spent about a week on site to conduct the inspection. The team will determine whether there are any potential generic implications for the industry and determine whether plant operators' response to the event was appropriate. An inspection report documenting the team's findings will be publicly available within 45 days of the end of the inspection. *For additional information, please contact Victor Dricks at (817) 200-1128.*

Diablo Canyon Nuclear Plant On December 29, 2016, NRC announced that the agency has issued a white finding of low to moderate safety significance to the Diablo Canyon nuclear power plant for failing to adequately maintain the emergency core cooling system at the plant in San Luis Obispo, California. Each reactor at Diablo Canyon is equipped with two emergency core cooling systems that are used to provide cooling water to a reactor under certain accident conditions. During a scheduled test conducted in May 2016, workers discovered that a maintenance problem had rendered one of the Unit 2 emergency core cooling systems inoperable for an extended period of time, beginning as early as October 2014. A second emergency core cooling system was available if needed. The licensee has

corrected the condition and changes have been made to maintenance procedures to prevent recurrence. The issue is described in an NRC inspection report. On November 15, 2016, NRC staff held a regulatory conference with representatives from Pacific Gas & Electric Co. in Arlington, Texas, to discuss the issue. The NRC evaluates regulatory performance at commercial nuclear plants with a color-coded process that categorizes inspection findings as green, white, yellow or red in order of increasing safety significance. The NRC has determined that this inspection finding has low to moderate (white) safety significance. The NRC will conduct an inspection to verify the licensee's corrective actions have been properly implemented. *For additional information, please contact Victor Dricks at (817) 200-1128.*

Commonwealth of Massachusetts

Plymouth Nuclear Plant On January 31, 2017, NRC senior staff met with the public in Plymouth, Massachusetts to discuss the preliminary findings of a team inspection recently completed at the Pilgrim nuclear power plant. Pilgrim, a boiling-water reactor owned and operated by Entergy, is located in Plymouth. Attendees had an opportunity to offer comments during the meeting and to pose questions to NRC staff prior to the meeting's conclusion. "We recognize the public's interest in learning more about our inspectors' findings from their evaluations at the plant," NRC Region I Administrator Dan Dorman said. "This meeting will provide an avenue for us to share, at a high level, our latest assessment." The public meeting is being held at the request of Massachusetts' Governor, Charles Baker, and other federal/state officials. In late November 2016, the NRC initiated its third and largest team inspection at Pilgrim since the plant came under heightened agency oversight in September 2015, following its Column 4 ranking in the agency's Action Matrix. This Phase "C" inspection evaluated a variety of aspects of the plant's performance. The team's third and final week of on-site reviews was concluded on January 13, 2017. Based on the results of this review and the earlier inspections, the agency's Executive Director for Operations, in conjunction with the Region I Administrator and the Director of the Office of Nuclear Reactor Regulation, will determine whether additional NRC actions are warranted. A report containing the team's formal conclusions will be developed based on an analysis of all the information gathered. *For additional information, please contact Diane Screnci at (610) 337-5330 or Neil Sheehan at (610) 337-5331.*

Waste Management 2017 Conference

LLW Forum Sponsors Panel for Waste Management 2017 Conference

The Low-Level Radioactive Waste Forum, Inc. (LLW Forum) has organized Panel 19 for the Waste Management 2017 Conference titled, *Hot Topics and Emerging Issues in US Commercial Low-Level Radioactive Waste Management*, that will be held in Room 104AB from 1:25 – 3:05 p.m. on Monday afternoon—March 6, 2017.

Later the same afternoon, the Southeast Compact Commission for Low-Level Radioactive Waste Management will present J. Scott Kirk with the 2017 Richard S. Hodes, M.D. Honor Lecture Award. The award presentation will begin at 3:15 p.m. in Room 105C.

Following the conclusion of the conference, the U.S. Nuclear Regulatory Commission (NRC) will host a public meeting on the agency's low-level radioactive waste regulatory program. The NRC public meeting will be held from 8:30 a.m. to 1:00 p.m. in Salon 8 at the Renaissance Downtown Hotel on March 10, 2017. The hotel is located at 50 East Adams Street in Phoenix,

Arizona. There is no registration fee to attend and participate in the NRC public meeting.

Interested stakeholders are invited and encouraged to attend the above-referenced panel, award presentation and public meeting. The Waste Management 2017 Conference will be held at the convention center in Phoenix, Arizona from March 5-9, 2017.

LLW Forum Panel Overview

Panel 19 will focus on emerging issues in commercial low-level radioactive waste management in the United States from the perspective of representatives of the LLW Forum. State, federal and industry officials will share their views on a variety of timely and significant topics including:

- alternative disposal pathways for very low activity waste;
- operator perspectives from the Waste Control Specialists (WCS) facility in Texas including a proposal to license a disposal cell for Greater-than-Class C (GTCC), GTCC-like and Transuranic waste and an application to construct and operate a facility to store spent nuclear fuel at the Waste Control Specialists (WCS) facility in Texas;
- the U.S. Government Accountability Office (GAO) report examining enhanced controls and continuing vulnerabilities of dangerous radioactive materials; and,
- NRC initiatives including the proposed final rule to amend 10 CFR Part 61, *Licensing Requirements for Land Disposal of Radioactive Waste.*

Scheduled speakers for Panel 16 include

- Lisa Edwards, Senior Program Manager at the Electric Power Research Institute (EPRI);
- Betsy Madru, Vice-President of Government Affairs at WCS;
- Ned Woodward, Assistant Director at GAO; and,
- John Tappert, Director of the Division of Decommissioning, Uranium Recovery and Waste Programs at the NRC.

The panel will be co-chaired by LLW Forum Chair Leonard Slosky and LLW Forum Executive Director Todd Lovinger.

For additional information about the LLW Forum or Waste Management Panel 19, please contact Todd D. Lovinger, the LLW Forum's Executive Director, at (754) 779-7551 or at LLWForumInc@aol.com.

Hodes Award Overview

The Hodes Award recognizes an individual, company, or organization that has contributed in an innovative way to improving the technology, policy, or practices of low-level radioactive waste (LLRW) management in the United States.

J. Scott Kirk is being recognized for his innovative efforts in solving low-level radioactive waste management challenges in the United States by:

- conceiving and perfecting the idea of placing very low activity low-level radioactive waste in a near-surface landfill based on a performance assessment that showed the predicted dose did not exceed regulatory limits;
- proposing a near-surface disposal option for GTCC waste that is currently under consideration by the NRC and the State of Texas; and,

- submitting an application to the NRC to construct and operate a consolidated interim storage facility for spent nuclear fuel.

