LLW notes

Volume 32 Number 3 May/June 2017

United States of America v. EnergySolutions, Inc. et. al.

District Court Prohibits Proposed Acquisition of Waste Control Specialists by Energy*Solutions*

On June 21, 2017, the United States District Court for the District of Delaware issued a Judgment and Order in a civil antitrust lawsuit seeking to block the proposed $367 million acquisition of Waste Control Specialists LLC by Energy*Solutions.*

The United States of America is the plaintiff in the case. The listed defendants include Energy*Solutions,* Inc.; Rockwell Holdco, Inc.; Andrews County Holdings, Inc.; and, Waste Control Specialists LLC.

In its order, the district court entered judgment in favor of the plaintiffs and against the defendants, specifically enjoining and restraining the defendants "from carrying out the acquisition of Waste Control Specialists LLC by Energy*Solutions,* Inc. as memorialized in the merger agreement between Rockwell Holdco, Inc. and Andrews County Holding, Inc. dated November 18, 2015 and any amendments thereto."

The case—which is listed as United States of America v. EnergySolutions, Inc.; Rockwell Holdco, Inc.; Andrews County Holdings, Inc.; and, Waste Control Specialists—can be found under civil docket number 16-1056-SLR in the United States District Court for the District of Delaware.

Energy*Solutions'* Press Release

Following release of the district court's decision, Energy*Solutions* issued a press release that states as follows:

> Energy*Solutions*, Inc., a wholly owned subsidiary of Energy Capital Partners, LLC (ECP) today announced that the U.S. District Court for the District of Delaware issued a decision prohibiting the sale of Waste Control Specialists (WCS) to Energy*Solutions*.

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In This Issue

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

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

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Low-Level Radioactive Waste Forum, Inc.

LLW Notes
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Editor and Writer: Todd D. Lovinger
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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

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

Registration Open for Fall 2017 LLW Forum Meeting

Hilton Alexandria Old Town Hotel in Alexandria, Virginia
October 16-17, 2017

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

In terms of planning and making travel arrangements, please note that there will be a separate, closed-session meeting only for state and compact members of the LLW Forum's Board of Directors and their designated representatives on Tuesday afternoon (October 17, 2017) from 2:00 – 5:00 p.m. The purpose of the meeting is to discuss timely and relevant issues of common interest; coordinate greater involvement and outreach by states and compacts; and, address planning issues related to the future direction and funding of LLW Forum. All state and compact Directors, Alternates and their designated representatives are invited and encouraged to attend the Tuesday afternoon planning meeting.

The Disused Sources Working Group (DSWG) – including members, staff, organizational liaisons and invited guests – will meet on Wednesday afternoon (October 18) from 9:00 a.m. – 5:00 p.m.

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 Southeast Compact Commission for Low-Level Radioactive Waste Management and the Central 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 Meeting page of the organization's web site at www.llwforum.org.

As a new option for interested stakeholders, a registration form may be completed and submitted online.

Attendance

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

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

Location and Dates

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, VA for business and leisure travelers visiting Washington, DC. 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.

Registration

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

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

Reservations

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

A limited block of hotel rooms has been reserved for Sunday, October 15th and Monday, October 16th at the rate of $231.00 plus tax per night (for single/double occupancy), $239 plus tax (king), ($251 triple and $271 quad). The same rates have been extended to three days prior and three days post the meeting dates.

To make a reservation, please call (703) 647-2035 (Group Code is OLW). Reservations may also be made at the website: http://www.hilton.com/en/hi/groups/personalized/D/DCAOTHF-OLW-20171015/index.jhtml.

The deadline for reserving a room at the discounted rate is September 29, 2017.

Transportation and Directions

From Reagan National Airport via the Metro, the hotel is located next to the King Street Metro Station, accessible by the Blue and Yellow lines and only two stops from Reagan National Airport. Directions from other airports are given on the Hilton website, www.hiltonalexandria.com. Taxi fares are typically around $20.00.

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 (DSWG)

Update on Activities of the Disused Sources Working Group

The following is a brief overview of activities of the Disused Sources Working Group (DSWG) of the Low-Level Radioactive Waste Forum (LLW Forum) during calendar year 2017:

Documents

The DSWG has been working on, and in some cases finalized and released, the following documents:

- Import/Export Requirements: In early 2017, the DSWG released a report on *Compact Import and Export Requirements*. The report includes links to each individual low-level

radioactive waste compact's websites, as well as links to any applicable policy statements and forms. For those compacts that have export and/or import permit requirements, a brief explanation of the program is provided.

Any specific questions about a compact's permit program should be addressed to the respective compact. The contact information is available on the compact's website. A copy of the report can be found on the LLW Forum website at http://llwforum.org/about/#compact.

- Educational Brochures and Companion Disposal Cost Guide: The DSWG — in conjunction with the E-34 Committee of the Conference of Radiation Control Program Directors (CRCPD) — developed educational brochures for current and prospective licensees of radioactive sealed sources and devices. The brochures provide information regarding the ownership and use of radioactive sealed sources and devices including:

  - understanding the life-cycle costs including initial purchase price, regulatory license fees, financial assurance, operating expenses, security and end-of-life disposition;
  - consideration of the use of alternative technologies;
  - potential liabilities of using radioactive sealed sources or devices;
  - proper management and disposition of disused sources including information about the Source Collection & Threat Reduction (SCATR) Program — including a chart documenting the diminishing cost share — and the Off-Site Source Recovery Project (OSRP); and,
  - potential liabilities of storing disused sources.

  Generic versions of the educational materials — which include fillable fields to incorporate individual office logos and contact information — will be made available to federal, state and industry stakeholders to modify and distribute as each deems appropriate.

  In addition, the DSWG is finalizing a source disposal cost guide that will serve as a companion document to the educational brochures. The DSWG expects to finalize the guide in time for the upcoming OAS annual meeting that will be held in Memphis, Tennessee in August 2017.