In addition, the Southeast Compact Commission commends Kirk for his contribution to the professionalism of health physics and radiation safety programs at the Texas Low-Level Radioactive Waste Disposal Compact's regional disposal facility in Andrews County, Texas.

Kirk's efforts have improved radiation health and safety and provided additional economical and safe disposal and storage options for low-level radioactive waste, GTCC waste, and spent reactor fuel. His creative work clearly exemplifies the spirit and commitment that the Hodes Award is intended to recognize.

Kirk has more than 25 years of experience in the nuclear industry and recently joined BWX Technologies, Inc. as Director of Regulatory Affairs. In this capacity, Kirk provides guidance on a variety of regulatory affairs matters, focusing on radioactive waste management. Prior to his employment with BWXT, Kirk served as the Vice President of Licensing and Regulatory Affairs at WCS where he significantly contributed to the successful licensing of the first new regional disposal facility to open in the past 40 years in Andrews County, Texas.

Kirk was also employed by Nuclear Fuel Services (a BWXT Company) and served as the principle liaison with the NRC for over 10 years. He is a certified Health Physicist and an active member of the Health Physics Society (HPS), serving as a subject matter expert on issues pertaining to radioactive waste management and disused sealed sources. Kirk holds a Bachelor's Degree in Geology from Appalachian State University and a Master's Degree in Environmental Health from East Tennessee State University.

Nominations for the 2018 Hodes Honor Lecture Award are now being accepted. The deadline for submittal of nominations is August 15, 2017. Details can be found on the Southeast Compact Commission website at www.secompact.org or you may contact Ted Buckner, the Commission's Executive Director, at tedb@secompact.org.

NRC Public Meeting Overview

The purpose of the NRC public meeting is to discuss the status of the 10 CFR Part 61 site-specific rulemaking; financial assurance rulemaking; low-activity waste (LAW) scoping study; and, programmatic assessment of the low-level waste regulatory program.

- The 10 CFR Part 61 site-specific rulemaking addresses the disposal of large quantities of depleted uranium, blended waste and unanalyzed waste streams by requiring a site-specific performance assessment and allowing for the disposal of waste via the use of waste acceptance criteria, as an alternative to the waste classification tables in 10 CFR Part 61.55. (For additional information, please see *LLW Notes,* September/October 2016, pp. 1, 32-38.) If the Commission has not yet issued the 10 CFR Part 61 final rule, then the NRC staff will discuss the content of the rulemaking as proposed to the Commission by NRC staff.

- The NRC is considering performing a LAW scoping study, which will include coordinating with other agencies on consistency in regulating LAW, determining the impact of LAW disposal from radiological dispersal devices and developing regulatory options that would define the conditions under which LAW, including mixed waste, could be disposed of in a Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste facility.

- To set the future direction for the NRC low-level waste regulatory program in the next several years, the NRC is in the process of updating the Strategic Assessment of the LLW

Regulatory Program with a Programmatic Assessment of the LLW Regulatory Program to identify and prioritize tasks that the NRC can undertake to ensure a stable, reliable and adaptable regulatory framework for effective low-level radioactive waste management, while also considering future needs and changes that may occur in the nation's commercial low-level radioactive waste management system.

All interested stakeholders are welcome to attend the NRC public meeting including waste generators, processors, disposal facility operators, states, low-level radioactive waste compacts, advocacy groups and members of the public.

Although the NRC public meeting is not part of the Waste Management conference, it is being held the day after the annual symposium ends to facilitate attendance and participation by members of the waste industry and other stakeholders that have an interest in the subjects of the NRC public meeting.

For additional information, please contact Robert Gladney of the NRC at (301) 415-1022 or at Robert.Gladney@nrc.gov.

Background

The Waste Management Conference takes place annually and is presented by Waste Management Symposia—a non-profit organization dedicated to education and opportunity in waste management.

The international conference was founded to provide a forum for discussing and seeking cost-effective and environmentally responsible solutions to the safe management and disposition of radioactive waste and radioactive materials.

This year's conference will include over 600 presentations covering all aspects of radioactive waste management, packaging and transportation, facility siting, site remediation, Fukushima progress and other related topics.

Additional information on the Waste Management 2017 Conference can be found at www.wmsym.org or by contacting the Waste Management office at (480) 557-0263.

Waste Management 2017 Conference/ U.S. Nuclear Regulatory Commission (NRC)

NRC to Host Public Meeting on LLW Regulatory Program

Following the conclusion of the Waste Management conference, the U.S. Nuclear Regulatory Commission (NRC) will host a public meeting on the agency's low-level radioactive waste regulatory program.

The NRC public meeting will be held from 8:30 a.m. to 1:00 p.m. in Salon 8 at the Renaissance Hotel in Phoenix, Arizona on March 10, 2017. There is no registration fee to attend and participate in the NRC public meeting.

Overview

The purpose of the NRC public meeting is to discuss the status of the 10 CFR Part 61 site-specific rulemaking; Greater-than-Class C (GTCC) and transuranic waste disposal; low-activity waste (LAW) scoping study; and, programmatic assessment of the low-level waste regulatory program.

- The 10 CFR Part 61 site-specific rulemaking addresses the disposal of large quantities of depleted uranium, blended waste and unanalyzed waste streams by requiring a site-specific performance assessment and allowing for the disposal of waste via the use of waste acceptance criteria, as an alternative to the waste classification tables in 10 CFR Part 61.55. (For additional information,

please see *LLW Notes*, September/October 2016, pp. 1, 32-38.) If the Commission has not yet issued the 10 CFR Part 61 final rule, then the NRC staff will discuss the content of the rulemaking as proposed to the Commission by NRC staff.

- On January 30, 2015, the Texas Commission on Environmental Quality (TCEQ) sent a letter to the NRC with questions concerning the State's authority to license a disposal cell for GTCC, GTCC-like and transuranic waste. (For additional information, please see *LLW Notes*, July/August 2015, pp. 15-23.) The NRC staff plans to: (1) prepare a regulatory basis for the disposal of GTCC and transuranic waste for a possible rulemaking; (2) conduct public workshops during the development of that regulatory basis to receive input from stakeholders; and, (3) address transuranic waste in a future revision to 10 CFR Part 61.

- The NRC is considering performing a LAW scoping study, which will include coordinating with other agencies on consistency in regulating LAW, determining the impact of LAW disposal from radiological dispersal devices and developing regulatory options that would define the conditions under which LAW, including mixed waste, could be disposed of in a Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste facility.

- To set the future direction for the NRC low-level waste regulatory program in the next several years, the NRC is in the process of updating the Strategic Assessment of the LLW Regulatory Program with a Programmatic Assessment of the LLW Regulatory Program to identify and prioritize tasks that the NRC can undertake to ensure a stable, reliable and adaptable regulatory framework for effective low-level radioactive waste management, while also considering future needs and changes that may occur in the nation's commercial low-level radioactive waste management system.