Correspondence

During calendar year 2017, the DSWG has written and sent correspondence as follows:

- Category 3 Source Security and Accountability: On March 9, 2017, the DSWG submitted comments in response to the *Federal Register* notice from the U.S. Nuclear Regulatory Commission (NRC) 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.

  As part of the process, the DSWG sought input from organizational liaisons representing the CRCPD, Organization of Agreement States (OAS) and Health Physics Society (HPS). The DSWG comments tried to acknowledge and incorporate the organizational perspectives, concerns and

positions in the final comments, as appropriate, particularly as the working group recognizes that these organizations represent many of the officials that have to address these issues on a day-to-day basis and will therefore be most impacted by any regulatory changes. In this regard, the DSWG included language in its comments to encourage NRC to communicate with and provide greater outreach to the organizations, as well as other affected stakeholders.

- Financial Assurance: On May 22, 2017, the DSWG, OAS, CRCPD and HPS submitted a joint letter to NRC Chair Kristine L. Svinicki, Commissioner Jeff Baran and Commissioner Stephen G. Burns regarding financial assurance for Category 1 and 2 radioactive sealed sources (RSSs) that are tracked in the National Source Tracking System (NSTS).

  The letter supports the recommendation by NRC staff—as contained in SECY-16-0115 (ADAMS Accession No. ML16200A223) dated October 7, 2016—to proceed with rulemaking to expand the financial assurance requirements in 10 CFR 30.35 to include all byproduct material Category 1 and 2 radioactive sealed sources (RSSs) that are tracked in the National Source Tracking System (NSTS).

  The intent is to continue to work together, as well as within each individual organization, to develop and submit more detailed comments and feedback during the proposed rulemaking process.

Other Activities and Initiatives

Throughout calendar year 2017, the DSWG continues working on the following:

- Source Calculation and Methodology re Number of Sealed Sources in the United States: In preparation for the DSWG's response to the NRC's *Federal Register* notice on Category 3 source protection and accountability, the LLW Forum asked five states to provide the following information:

  - total number of specific licenses;
  - total number of Category 3 specific licenses;
  - total number of Category 3 general licenses;
  - total number of Category 3 specifically licensed sources;
  - total number of Category 3 generally licensed sources; and,
  - total time to collect this data.

  The states initially responded that this assignment would very tedious because most states do not electronically track Category 3 sources and it would require reviewing individually (i.e., manually) all specific licensees and all general licensees to determine if they authorize Category 3 radioactive sealed sources.

  Additionally, it would require states to contact each broad scope licensee because they are authorized to possess "Any byproduct material with atomic numbers 3 through 83" or "Any byproduct material with atomic numbers 1 through 83, and 88, with half-lives of less than or equal to 120 days," and the radioactive sealed sources are not specifically accounted for by the radioactive materials license.

  One of the five states declined to respond because they did not have a tracking system and could not afford to commit the staff time to do the manual review of each specific and general license.

The DSWG included a chart summarizing the states' responses as an appendix to its comments to NRC on Category 3 source security and accountability.

- Development of Regional Workshops for Stakeholders Interested in Management and Disposition of Sealed Sources and Radioactive Devices: The DSWG is developing a workshop on source management and disposition that it plans to offer to all ten operating low-level radioactive waste compact commissions. The intent is that the workshops would be regional, tailored to the needs of each individual compact commission and could be offered as an add-on to a compact commission meeting or a stand-alone workshop.

- Presentation to and Work with Northwest Compact: In June 2017, the DSWG Project Director and Technical Consultant provided an update on DSWG activities and initiatives at the Northwest Compact Commission meeting.

- Coordination with CRCPD to Develop Exchange on Recycle and Reuse Opportunities: In early 2017, the DSWG conducted a limited stakeholders survey and wrote a brief report documenting the results thereof regarding the development of a source exchange proposal. The DSWG is working with CRCPD to develop enhanced information on recycle and reuse opportunities and create a system to provide the data to interested stakeholders.

Meetings

The DSWG held its winter meeting in San Diego, California on February 6-7, 2017 and then its spring meeting in Denver, Colorado on April 25-26, 2017.

- Winter Meeting: The main focus of the winter meeting was to review the list of outstanding recommendations with newly designated organizational representatives from the Conference of Radiation Control Program Directors (CRCPD), the Organization of Agreement States (OAS) and the Health Physics Society (HPS); get their feedback and input thereon; and, develop an agreed-upon path forward.

- Spring Meeting: During the spring 2017 meeting, the DSWG met with Michael Dammann of the Southwest Research Institute (SwRI) to learn about and discuss their training program for the removal and packaging of Category 1 and 2 self-shielded devices. In addition, the DSWG focused on editing the disposal cost guide that will serve as a companion document to the educational brochures.

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

Central Interstate Compact

Central Interstate Compact Commission Holds Annual Meeting

On June 20, 2017, the Central Interstate Low-Level Radioactive Waste Commission held its annual meeting. The meeting—which was held at the Capital Hotel in Little Rock, Arkansas—began at 9:00 a.m. CDT.

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

1. Call to Order and Roll Call (Chair)

2. Introduction of Oklahoma's Alternate Commissioner (Chair)

3. Administrator Report (Administrator)

4. Chair Report (Chair)

5. Commissioners Reports
   - Opportunity for each Commissioner to report on any activities in their states that may be of interest to the Commission.

6. Approval of Minutes of November 17, 2016 Special Teleconference Meeting
   A. Questions/Discussion by Commissioners

   B. Questions/Discussion by Public

   C. Roll Call Vote

7. Ratify Action Taken on Export Applications
   December 2016
   January 2017
   February 2017
   March 2017
   April 2017
   May 2017
   June 2017
   A. Questions/Discussion by Commissioners

   B. Questions/Discussion by Public

   C. Roll Call Vote

8. Resolution Regarding Export Authorizations
   - The Commission is proposing a resolution to authorize all low-level radioactive waste generators in the Compact region (AR, KS, LA, OK) to export their wastes to an appropriate disposal facility outside of the region without first applying to the Commission for such authorization.

   A. Questions/Discussion by Commissioners

   B. Questions/Discussion by Public

   C. Roll Call Vote

9. Revisions to Rules of the Commission Relating to Requests for Authorization to Export Waste – Policy Statement and Rule 1
   - This Agenda item will be considered only if the Resolution under Agenda Item 8 is approved. This action will: (1) revise the Rule 1 Policy Statement to align with the Resolution and (2) suspend Rules 1.1 through 1.4 related to export applications and payment of application fees. Rule 1.5 authorizing the Commission to enter into agreements with the United States, other Compacts, or individual states for the exportation or management of waste will not be affected.

   A. Questions/Discussion by Commissioners

   B. Questions/Discussion by Public

   C. Roll Call Vote

10. Revisions to Rule of the Commission Relating to the "Regional Waste Disposal Administrative Fee" – Policy Statement and Rule 10
    - This Policy Statement and Rule 10 establish an administrative fee for low-level radioactive waste disposed in a disposal facility located in the Central Interstate Compact region. This action is to insert clarifying clauses and correct a couple of scrivener's errors.

    A. Questions/Discussion by Commissioners

    B. Questions/Discussion by Public

    C. Roll Call Vote

11. Revisions to Rule 27 – Public Notice & Announcement Procedures
    - This action is to ensure alignment of Rule 27 with the Commission Bylaws.

    A. Questions/Discussion by Commissioners

    B. Questions/Discussion by Public

    C. Roll Call Vote

12. Review and Approve Commission's FY 2018 Administrative Budget

    A. Questions/Discussion by Commissioners

    B. Questions/Discussion by Public

    C. Roll Call Vote

13. Set Date for November Special Teleconference Meeting and Date/Location for June 2018 Annual Meeting

14. Executive Session for Personnel Matters – Administrator Review

15. Adjourn

Pursuant to Article IX(H)(3) of the Commission's Bylaws, this Public Forum was an opportunity for members of the public to address the Commission on any matter under the Commission's jurisdiction.

For additional information, please contact Kristie Valtierra, Administrator of the Central Interstate Low-Level Radioactive Waste Compact Commission, at (402) 702-5220 or at admin@cillrwcc.org or visit their web site at www.cillrwcc.org.

Midwest Compact

Midwest Commission Holds Annual Meeting, Names New Executive Director

On June 9, 2017, the Midwest Interstate Low-Level Radioactive Waste Compact Commission (MCC) held its annual meeting.

During the course of the meeting, the Commission named a new Executive Director to replace Stanley York, who recently announced his retirement. The Commission also elected a new Chair and Vice-Chair.

Annual Meeting

The meeting—which was held by teleconference call—began at 10:00 a.m. CDT (11:00 a.m. for Indiana and Ohio).

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

- call to order and roll call
- review of the minutes of the June 28, 2016 meeting
- review of the financial report

- Chair's report including the Midwest Compact Commission website
- discussion—the future of the Midwest Compact, including whether the Compact should continue to exist as it is now, dissolve or affiliate with another compact, or go in another direction
- consultant agreements
  - legal counsel proposal
  - accounting/audit proposal
  - website management proposal
- adoption of 2017-18 budget
- election of Chair and Vice-Chair
- Executive Director resignation and replacement
- other business
- adjournment

Leadership

During the meeting, the Midwest Compact Commission named James Chiles of Minnesota as the new Executive Director to replace Stanley York, who recently announced his retirement.

The Commission also elected John Linc Stine of Minnesota to serve as the new Chair and Alex Moon of Iowa to serve as the new Vice-Chair.

For additional information, please contact James Chiles, Executive Director of the Midwest Interstate Low-Level Radioactive Waste Compact Commission, at (651) 757-2272 or at jim.chiles@state.mn.us or visit their web site at www.midwestcompact.org.

Northwest Compact

Northwest Compact Commission Hosts Meeting

On June 8, 2017, the Northwest Interstate Compact on Low-Level Radioactive Waste Management hosted a meeting beginning at 9:00 a.m. PDT in Helena, Montana. The meeting was held at the Radisson Colonial Hotel, which is located at 2301 Colonial Drive in Helena, Montana.

The following topics, among others, were on the meeting agenda:

- Welcome and Introductory Remarks (Earl Fordham, Chair)
  - Introductions
- Compact Business (Kristen Schwab, Executive Director)
  - Approve Minutes of June 21, 2016 Committee Meeting
- Party States Reports (Committee Members)
- US Ecology – Activities Overview (Mike Ault, General Manager, US Ecology Inc.)
  - Disposal Volume Summary for 2016 and for 2017 through May
  - 2017 Revenue Requirement
  - MTCA Investigation
  - Other Issues
- Utah – Activities Overview (Rusty Lundberg, Deputy Director, Utah Division of Waste Management and Radiation Control)
  - Legislation
  - Energy*Solutions'* Activities Including Status of Energy*Solutions'* Depleted Uranium Performance Assessment

- Other Issues

- *Break*

- US Ecology MTCA Investigation (Ron Skinnarland, Washington State Department of Ecology)
  - Overview and Update

- National and Regional Issues (Kristen Scwhab, Executive Director)
  - Import/Export License Applications
  - Texas Compact/Waste Control Specialists
  - Compact Updates
  - Other Issues

- Energy*Solutions* – Activities Overview (Dan Shrum, Senior Vice President, Regulatory Affairs, Energy*Solutions*)
  - 2016 Low-Level Radioactive Waste Disposal Volumes
  - Other Issues

- *Lunch*

- Low-Level Radioactive Waste Forum's Disused Sources Working Group (Gary Robertson, DSWG Technical Consultant)
  - Disused Sources Background
  - Disused Sources Current Status
  - Disused Sources Program Update

- Transfer of Northwest Compact Activities (Earl Fordham, Chair)
  - Status Update

- Update on Legal Issues (Kristen Mitchell, Compact Counsel, Washington State Attorney General's Office)
  - Status Update

- *Break*

- Committee Business

- Public Comment

- Meeting Adjourned

For additional information, please contact Kristen Schwab, Executive Director of the Northwest Interstate Compact on Low-Level Radioactive Waste Management, at (360) 236-3232 or at Kristen.schwab@doh.wa.gov.