Attendance

All interested stakeholders are welcome to attend the NRC public meeting including waste generators, processors, disposal facility operators, states, low-level radioactive waste compacts, advocacy groups and members of the public.

Although the NRC public meeting is not part of the Waste Management conference, it is being held the day after the annual symposium ends to facilitate attendance and participation by members of the waste industry and other stakeholders that have an interest in the subjects of the NRC public meeting.

For additional information, please contact Gregory Suber, Chief of the LLW Branch at the NRC, at (301) 415-8087 or at Gregory.Suber@nrc.gov.

U.S. Environmental Protection Agency (EPA)

Final Rule Signed re Revisions to NESHAP Subpart W of 40 Part 61

On December 20, 2016, U.S. Environmental Protection Agency (EPA) Administrator Gina McCarthy signed a final rule that revised "National Emission Standards for Radon Emissions from Operating Mill Tailings," Subpart W of 40 CFR Part 61, which was last issued in 1989.

Subpart W is a radon emission standard for operating uranium mill tailings. (Tailings are the remaining portion of a metal-bearing ore after some or all of a metal, such as uranium, has been extracted.) In accordance with the Clean Air Act Amendments of 1990, EPA formed a work group to review the standard.

EPA held a stakeholder conference call on January 5, 2017, as previously scheduled.

Interested stakeholders can view a pre-publication copy of the final rule and a fact sheet at https://www.epa.gov/radiation/subpart-w-rulemaking-activity.

Background

EPA's mission is to protect human health and natural resources from pollution. The Agency sets limits on the amount of radioactivity that can be released into the environment.

EPA limits emissions of hazardous air pollutants under the authority of the Clean Air Act. As found in 40 CFR Part 61, EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) set limits on hazardous air pollutants from different activities and facilities. Subpart W of 40 CFR Part 61, National Emission Standards for Operating Mill Tailings, limits radon emissions from uranium byproduct material or tailings at operating uranium recovery facilities. EPA originally issued Subpart W in December 1989, as found at 54 *Federal Register* 51,703, and then updated Subpart W in 2016.

The Clean Air Act Amendments of 1990 required EPA to review and, if appropriate, revise the standards in Subpart W. After completing the review and soliciting public comment, EPA concluded that revisions were needed to clarify definitions and to be more specific about what kind of uranium byproduct material or tailings management is subject to the standard. EPA also concluded that requirements for generally available control technology (GACT) management practices are an appropriate means to control radon emissions from uranium byproduct material or tailings. GACT consists of commercially available methods, practices and techniques for operation and maintenance of emissions control systems.

Although EPA enforces the Clean Air Act at Subpart W, the U.S. Nuclear Regulatory Commission (NRC) has regulatory responsibility for licensing and operation of uranium extraction facilities and other commercial facilities that use radioactive materials. The revised Subpart W does not relieve the owner or operator of the uranium recovery facility of the monitoring and maintenance requirements specified in the operating license issued by the NRC or its Agreement State.

Overview

Based on a review and assessment of available, effective and affordable pollution control approaches, EPA determined that the revised Subpart W standards protect human health and the environment by limiting the amount of radon emitted by uranium byproduct material or tailings being managed at uranium recovery facilities.

Standards for Uranium Mill Tailings The updated standards limit the radon releases to the ambient air from the normal operations of facilities licensed to manage uranium byproduct material or tailings during and following the processing of uranium ores. The rule includes standards for three types of uranium byproduct material or tailings management including:

- conventional impoundments, which are permanent structures used for disposal of mostly solid wastes;
- non-conventional impoundments (also known as holding or evaporation ponds), which manage process liquids or other liquid effluents; and,
- heap leach piles, which consist of ores that have a chemical solution applied to extract uranium.

Definition of Uranium Recovery Facilities The final rule applies to all operating uranium recovery facilities, which are defined as those facilities that manage uranium byproduct material or tailings, including conventional uranium mills, *in-situ* leach recovery facilities and heap leach facilities. The term "operating" means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement.

Radon Flux Monitoring for Conventional Impoundments in Existence on December 15, 1989 The 2016 rule retains the 1989 provision for older conventional impoundments—a radon flux standard of 20 picocuries per square meter per second and monitoring requirements.

GACT for Conventional Impoundments Constructed After December 15, 1989 In the 2016 rule, EPA retains the previous rule's requirements for conventional impoundments constructed after 1989 as GACT-based standards. Post-1989 conventional impoundments must control radon limits through one of the two following management practices:

- no more than two impoundments may operate at any time, each cannot be larger than 40 acres, and disposal takes place in phases; or,
- dewatering (drying) and disposal takes place immediately, and no more than 10 acres may be uncovered at any time.

GACT for Non-Conventional Impoundments Non-conventional impoundments contain uranium byproduct material or tailings suspended in and/or covered by liquids. The 2016 rule requires control of radon emissions by keeping the solid uranium byproduct material or tailings in the ponds saturated with liquid at all times. No solid material may be visible above the liquid level.

GACT for Heap Leach Piles EPA is requiring heap leach piles that have completed processing, but not entered closure, to be managed such that there are no more than two such piles, with neither larger than 40 acres.

Construction Requirements for All Impoundments Subpart W references other regulations that require impoundments to be designed, constructed and installed in a way that protects adjacent soils and waters. The final rule specifies that these requirements apply to all types of uranium recovery facilities.

Record-Keeping Requirements Under the final regulations, uranium recovery facilities must maintain records to demonstrate compliance with requirements for impoundment construction and liquid coverage of ponds. Digital photographs are required to demonstrate liquid levels in non-conventional impoundments. The photographs are to be submitted electronically to EPA.

Application of the Revised Standards The revised standard minimizes both radon emissions

from operating units and the chances for groundwater contamination by:

- requiring the use of GACT to limit radon emissions from conventional impoundments built after 1989, non-conventional impoundments (i.e., evaporation or holding ponds) and heap leach piles;
- limiting the size and number of conventional impoundments that can exist at any time; and,
- prescribing requirements for design and construction of the impoundments (i.e., double liners, leak detection systems).

Existing radon emissions standards and monitoring requirements for conventional impoundments built before 1989 remain in force. The rule becomes effective 60 days after its publication in the *Federal Register.*

For additional information, please contact Dan Schultheisz, Office of Radiation and Indoor Air, Radiation Protection Division, U.S. Environmental Protection Agency, at (202) 443- 9290 or at schultheisz.daniel@epa.gov. Interested stakeholders may also access the EPA website to find information related to this rulemaking at https://www.epa.gov/radiation/.

Federal Agencies

MOU re Cooperation on Radioactive Materials Transportation Security

By letter dated December 22, 2016, the U.S. Nuclear Regulatory Commission (NRC) informed state counterparts of the existence of a federal memorandum of understanding (MOU) for the secure transportation of radioactive materials and the voluntary opportunity for state participation in implementation of the MOU.

The letter was sent to state liaison officers; Part 37, 71 and 73 designees; and, state emergency management directors.

The MOU can be accessed in the NRC's Agencywide Documents Access and Management System Accession (ADAMS) under Accession Number ML16074A004 or by going to https://adamswebsearch2.nrc.gov/webSearch2/view?AccessionNumber=ML16074A004.

Parties

In January 2015, an MOU concerning cooperation on radioactive materials transportation security was signed among the NRC, the Department of Homeland Security (DHS), and the Department of Transportation (DOT). DHS and DOT participation in the MOU includes the participation of their relevant component agencies including the:

- Transportation Security Administration (TSA), U.S. Customs and Border Protection (CBP), and U.S. Coast Guard (USCG) for DHS; and,
- Pipeline and Hazardous Materials Safety Administration (PHMSA), Federal Aviation Administration (FAA), Federal Motor Carrier

Safety Administration (FMCSA), and Federal Railroad Administration (FRA) for DOT.

Purpose

The MOU establishes a framework for the parties to coordinate, to the maximum extent practicable, their respective responsibilities and activities related to the secure transportation of radioactive materials within the U.S. or across U.S. borders. Coordination among the parties is expected to achieve the following goals:

- enhance collaborative exchanges;
- promote the leveraging of mutual interests;
- provide a forum for interdepartmental communication;
- reduce duplication of effort in areas of shared interest;
- maximize the success of efforts to develop capabilities that serve the needs of the Commission and the Departments in the execution of their homeland security and civil support missions; and,
- promote the standardization of approach and policy on the transportation security of radioactive materials.

The goal of the MOU is to ensure that transportation of radioactive materials is done in a manner that protects public health and safety, and supports the common defense and security of the United States.

Overview

The Energy Policy Act of 2005 directed the creation of an interagency task force on radiation source protection and security under the lead of the NRC. The Radiation Source Protection and Security Task Force (RSPSTF) was convened and provided its first report of recommendations and actions to Congress and the President in August 2006. One recommendation was the development of a transport security MOU to serve as the foundation for cooperation in the establishment of a comprehensive and consistent transport security program for risk-significant radioactive materials.

The MOU for the secure transport of radioactive material was developed to satisfy this recommendation by enhancing cooperation and coordination among federal agencies that have responsibilities related to secure transport of risk-significant radioactive materials including Category 1 and 2 materials (10 CFR Part 20, Appendix E); Categories I, II, and III special nuclear material (10 CFR 73.2); and, irradiated reactor fuel. The NRC is the lead agency for implementation of the MOU.

Information about the RSPSTF can be found at http://www.nrc.gov/security/byproduct/task-force.html.

Working Groups

Attachment 1 of the MOU details 12 topical areas covered by the MOU, four of which will be addressed by interagency working groups who will develop implementation plans for them including:

- intelligence and information sharing;
- sharing information during an emergency response;
- inspections and enforcement; and,
- background investigations.

Recognizing that states are stakeholders in the secure transport of radioactive material, and that state entities would likely be first responders to a transportation security event, the NRC is offering interested state parties the opportunity to participate in these working groups.

Participation in any or all of the working groups is voluntary and based on state interest. Working group participation will likely entail

- two one-hour conference calls per month;
- composition and review of documents developed by working groups; and,
- coordination within relevant State organizations as needed.

Working groups began meeting in October 2016 and will continue through August 2017.

NRC has identified various potential benefits of participating in implementation of the secure transport MOU including

- enhanced coordination and collaboration with federal agencies;
- optimization of radioactive material transport security event communication protocols between federal and state entities; and,
- increased state access to federal resources regarding secure transportation of risk-significant radioactive materials.

Background

The following is an overview of authorities of each of the represented agencies in the MOU.

- Through legislative authorities and departmental delegations, TSA supports DHS' counterterrorism and critical infrastructure protection missions. In addition, at the direction of the Secretary of Homeland Security, TSA has primary responsibility for developing the National Strategy for Transportation Security jointly with the Secretary of Transportation.
- CBP supports the mission of DHS and enforces hundreds of U.S. laws and regulations at the border, including those regarding the transportation of hazardous materials across the U.S. border. In general, border search authority permits "customs officers" to search without a warrant and without any suspicion any person, conveyance, or container that crosses the U.S. border.
- The USCG is responsible for overseeing regulatory compliance in the transportation of hazardous materials by water.
- PHMSA is responsible for promulgating and enforcing regulations and administering a national safety and security program of multimodal hazardous materials (hazmat) transportation. PHMSA is also responsible for overseeing regulatory compliance in the shipment of hazardous materials and the manufacture, fabrication, marking, maintenance, reconditioning, repair or testing of multi-modal containers which are represented, marked, certified, or sold for use in the transportation of hazardous materials.
- FAA is responsible for overseeing regulatory compliance in the transportation of hazardous materials by air.
- FMCSA is responsible for overseeing regulatory compliance in the transportation of hazardous materials by highway, including the manufacture, fabrication, marking, maintenance, reconditioning, repair or testing of containers which are represented, marked, certified, or sold for use in bulk transportation of hazardous materials by highway.
- FRA is responsible for overseeing regulatory compliance in the transportation of hazardous materials by railroad, including the manufacture, fabrication, marking, maintenance, reconditioning, repair or testing of containers which are represented, marked, certified, or sold for use in bulk transportation of hazardous materials by railroad.

- Under the Atomic Energy Act of 1954, as amended (42 U.S.C. Chapter 23), the NRC regulates the possession, use and transfer of civilian radioactive material and is empowered to establish by rule or order, and to enforce such standards to govern these uses as the Commission may deem necessary or desirable in order to protect the common defense and security and promote the public health and safety of the United States. The NRC, under Section 204 of the Energy Reorganization Act of 1974, as amended (42 U.S.C. 5841), identifies the NRC's Director of Nuclear Material Safety and Safeguards as performing transportation security functions including:

  – principal licensing and regulation involving all licensed facilities and materials associated with the processing, transport, and handling of nuclear materials, including the provision and maintenance of safeguards against threats, thefts, and sabotage of such licensed facilities, and materials; and,

  – review safety and safeguards of all such licensed facilities and materials. (Such reviews shall include, but not be limited to (a) monitoring, testing, and recommending upgrading of internal accounting systems for licensed special nuclear and other nuclear materials; and, (b) developing, in consultation and coordination with the Energy Research and Development Administration (now the Department of Energy), contingency plans for dealing with threats, thefts, and sabotage relating to special nuclear materials, high-level radioactive wastes and nuclear facilities resulting from all activities licensed under the Atomic Energy Act of 1954, as amended.)