Northwest Compact/State of Utah

Utah Waste Management and Radiation Control Board Meets

On May 11, 2017, the Utah Waste Management and Radiation Control Board held a regularly scheduled meeting beginning at 1:30 p.m. MT in Salt Lake City, Utah.

The meeting, which was open to the public, was held in Conference Room 1015, Department of Environmental Quality (DEQ) Board Room, on the first floor of the Multi Agency State Office Building that is located at 195 North 1950 West in Salt Lake City, Utah.

Agenda

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

I. Call to Order

II. Approval of Meeting Minutes for the April 13, 2017 Board Meeting *(Board Action Item)*

III. Underground Storage Tanks Update

IV. X-Ray Program
   A. Approval of Mammography Imaging Medical Physicists (MIMPs) in accordance with UCA 19-6-104(2)(b) *(Board Action Item)*

V. Other Business
   A. Miscellaneous Information Item

   B. Scheduling of Next Board Meeting

VI. 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 Washington

Alert Declared at Hanford Site

At 8:26 a.m. on May 9, 2017, the U.S. Department of Energy (DOE) Richland Operations Office activated the Hanford Emergency Operations Center after an alert was declared.

In particular, officials responded to reports of a cave-in of a 20-foot section of a tunnel that is hundreds of feet long that is used to store contaminated materials. The tunnel is located next to the Plutonium Uranium Extraction Facility, also known as PUREX, which is located in the center of the Hanford Site in an area known as the 200 East Area.

Overview

During a routine surveillance of the area in the morning, a 20-foot-wide hole in the roof of one of the tunnels was observed, leading to the precautionary sheltering of employees and notifications to area counties and states. After no contamination was detected, the shelter in place order was lifted and employees were sent home from work early as a precaution. Workers continue to monitor the area for contamination as a crew prepares to fill the hole with clean soil.

Actions taken to protect site employees included the following:

- As a precaution, workers in the vicinity of the PUREX facility—as well as the Hanford Site north of the Wye Barricade (southern entrance to the site)—were told to shelter in-place.

- Access to the 200 East Area of the Hanford Site, which is located in the center of the Hanford Site, has been restricted to protect employees.

All personnel in the vicinity of the PUREX facility have been accounted for and there are no reports of injuries.

No action is currently required for residents of Benton and Franklin Counties.

Background

In the 1950s and 1960s, two tunnels were constructed next to the PUREX former chemical processing plant. The tunnels were constructed of wood and concrete and covered with approximately 8 feet of soil. The tunnels were constructed to hold rail cars that were loaded with contaminated equipment and moved into the tunnels during the Cold War.

The approximately 360-foot-long tunnel where the partial collapse occurred contains 8 rail cars loaded with contaminated equipment. That tunnel feeds into a longer tunnel that extends hundreds more feet and contains 28 rail cars loaded with contaminated equipment. The hole opened up in the shorter tunnel near where it joins the longer tunnel. The tunnels were sealed in the mid-1990s and are checked periodically.

DOE hosted a briefing on its Hanford Site Facebook channel. Interested stakeholders can view the briefing on the Hanford Site Facebook page at https://www.facebook.com/HanfordSite/.

Washington Releases Annual Environmental Monitoring Report

In the spring of 2017, the Office of Radiation Protection, Environmental Public Health Division, Washington State Department of Health released US Ecology Washington's Annual Environmental Monitoring Report for Calendar Year 2015. *The report is now available on the agency's website at www.doh.wa.gov.*

Overview

Each year, US Ecology Washington submits an annual report, which is required by state law and the Washington State Department of Health's license conditions as per Washington Administrative Code (WAC) 246-250-600. WAC 246-250-340 also requires environmental monitoring.

Background

US Ecology Washington receives and disposes low-level radioactive waste at the Hanford Site near Richland, Washington.

Additional information is available from the Office of Radiation Protection's Waste Management Section.

For additional information, please contact Kate Lynch at (360) 236-3259 or at kate.lynch@doh.wa.gov.

Rocky Mountain Compact

Rocky Mountain Board Holds Annual and Regular Meetings

On June 22, 2017, the Rocky Mountain Low-Level Radioactive Waste Board held both a Regular Meeting and an Annual Meeting in Las Vegas, Nevada. The meetings—which were held at the Westin Las Vegas Hotel Casino & Spa—began at 9:00 a.m.

Regular Meeting Agenda

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

- Approval of Minutes of the Regular Meeting on June 27, 2016 and Notice of Actions Taken at the Telephonic Meeting on November 17, 2016
- Update from the Clean Harbors Regional Facility
- Update from URENCO USA
- Discussion of Naturally Occurring Radioactive Material (NORM) Oil and Gas Issues
- Update on National Developments
- Executive Director's Report
  - Fiscal Status/Investment Summary
  - Permit Fee Revenue for 2016 and 2017
  - Expenditure/Budget Comparison
  - Status of Volumes Authorized for Export and Disposal in 2016 and 2017

Annual Meeting Agenda

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

- Election of Officers
- Consideration of Fiscal Year 2017-2018 Budget

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

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

Southeast Compact

2018 Hodes Award Nominations Sought

The Southeast Compact Commission for Low-Level Radioactive Waste Management is accepting nominations for the 2018 Richard S. Hodes, M.D. Honor Lecture Award—a program that recognizes an individual, company, or organization that contributed in a significant way to improving the technology, policy, or practices of low-level radioactive waste management in the United States. The award recipient will present the innovation being recognized at a lecture during the Waste Management '18 Symposium in Phoenix, Arizona. The award recipient will receive a $5,000 honorarium and all travel expenses will be paid.