For additional information, please contact Albert Tardiff of the NRC at (301) 415-3613 or at Al.Tardiff@nrc.gov.

U.S. Nuclear Regulatory Commission (NRC)

Comment Opportunity re Category 3 Source Protection and Accountability

On January 9, 2017, the U.S. Nuclear Regulatory Commission (NRC) published a notice in the *Federal Register* seeking input from licensees, Agreement States, and the public to inform the agency staff's assessment of potential revisions to regulations or processes requiring Category 3 source protection and accountability. Comments on the notice, which contains specific questions that NRC has developed to assist the agency in its analysis that are separated into sections based on the topics and applicability to relevant stakeholders, are due by the close of business on March 10, 2017.

"The NRC is committed to keeping the public informed and values public involvement in its assessment effort," states the *Federal Register* notice. "Responses to this solicitation will be considered by NRC in preparing a report to the Committees on Appropriations of the House of Representatives and the Senate, pursuant to Public Law 113– 235, Section 403 and will inform staff consideration of the regulatory impacts for any recommendations related to Category 3 source security and accountability, which will be documented in a paper to be provided to the Commission in August 2017."

The notice further states that the NRC plans to hold three public meetings and two webinars during the public comment period for this action. The first public meeting was held at the NRC headquarters in Rockville, Maryland on January 31, 2017. The two other public meetings will be held outside of the Washington, DC area. The webinars were held on February 21, 2017 and March 2, 2017. The public meetings and

webinars will provide forums for the NRC staff to discuss the issues and questions with members of the public. NRC plans to use the information received to develop a report to the Commission.

Overview

On October 18, 2016, NRC issued a Staff Requirements Memorandum (SRM) for COMJMB–16–0001 and directed NRC staff to take specific actions to evaluate whether it is necessary to revise NRC regulations or processes governing source protection and accountability. (See *LLW Notes,* September/October 2016, pp. 39-41.)

Specifically, the Commission asked the staff to conduct an evaluation of, among other things, the pros and cons of different methods of requiring transferors of Category 3 quantities of radioactive material to verify the validity of a transferee's license prior to transfer; the pros and cons of including Category 3 sources in the National Source Tracking System (NSTS); and, the risks posed by aggregation of Category 3 sources into Category 2 quantities.

As part of this evaluation, the NRC is seeking input from licensees, Agreement States, and the public to inform the staff's assessment of potential revisions to regulations or processes requiring Category 3 source protection and accountability.

Specific Considerations

The NRC has developed specific questions that are separated into sections based on the topics and applicability to relevant stakeholders including:

- general questions related to license verification;
- general questions related to the NSTS;
- specific questions for licensees related to license verification;
- specific questions for licensees related to the NSTS;
- specific questions for Agreement States related to license verification;
- specific questions for Agreement States related to the NSTS; and,
- other questions.

The NRC is requesting comments on license verification involving transfers of Category 3 quantities of radioactive material and the inclusion of Category 3 sources in the NSTS. In so doing, NRC notes that Table 1 of Appendix A to 10 CFR Part 37 provides the thresholds for Category 1 and Category 2 quantities of radioactive material and Appendix E of 10 CFR Part 20 provides the thresholds for Category 1 and 2 sources included in NSTS. The list of radionuclides subject to physical security requirements in 10 CFR Part 37 is different than the list of radionuclides included in NSTS. NRC regulations do not include a definition for Category 3; however, the NRC has historically considered the Category 3 threshold to be greater than 1/10th of the Category 2 threshold, but less than the Category 2 threshold.

The NRC requests that interested stakeholders be cautious in providing comments that contain specific examples and do not provide any specific official-use-only, safeguards, and/or classified information related to a specific facility.

The following questions were listed in the *Federal Register* notice:

<u>General Questions Related to License Verification</u>

1. Should the current methods for verification of licenses prior to transferring Category 3 quantities of radioactive material listed in 10 CFR 30.41(d)(1)–(5), 10 CFR 40.51(d)(1)–(5),

and 10 CFR 70.42(d)(1)–(5) be changed such that only the methods prescribed in 10 CFR 37.71 are allowed?

2. Would there be an increase in safety and/or security if the regulations were changed to only allow license verification through the NRC's License Verification System (LVS) or the transferee's license issuing authority for transfers of Category 3 quantities of radioactive material? If so, how much of an increase would there be?

3. If the NRC changed the regulations to limit license verification only through the LVS or the transferee's license issuing authority for transfers of Category 3 quantities of radioactive material, should licensees transferring Category 3 quantities to manufacturers and distributors be excepted from the limitation?

4. Is there anything else that the NRC should consider when evaluating different methods of license verification prior to transferring Category 3 quantities of radioactive material?

General Questions Related to the NSTS

1. Should Category 3 sources be included in the NSTS? Please provide a rationale for your answer.

2. If Category 3 sources are included in the NSTS, should the NRC consider imposing the same reporting requirements currently required for Category 1 and 2 sources (10 CFR 20.2207(f))?

3. Should the NRC consider alternatives to the current NSTS reporting requirements for Category 1 and 2 sources to increase the immediacy of information availability, such as requiring the source transfers to be reported prior to, or on the same day as, the source shipment date?

4. Would there be an increase in safety and/or security if the regulations were changed to include Category 3 sources in the NSTS? If so, how much of an increase would there be?

5. Is there anything else that NRC should consider as part of the agency's evaluation of including Category 3 sources in the NSTS?

Specific Questions for Licensees Related to License Verification

1. It currently takes approximately one month to get credentialed to access the LVS. If you currently do not have online access to LVS, and NRC establishes new requirements for license verification involving Category 3 quantities of radioactive material, would you be inclined to sign up for online access, or would you use alternative methods for license verification such as emailing the NRC Form 748 ''Manual License Verification Report'' to the LVS Help Desk or calling the license -issuing regulatory authority directly?

2. Approximately how many transfers involving Category 3 quantities of radioactive material do you do monthly? What percentage involves transfers directly to/from a manufacturer?

3. Should license verification be required when transferring to an established manufacturer?

4. Do you have online access to LVS? If so, have you experienced any issues with the LVS? Do you have any recommendations on how to improve LVS?

Specific Questions for Licensees Related to the NSTS

1. It currently takes approximately one month to get credentialed to access the NSTS. If you currently do not have online access to the NSTS and NRC establishes new requirements for the tracking of Category 3 sources in the NSTS, would you be inclined to sign up for online access or would you use alternative methods for NSTS reporting such as emailing or faxing the NRC Form 748 ''National Source Tracking Transaction Report'' to the NSTS Help Desk?

2. Do you have online access to the NSTS? If so, have you experienced any issues with the NSTS? Do you have any recommendations on how to improve the NSTS?

Specific Questions for Agreement States Related to License Verification

1. Approximately how many licenses do you authorize for Category 1, 2, and 3 quantities of radioactive material?

2. If license verification through the LVS or the transferee's license issuing authority is required for transfers involving Category 3 quantities of radioactive material, would you encourage the use of LVS among your licensees, or plan for the additional burden imposed by the manual license verification process?

3. If license verification through the LVS or the transferee's license issuing authority is required for transfers involving Category 3 quantities of radioactive material, would you consider adopting the Web-Based Licensing System (WBL) to ensure that the most up-to-date licenses are available for license verification using the LVS or voluntarily provide your Category 3 licenses (similar to what some Agreement States do now for Category 1 and 2 licenses) to be included in WBL, or would you do neither and prefer licensees to use the manual license verification process?

4. What would the impact in time and resources be on your program to handle the additional regulatory oversight needed for Category 3 licensees if license verification through the LVS or the transferee's license issuing authority was required for transfers involving Category 3 quantities of radioactive material?

Specific Question for Agreement States Related to the NSTS

1. The NRC currently administers the annual inventory reconciliation process on behalf of the Agreement States. This process involves providing hard copy inventories to every licensee that possesses nationally tracked sources at the end of the year, processing corrections to inventories, and processing

confirmations of completion of the reconciliation into the NSTS. The process involves a significant amount of staff time and resources from November to February. If the Agreement States were to adopt administration of the annual inventory reconciliation process and if Category 3 sources were included in the NSTS, what would the additional regulatory burden be on the Agreement States to perform the annual inventory reconciliation for Category 1, 2, and 3 sources?

Other Questions

1. Should physical security requirements for Category 1 and 2 quantities of radioactive material be expanded to include Category 3 quantities?

2. Some Category 3 sources are covered under a general license (10 CFR 31.5). Should the NRC consider establishing maximum quantities in general licensed devices, thereby reserving authorization to possess Category 1, 2, and 3 quantities of radioactive material to specific licensees?

Meetings

The NRC plans to hold three public meetings and two webinars during the public comment period for this action. The first public meeting was held at the NRC headquarters in Rockville, Maryland on January 31, 2017. The two other public meetings will be held outside of the Washington, DC area. The webinars were held on February 21, 2017 and March 2, 2017.

The public meetings and webinars will provide forums for the NRC staff to discuss the issues and questions with members of the public. NRC staff will use the information received to develop a report to the Commission. The NRC does not intend to provide any responses to comments submitted during the public meetings and webinars.

Each public meeting and webinar will be noticed on the NRC's public meeting website at least 10 calendar days before the meeting. The NRC will post the notices for the public meetings and webinars and may post additional material related to this action to the Federal Rulemaking Web site at *www.regulations.gov* under Docket ID NRC–2016–0276. The Federal Rulemaking Web site allows you to receive alerts when changes or additions occur in a docket folder. To subscribe: (1) Navigate to the docket folder (NRC– 2016–0276); (2) click the ''Sign up for Email Alerts'' link; and, (3) enter your email address and select how frequently you would like to receive emails (daily, weekly, or monthly).

Interested stakeholders may monitor the NRC's public meeting website for additional information about the public meetings at http://www.nrc.gov/public- involve/public-meetings/index.cfm.

Comments

Interested stakeholders may submit comments by any of the following methods:

- Federal Rulemaking Website: Go to *http://www.regulations.gov* and search for Docket ID NRC–2016–0276.

- Mail comments to: Cindy Bladey, Office of Administration, Mail Stop: OWFN–12–H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001.

Interested stakeholders are requested to please include Docket ID NRC–2016– 0276 in any comment submission. Comments are due by the close of business on March 10, 2017.

Background

In 2007, the U.S. Government Accountability Office (GAO) conducted an investigation (GAO–07–1038T) on NRC's licensing program and was able to obtain a radioactive materials license using a fictitious company and place orders that would have resulted, if actually obtained, in receipt of an aggregated Category 3 quantity of radioactive material. After the 2007 investigation, the NRC and the Agreement States made a number of important changes to strengthen the licensing and regulatory processes to prevent malevolent individuals from obtaining a radioactive material license. The NRC staff submitted an Action Plan (SECY–07–0147) to the Commission to respond to recommendations for addressing security issues in the National Materials Program. (The Action Plan can be found on NRC's website at www.nrc.gov using ADAMS Accession No. ML072360206.) In SRM– SECY–07–0147, the Commission approved the staff's Action Plan, which included a consideration of expanding the NSTS to include Category 3 sources plus a subset of ''high-end'' Category 4 sources. (See ADAMS Accession No. ML072620088.) The proposed rule on Expansion of NSTS to include additional nationally tracked sources was published in April 2008 at 73 *Federal Register* 19,749.

In January 2009, licensees began reporting information on Category 1 and 2 sources to the NSTS. In SECY–09–0011, the NRC staff submitted a request to the Commission to defer further expansion of the NSTS to allow staff to monitor operation of the NSTS for one year and to apply insights gained for the decision on system expansion. (See ADAMS Accession No. ML083540566.) This request for deferral was not approved. In June 2009, in SECY–09–0086, NRC staff requested approval of the final rule amending Parts 20 and 32 title 10 of the *Code of Federal Regulations* (10 CFR) to expand reporting to the NSTS to include Category 3 sources. (See ADAMS Accession No. ML091390202). In June 2009, the Commission did not reach a decision on the proposed rulemaking due to a 2 to 2 split vote, so the final rule was not approved. (See SRM– SECY–09–0086 using ADAMS Accession No. ML091811125.) Some of the Commission votes indicated that further expansion of the NSTS should be based upon a vulnerability assessment, built off an interagency risk study for sources, and that the original recommendation lacked a risk-informed foundation for proposed regulatory action.