Nominations must be received by August 31, 2017.

Background

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

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

Past Recipients

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

- W.H. "Bud" Arrowsmith (2004);
- Texas A & M University Student Chapter of Advocates for Responsible Disposal in Texas (2004 *honorable mention*);
- William Dornsife (2005);
- California Radioactive Materials Management Forum (2006);
- Larry McNamara (2007);
- Michael Ryan (2008);
- Susan Jablonski (2009);
- Larry Camper (2010);
- Christine Gelles (2011);
- Lawrence "Rick" Jacobi (2012);
- James Kennedy (2013);
- Energy*Solutions*, the Utah Department of Environmental Quality (DEQ), the Conference of Radiation Control Program Directors (CRCPD), and the U.S. Department of Energy (DOE) Global Threat Reduction Initiative (2013 *honorable mention*);
- Electric Power Research Institute (2014) ;
- Division of Radiation Control of the Utah DEQ and *EnergySolutions* (2015);
- Louis Centofanti (2016); and,
- Scott Kirk (2017).

The Award

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

The award recipient will be recognized with a special plaque and an invitation to present a lecture about the innovation during the annual international Waste Management Symposium (WM '18). The 2018 symposium is sponsored by the University of Arizona and will be held in Phoenix, Arizona in the spring of 2018.

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

Criteria

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

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

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

The criteria for selection include:

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

Eligibility

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

Nominations

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

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

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

Nominations must received by August 31, 2017.

Southeast Compact Commission Holds 109th Business Meeting

On June 21, 2017, the Southeast Compact Commission for Low-Level Radioactive Waste Management held its 109th business meeting at the Hilton Garden Inn in Jackson, Mississippi.

The Southeast Compact Commission's Policy and Planning Committee and Administrative Committee met one day earlier at the same location.

Business Meeting

The 109th business meeting of the Southeast Compact Commission began at 9:00 a.m. EST on June 21 in the Club/Coronet Room. During the business meeting, the Southeast Compact Commission received committee reports, adopted a budget for fiscal year 2017-18 and conducted other business as it came before the Commission.

Policy and Planning Committee Meeting

The Policy and Planning Committee met at 1:00 p.m. EST on June 20 in the Club/Coronet Room. During the Policy and Planning Committee meeting, the Committee considered and reviewed the Strategic Plan and other matters as they came before the Committee.

Administrative Committee Meeting

The Administrative Committee began at 3:30 p.m. EST on June 20 in the Club/Coronet Room. During the Administrative Committee Meeting, the Committee discussed the proposed budget for fiscal year 2017-18 and other matters as they came before the Committee.

For additional information, please contact the Southeast Compact Commission at (919) 380-7780 or at secc@secompact.org.

Southwestern Compact

Southwestern Commission Hosts Workshops re Use of Rad Materials

On May 10 and 12, 2017, the Southwestern Low-Level Radioactive Waste Commission hosted two separate workshops in Northern and Southern California on the use and disposition of radioactive materials, including radioactive sealed sources and devices.

The following is the agenda for the workshops:

- Welcome and Introductions (9:00 – 9:20 a.m.)
- Southwestern Compact Vice Chair Donna Earley of Cedars Sinai (9:30 a.m. – 9:55 a.m.)
  - Earley discussed medical uses of radioactive materials, including new therapeutic uses as well as experience with the disposal of Cs-137 irradiators and Co-60 gamma knife.
  - Earley has extensive knowledge and experience overseeing the Radiation Safety Programs and personnel of Cedars Sinai and the coordinating with local law enforcement agencies in Los Angeles for the safety and security of the Cedars Sinai Facility.
- Jeff Cromwell, Radioactive Waste Manager and Radioactive Shipment Manager, University of Berkeley
  - Cromwell discussed waste management at the University of Berkeley along with some waste management challenges from some recent facility decommissioning projects.
  - What challenges have you had at your facility that you can share on decommissioning, shipments or closing out research projects-what are you doing with the waste?
- Morning Break (10:30 – 10:50 a.m.)
- Mike Albanese, Radiation Safety Officer for Qal-Tek (10:55 – 11:20 a.m.)
  - Albanese discussed Qal-Tek's U.S. Nuclear Regulatory Commission (NRC) Service License and its new Reutilization Program in a joint effort with the Southwestern Compact.
  - Outline of maximum time limits and requirements.
  - A petition will be required for disposal to Waste Control Specialists LLC (WCS) in Andrews, Texas.
  - How will this affect me?
  - Can I qualify for this program?
- *Lunch Break (11:25 a.m. – 12:15 p.m.)*
- Sherry Frenette, Technical Services Project Manager, WCS (12:20 – 12:45 p.m.)
  - Frenette discussed WCS's capabilities for treatment, storage and disposal of waste and answered any questions concerning those capabilities, or the process for getting waste to WCS.
  - Frenette also provided an update on the status of the application for spent fuel storage at the WS facility.
  - Frenette works in the Technical Services Department at WCS. She helps commercial customers navigate the

process for sending waste to all of the facilities at WCS.

- Leigh Ing, Executive Director, Texas Low-Level Radioactive Waste Disposal Compact (12:50 – 1:15 p.m.)

  - Ing shared the need for Texas Low-Level Radioactive Waste Disposal Compact (Texas Compact) import agreements and WCS contracts—they are different!

  - Ing discussed information on requirements, brokers, small generator's limits, and the processing time frames for the Texas Compact.

  - What are the annual limits set by the Texas legislators for non-compact waste?

  - Does Texas want our waste?

  - Will this change?

  - Is there enough space for the future?

  - How long can you afford to store?

- *Afternoon Break (1:20 – 1:55 p.m.)*

- Vern Rogers, Energy*Solutions* of Utah (1:40 – 2:05 p.m.)

  - Video of Zion Decommissioning, SONGS schedule for decommissioning, new services to be offered—Class A sealed sources, depleted uranium (DU) options, mixed waste and various processing programs offered.