In 2014, the GAO initiated an audit of the materials licensing program to determine whether the regulatory framework and other improvements implemented by the NRC and the Agreement States had addressed the identified licensing vulnerabilities identified in the 2007 GAO investigation. In 2015, as part of the audit, GAO conducted an investigation that attempted to obtain radioactive materials licenses from one NRC regional office and two separate Agreement States. The investigation sought approval of licenses authorizing the procurement of one Category 3 source using a fictitious company. The 2015 investigation went beyond the 2007 investigation in its sophistication and planning, such that GAO rented storefront/warehouse space to demonstrate their legitimacy during pre-licensing visits. Despite this level of effort, the GAO was unsuccessful in two of three attempts; however, the GAO was able to acquire a license for a Category 3 well logging source in one attempt. GAO successfully placed an order for one Category 3 source using the license, then altered it and used it to place an order for a second Category 3 source. The investigation demonstrated that GAO could have acquired an aggregated Category 2 quantity of material, although at no point in the investigation were radioactive materials actually shipped to the fictitious company. Once notified of the investigation by GAO in October 2015, the NRC and Agreement States took a number of actions, one of which included forming two NRC-Agreement State working groups to evaluate vulnerabilities identified as a result of the 2015

GAO investigation. Specifically, one working group considered enhancements to the pre-licensing guidance, while the second working group evaluated the need for enhancements to existing requirements or guidance for license verification and source tracking beyond Category 1 and Category 2 thresholds.

On July 15, 2016, the GAO published its final report of the material licensing audit and investigation, GAO–16–330, entitled ''Nuclear Security: NRC Has Enhanced the Controls of Dangerous Radioactive Materials, but Vulnerabilities Remain.'' (See *LLW Notes*, July/August 2016, pp. 1, 18-20.) The report made three recommendations as follows:

1. NRC should take steps needed to include Category 3 sources in the NSTS and add Agreement State Category 3 licenses to the Web-based Licensing System as quickly as reasonably possible.

2. At least until such time that Category 3 licenses can be verified using the License Verification System, NRC and Agreement States should require that transferors of Category 3 quantities of radioactive materials confirm the validity of a would-be purchaser's radioactive materials license with the appropriate regulatory authority before transferring any Category 3 quantities of licensed materials.

3. As part of the ongoing efforts of NRC working groups meeting to develop enhancements to the pre-licensing requirements for Category 3 licenses, NRC should consider requiring that an on-site security review be conducted for all unknown applicants of Category 3 licenses to verify that each applicant is prepared to implement the required security measures before taking possession of licensed radioactive materials.

Given the NRC's operating experience with higher-risk sources and in response to the findings by GAO, the Commission directed the staff to take specific actions to evaluate whether it is necessary to revise NRC regulations or processes governing source protection and accountability. Specifically, on October 18, 2016, the Commission issued its SRM for COMJMB–16–0001, ''Proposed Staff Re-Evaluation of Category 3 Source Accountability.'' (See ADAMS Accession No. ML16292A812). The SRM required the NRC staff to conduct the following tasks:

1. an evaluation of the pros and cons of different methods of requiring transferors of Category 3 sources to verify the validity of a transferee's license prior to transfer;

2. an evaluation of the pros and cons of including Category 3 sources in NSTS;

3. an assessment, based on these evaluations, of these and any additional options that the staff identifies for addressing the source accountability recommendations made by the GAO;

4. a vulnerability assessment which identifies changes in the threat environment between 2009 and today that argue in favor of or against expansion of the NSTS to include Category 3 sources;

5. a regulatory impact analysis of the accrued benefit and costs of the change that includes impacts to the NRC, Agreement States, non-Agreement States and regulated entities;

6. a discussion of potential regulatory actions that would not require changes to NRC regulations that arose from or were considered by the staff working groups, to include changes to guidance, training, and other program improvements such as more closely monitoring the implementation of the staff recommendations using the Integrated Materials Performance Evaluation Program (IMPEP) process; and,

7. any other factors arising from the staff's currently ongoing assessment that the staff concludes would bear on the Commission's deliberation on the proposed change.

The SRM also directed the staff to assess the risks posed by the aggregation of Category 3 sources into Category 2 quantities and to collaborate with its Agreement State partners, non-Agreement States, regulated entities, public interest groups, industry groups and the reactor community.

Additionally, the SRM directed the staff to consider the results of the assessment of the security requirements in 10 CFR Part 37, ''Physical Protection of Category 1 and 2 Quantities of Radioactive Material,'' as required by the Energy and Water Development and Related Agencies Appropriations Bills for Fiscal Year 2015, as a means to inform the staff's evaluation. This assessment, referred to as the ''program review'' of 10 CFR Part 37, encompassed an evaluation of nine review areas related to implementation of the security requirements in the rule. These areas included the results of inspections conducted of NRC licensees in the first two years of rule implementation, as well as an evaluation of events reported under the provisions of the rule. The program review also included consideration of the definition of aggregation as it applies to well logging sources and an evaluation of enhanced tracking and accounting of radioactive sources. A report detailing the program review was provided to Congress on December 14, 2016. (See ADAMS Accession No. ML16348A230.)

For additional information, please contact Irene Wu of the NRC's Office of Nuclear Material Safety and Safeguards (NMSS) at (301) 415–1951 or at Irene.Wu@nrc.gov.

NRC 2017 Regulatory Information Conference in Bethesda, Maryland

The U.S. Nuclear Regulatory Commission (NRC) has opened registration for its 29th annual Regulatory Information Conference (RIC), which is scheduled for March 14-16, 2017. The conference will be held at the Bethesda North Marriott, which is located at 5701 Marinelli Road in Bethesda, Maryland.

Additional RIC information, including a copy of the agenda and online registration links, is available on the NRC website at www.nrc.gov.

Overview

Approximately 3,000 people are expected to attend the RIC including industry executives, representatives from state governments, non-governmental organizations, individual community members, and representatives from dozens of foreign countries. The conference is an opportunity for attendees to discuss issues related to the safety and security of commercial nuclear facilities and current regulatory activities.

The RIC program will feature NRC Chair Stephen Burns as the keynote speaker. Additional program highlights will include plenary sessions with Commissioner Kristine Svinicki and Commissioner Jeff Baran.

NRC's Executive Director for Operations Victor McCree will deliver remarks. Bill Dean, Director of NRR, will give welcome and introductory remarks. This year's special guest speaker is President and Chief Executive Officer of the Institute of Nuclear Power Operations Robert Willard. Located in Atlanta, INPO is an independent, nonprofit organization whose mission is to promote the highest levels of safety and reliability—to promote excellence—in the operation of nuclear electric generating plants.

Other technical sessions will address significant domestic and international issues such as cybersecurity, subsequent license renewal, advanced and small modular reactors, spent fuel research activities, recent reactor material issues and the reactor oversight process.

Background

The NRC's offices of Nuclear Reactor Regulation and Nuclear Regulatory Research jointly host the RIC. The conference is open to the public. Registration is required, but there is no registration fee.

The deadline for online registration was February 28, 2017. Early registration is encouraged; however, onsite registration will also be available during the conference.