  - What can we expect for the future of Energy*Solutions*?

- [Northern California] John Fassell, Chief for Inspection, Compliance & Enforcement, California Radiological Health Branch and [Southern California] Robert Greger, Senior Health Physicist, California Radiological Health Branch (2:10 – 2:35 p.m.)

  - When the inspector is at your door.

  - A presentation on state audits, reporting requirements, renewing a state license—does location matter, and safety requirements at your site. Come with your questions! This is an important resource for you.

- *Adjourn (3:15 p.m.)*

For additional information, please contact Kathy Davis, Executive Director of the Southwestern Compact Commission, at (916) 448-2390 or at swllrwcc@swllrwcc.org.

Southwestern Compact Commission Hosts 75th Meeting

On May 16, 2017, the Southwestern Low-Level Radioactive Waste Commission hosted its 75th meeting beginning at 9:00 a.m. CDT in the State of North Dakota. The meeting was held in the Sakakawea Meeting Room (First Floor) at the Capital Building, which is located at 600 East Boulevard Avenue in Bismarck, North Dakota 58505.

The following topics, among others, were on the meeting agenda:

- Call to Order

- Roll Call

- Welcome Remarks – Dave Glatt from the Governor's Cabinet, North Dakota – and Introductions

- Statement Regarding Due Notice of Meeting
- Reports – Activity and/or Status
  - Commission Chair
  - Executive Director
  - Licensing Agency
  - Party States
- Exportation
  - Ratification of Approved Petitions
- Update and Action on Annual Audit RFP by Miers & Miers
- Discuss Holding LLW Forum Spring 2018 Meeting – Consider Action Options
- Amend Approved Budget
- Public Comment
- Future Agenda Items
- Next Meeting – October 6, 2017
- Adjournment

Members of the public were invited to attend the meeting and comment on specific agenda items as the Commission considered them. The total public comment time on each agenda item was limited to 15 minutes. Written material was also accepted. A 15-minute public comment period was provided near the end of the meeting at which time members of the public were invited to bring before the Commission issues relating to low-level radioactive waste but which were not on the agenda.

For additional information, please contact Kathy Davis, Executive Director of the Southwestern Compact Commission, at (916) 448-2390 or at swllrwcc@swllrwcc.org.

Texas Low-Level Radioactive Waste Disposal Compact Commission

Texas Compact Commission Holds May 2017 Meeting

On May 18, 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 9:30 a.m. CT. It was held in the 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 applications for importation of low-level radioactive waste from RAM Services, Tennessee Valley Authority, Entergy Riverbend, Aerojet Ordnance Tennessee, U.S. Army, and NextEra;
- consideration of and possible action on an

application for exportation of low-level radioactive waste from Bionomics Southwest Research Institute;

- 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.

U.S. Congress and U.S. Nuclear Regulatory Commission (NRC)

NRC Proposes FY 2018 Budget to Congress

On May 23, 2017, the U.S. Nuclear Regulatory Commission (NRC) released the agency's proposed Fiscal Year (FY) 2018 budget as presented to Congress.

Overview

NRC is proposing an FY 2018 budget of $952 million, including the Office of the Inspector General—a request nearly $45 million lower than 2016's spending levels. NRC's press release states that the budget focuses on continued agency efforts to enhance efficiency and effectiveness, while demonstrating the agency's continued commitment to fee transparency. Despite reductions in spending and staffing levels, the FY 2018 budget supports the agency's safety and security strategic goals and objectives.

Since the NRC recovers approximately 90 percent of its budget from licensee fees, which are sent directly to the U.S. Treasury, the resulting net appropriation request is $138 million.

"The agency's budget has decreased more than $100 million, including a reduction of more than 500 FTE, since 2014," said Chief Financial Officer Maureen Wylie. "We believe this budget is appropriate and reflects our commitment to fiscal responsibility."

Details

Specific details of the budget include the following:

- Requested funding for 3,284 full-time equivalent (FTE) employees, including the OIG—which represents a reduction of approximately 270 FTE from the FY 2016 level. Reductions in staffing were related to completion of work related to the Fukushima Near-Term Task Force and improved efficiency of agency operations, including reductions in procurement operations, physical and personnel security, and information technology.

- Requested funding of $466.7 million for nuclear reactor safety, $171.1 million for nuclear materials and waste safety—which includes $30 million to support activities for the proposed Yucca Mountain deep geological repository for spent fuel and other high-level radioactive waste—and $301.4 million for corporate support.

- Requested funding of $12.1 million for the OIG, an independent office that conducts audits and investigations to ensure the efficiency and integrity of NRC programs, and promote cost-effective management. The OIG's budget also includes funding to provide auditing and investigation services for the Defense Nuclear Facilities Safety Board.

The budget briefing slides and the Congressional Budget Justification are available on the NRC website. A limited number of hard copies of the report will be available from opa.resource@nrc.gov.

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

(Continued from page 1)

> "We believe this acquisition was in the best interest of the long-term waste disposal needs for the nuclear industry, so we are disappointed with today's decision that prevents Energy*Solutions* from acquiring Waste Control Specialists," said David Lockwood, President and CEO of Energy*Solutions*.
>
> The judge's decision follows a two-week trial that resulted from the U.S. Department of Justice filing a lawsuit to prevent the acquisition.
>
> Lockwood added, "While this acquisition would have added a Class B and C Low-Level Radioactive Waste disposal facility to our portfolio, we remain confident in our capability as a company to lead the industry in radioactive waste management and decommissioning. We look forward to working with WCS to best serve the interests of our customers."

For additional information, please contact Mark Walker at mwalker@energysolutions.com or at (801) 231-9194.

Department of Justice's Press Release

Following release of the district court's decision, the U.S. Department of Justice (DOJ) issued a press release that states as follows:

> Senior Judge Sue L. Robinson of the U.S. District Court for the District of Delaware today ruled in favor of the Justice Department's civil antitrust lawsuit to block radioactive waste disposal provider Energy*Solutions'* $367 million acquisition of rival Waste Control Specialists. Judge Robinson entered an order ruling in favor of the United States and enjoining the merger.
>
> "Substantial evidence showed that head-to-head competition between Energy*Solutions* and Waste Control Specialists led to better disposal services at lower prices," said Acting Assistant Attorney General Andrew Finch of the Justice Department's Antitrust Division. "Today's decision protects competition in an industry that is incredibly difficult to enter. While Energy*Solutions'* preference was to buy its main rival rather than continue to compete to win business, today's decision ensures that customers will benefit from the competitive process."
>
> The Court's decision follows a 10-day trial that concluded in May. The Justice Department filed suit in November 2016, alleging that the proposed acquisition would combine the two most significant competitors for the disposal of low-level radioactive waste available to commercial customers in 36 states, the District of Columbia and Puerto Rico.

Background

Proposed Acquisition On November 19, 2015, in separate press releases, it was announced that Rockwell Holdco had signed a definitive agreement to acquire Waste Control Specialists—a wholly owned subsidiary of Valhi, Inc. and operator of a low-level radioactive waste disposal facility located in Andrews County, Texas. (See *LLW Notes*, November/December 2015, pp. 20-21.) Rockwell Holdco is the parent company of Energy*Solutions*—which operates low-level radioactive waste disposal facilities in Tooele County, Utah and Barnwell, South Carolina. Rockwell Holdco is owned by Energy Capital Partners, a private equity firm focused on investing in North America's energy infrastructure.

According to the companies' press releases, upon closing, Rockwell Holdco would pay $270

million in cash and $20 million face amount in Series A Preferred Stock. In addition, Rockwell Holdco would assume approximately $77 million of Waste Control Specialists' debt, as well as all financial assurance obligations related to the Waste Control Specialists' business.

The Valhi Board of Directors and the Rockwell Holdco Board of Directors previously approved the purchase agreement. However, completion of the sale—which was originally expected to close in the first half of 2016—was subject to certain customary closing conditions as outlined in the transaction agreement. In the meantime, Energy*Solutions* and Waste Control Specialists continued to operate as independent companies.

Antitrust Lawsuit On November 16, 2016, the DOJ filed a civil antitrust lawsuit in the U.S. District Court for the District of Delaware seeking to block the proposed $367 million acquisition of Waste Control Specialists by Energy*Solutions*. (See *LLW Notes*, November/December 2016, pp. 25-26.) DOJ argued that the proposed transaction "would combine the two most significant competitors for the disposal of low level radioactive waste … available to commercial customers in 36 states, the District of Columbia and Puerto Rico."

DOJ asserted that the proposed transaction "would deny commercial generators of … [low-level radioactive waste] —from universities and hospitals working on life-saving treatments to nuclear facilities producing 20 percent of the electricity in the United States—the benefits of vigorous competition that has led to significantly lower prices, better service and innovation in recent years."

"Since opening its … [low-level radioactive waste] disposal facility in 2012, Waste Control Specialists has provided Energy*Solutions* the only real competition it has ever faced," said Acting Assistant Attorney General Renata Hesse of the DOJ's Antitrust Division. "This competition has allowed customers to extract better prices and to receive better and more innovative service in the … [low-level radioactive waste] disposal industry. If consummated, Energy*Solutions'* proposed acquisition of Waste Control Specialists would make Energy*Solutions* the only option for customers in nearly 40 states. And this at a time when projects worth billions of dollars are set to be awarded in the coming years."

At the time of the filing of the lawsuit, DOJ contended that Waste Control Specialists provides the "only true competition" for Energy*Solutions*. "That competition has led to increased innovation and lower prices for customers," contended DOJ. "Energy*Solutions'* acquisition of Waste Control Specialists would eliminate that competition, with no likelihood of new entry to fill the void."

Low-Level Radioactive Waste Low-level radioactive waste is the radioactive byproduct of nuclear power generation, scientific research and certain medical treatments. Low-level radioactive waste includes such items as personal protective clothing, tools, water purification filters and resins, hardware from nuclear power plants, and equipment from medical and research institutions. Low-level radioactive waste may only be disposed of in a facility licensed by, or pursuant to an exemption provided by, the U.S. Nuclear Regulatory Commission (NRC) or a state acting under an agreement with the NRC. Low-level radioactive waste disposal is an essential service for operating nuclear reactors, research laboratories and medical facilities. Additionally, low-level radioactive waste disposal is a requirement for the safe decommissioning of such facilities when they reach the end of their useful lives.

Energy*Solutions* offers customers a full range of integrated services and solutions, including nuclear operations, characterization, decommissioning, decontamination, site closure, transportation, nuclear materials management, processing, recycling, and disposition of nuclear waste, and research and engineering services across the nuclear fuel cycle.

Waste Control Specialists operates a West Texas facility for the processing, treatment, storage and disposal of a broad range of low-level radioactive and hazardous wastes.

For additional information about EnergySolutions, please contact Dan Shrum at (801) 649-2000 or at dshrum@energysolutions.com or go to the company's web site at www.energysolutions.com.

For additional information about Waste Control Specialists, please contact Rodney Baltzer at (972) 450-4235 or at rbaltzer@valhi.net or visit the company's web site at www.valhi.net.

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.