For additional information regarding registration hours, badge protocol, security and changes to luggage accommodations, please visit the NRC website at www.nrc.gov.

NRC Proposes Annual Fees for FY 2017

The U.S. Nuclear Regulatory Commission (NRC) is seeking public comment on proposed changes to its regulations for the fees it will charge applicants and licensees for fiscal year 2017. The proposed changes, which would reduce annual fees for most licensees compared to FY 2016 due to reductions in the NRC's budget, were published in the *Federal Register* on January 30, 2017.

Overview

The fees in the proposed rule would recover $833.4 million—approximately 90 percent of the agency's budget—as required by the Omnibus Budget Reconciliation Act of 1990, as amended. About 39 percent, or $324.6 million, of the fees would recover the cost of specific services to identifiable applicants and licensees under 10 CFR Part 170. The remaining 61 percent, or $508.8 million, would be billed as annual fees under 10 CFR Part 171.

The FY 2017 proposed fee rule is based on the FY 2017 Congressional Budget Justification, adjusted to reflect reductions from the NRC's recent re-baselining effort. The final rule will be based on the NRC's actual appropriation and the agency will update the final fee schedule, as appropriate. If the NRC receives a year-long continuing resolution, the final fee schedule may look similar to the FY 2016 final fee rule.

Specifics

The proposed rule decreases annual fees by 7.3 percent over last year for operating reactors; by 16.1 percent for most fuel cycle facilities; and, by 1.5 percent for spent fuel storage and decommissioning reactor licensees. Proposed fees increase on average by 8.8 percent for uranium recovery licensees; by 2.4 percent for research and test reactors; by 4.2 percent for U.S. Department of Energy (DOE) transportation activities; and, by 15 percent for DOE uranium recovery activities.

The proposed rule would increase the current hourly rate charged for NRC staff work by 0.8 percent, from $265 in FY 2016 to $267. Flat rate license application fees in 10 CFR 170.21 and 170.31 will adjust to reflect the new hourly rate. Small entity fees would also increase.

Comments

The *Federal Register* notice includes detailed instructions on how to submit written comments on the proposed fee rule. Comments will be accepted through March 1, 2017.

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

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by internet

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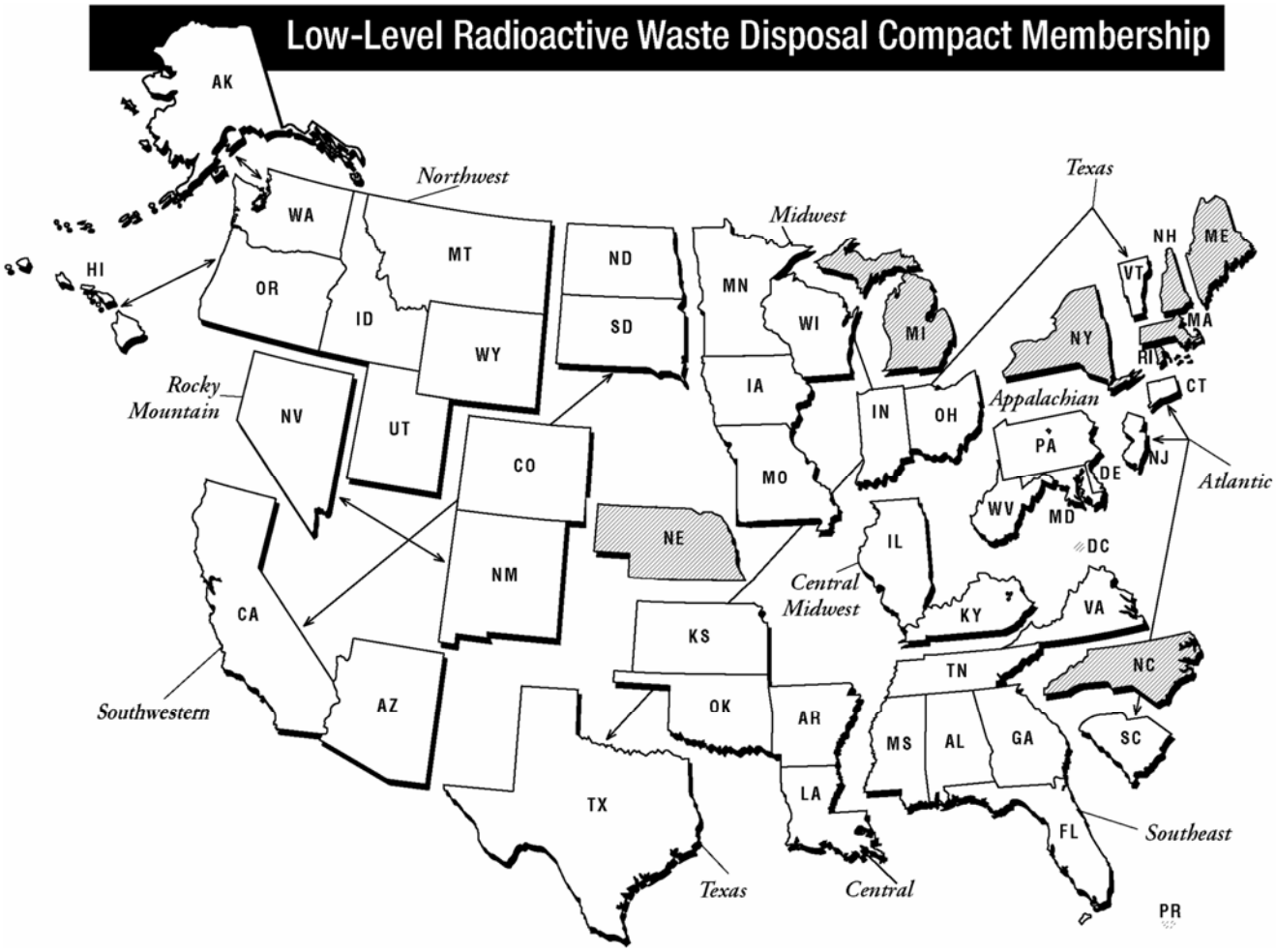
- U.S. Government Printing Office (GPO) (for the Congressional Record, *Federal Register*, congressional bills and other documents, and access to more than 70 government databases)..... **www.access.gpo.gov**

- 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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Hawaii
Idaho
Montana
Oregon
Utah
Washington
Wyoming

Midwest Compact
Indiana
Iowa
Minnesota
Missouri
Ohio
Wisconsin

Rocky Mountain Compact
Colorado
Nevada
New Mexico

Northwest accepts Rocky Mountain waste as agreed between compacts

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Florida
Georgia
Mississippi
Tennessee
Virginia

Southwestern Compact
Arizona
California
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