Appalachian Compact/State of Maryland

Kim Engineering, Inc. On May 25, 2017, the U.S. Nuclear Regulatory Commission proposed a $7,000 civil penalty for a Beltsville, Maryland firm for a repeat violation involving the performance of work at sites under federal jurisdiction in the greater District of Columbia area without first obtaining approval from the NRC. Kim Engineering Inc. conducted the activities, which involved using portable nuclear gauges for soil-density measurements at construction sites, on approximately 25 occasions between January 5, 2015 and August 14, 2015. Among the sites involved were Bolling Air Force Base and several NASA facilities. As an NRC Agreement State, Maryland oversees the use of nuclear materials within its borders that would otherwise be regulated by the NRC. Under a reciprocity requirement, if the licensed materials are used in areas under federal jurisdiction, approval must first be obtained from the NRC. "The NRC's ability to inspect Kim Engineering's activities was interfered with due to the company's failure to seek reciprocity," said NRC Region I Administrator Dan Dorman. "The violation sends a clear message that permission must be obtained before this work is performed to allow the agency to ensure adequate protection of the public when radioactive materials are being used." The NRC notified the company about the apparent violation in a letter issued on April 3, 2017. On April 18, 2017, Kim Engineering responded by acknowledging the violation and describing its plan to address the issue. Because this was a repeat violation and was not identified by the company, the NRC has proposed a civil penalty of $7,000. The company will have 30 days to pay or appeal the fine, or to seek an alternate resolution. *For additional information, please contact Diane Screnci at (610) 337-5330 or Neil Sheehan at (610) 337-5331.*

Atlantic Compact/State of South Carolina

Westinghouse Fuel Facility On May 9, 2017, NRC staff held a public meeting with the management of Westinghouse in Columbia, South Carolina to discuss the results of the agency's performance review of the company's nuclear fuel fabrication plant. The meeting, which was open to the public, was between the NRC and Westinghouse. It featured presentations by the NRC and the company, focusing on the agency's review. NRC officials were available to answer questions or provide additional information following the business portion of the meeting. The NRC staff assessed performance at the Westinghouse facility during a period beginning

January 1, 2015 and ending December 31, 2016 in the categories of safety operations, radiological controls, facility support and other areas. The NRC also assessed security, but it was not discussed during the meeting due to the sensitive nature of the information. The NRC staff identified one area needing improvement in safety operations due to a significant safety issue involving an accumulation of uranium-bearing material in a scrubber system discovered in May 2016. The scrubber system is designed to remove unwanted material from the ventilation system. There were no actual consequences as a result of the accumulation. However, the loss of criticality safety controls in this instance is of significant regulatory concern. The NRC launched a special inspection to review the circumstances of the event and that part of the facility remained shut down until the company addressed the issue. The NRC review also identified weaknesses in management measures used and assumptions made by the facility in safety evaluations. As a result, the Westinghouse facility will be subject to increased NRC inspections and the next licensee performance review will be completed at the end of 2017 instead of the normal 24-month review for NRC-licensed nuclear fuel facilities. *For additional information, please contact Roger Hannah at (404) 997-4417 or Joey Ledford at (404) 997-4416.*

Central Interstate Compact/State of Louisiana

River Bend Nuclear Plant On June 28, 2017, NRC announced that the agency has received an application from Entergy Operations Inc. to renew the operating license for River Bend Station, Unit 1, in St. Francisville, Louisiana. On May 31, 2017, Entergy filed the application seeking to renew the license for an additional 20 years of operation. The River Bend plant is a boiling-water reactor currently licensed to operate through August 29, 2025. The NRC staff is reviewing the application to determine if it has sufficient information to complete the agency's extensive safety and environmental reviews. If the application is determined to be complete, the staff will docket it and publish a notice of opportunity to request an adjudicatory hearing before the NRC's Atomic Safety and Licensing Board (ASLB). Information about the license renewal process, as well as a copy of the River Bend renewal application, is available on the NRC website at www.nrc.gov. A copy of the River Bend plant license renewal application will also be available at the West Feliciana Parish Library, 5114 Burnett Road in St. Francisville. *For additional information, please contact Scott Burnell at (301) 415-8200.*

Midwest Compact/State of Missouri

Northwest Medical Isotopes, LLC

On May 16, 2017, NRC published its final environmental impact statement on a medical radioisotope production facility proposed for Columbia, Missouri. The study recommends that, barring the identification of any safety issues during the agency's ongoing safety review, a construction permit be issued to Northwest Medical Isotopes, LLC. Northwest submitted the application in February 2015 proposing to construct a facility to produce molybdenum-99 from low-enriched uranium. Molybdenum-99 decays to technetium-99m, the most commonly used radioisotope in medicine. Technetium-99m is used in 20 to 25 million diagnostic procedures around the world each year, such as bone and organ scans to detect cancer and cardiovascular imaging. There are currently no molybdenum-99 production facilities in the United States, though the NRC has issued a construction permit to SHINE Medical Technologies to build one in Janesville, Wisconsin. The environmental impact statement (NUREG-2209) documents the NRC staff's environmental review of Northwest's construction permit application. The review examined the environmental impacts of constructing, operating and decommissioning the proposed facility, as well as the transportation of uranium targets to research reactors and their irradiation in those reactors. It concludes that the environmental impacts would be small, with

cumulative impacts on air quality and noise being small to moderate, and cumulative impacts on ecological resources being moderate. None of the projected impacts would be significant enough to deny the construction permit. The NRC published a draft environmental impact statement for public comment in November 2015. Comments received were addressed in the final version. *For additional information, please contact Maureen Conley at (301) 415-8200.*

Northwest Compact/State of Washington and Hawaii

Columbia Generating Station On May 31, 2017, NRC approved a request by Energy Northwest to increase the generating capacity of Columbia Generating Station by 1.7 percent. The NRC staff found that Energy Northwest could safely increase the reactor's output primarily through more accurate means of measuring feedwater flow. The staff determination was based on its review of Energy Northwest's evaluations showing that the plant's design can handle the increased power level. The NRC safety evaluation of the proposed power uprate focused on several areas including the nuclear steam supply system, instrumentation and control systems, electrical systems, accident evaluations, radiological consequences, fire protection, operations and training, testing and technical specification changes. For added confidence in the analysis, the NRC staff also conducted independent calculations and evaluations of selected areas. The power uprate for the Columbia Generating Station—located approximately 20 miles north- northeast of Pasco, Washington—will increase the generating capacity from approximately 1,190 to 1,210 megawatts electric. Energy Northwest implemented the uprate starting in May 2017. The NRC published a notice about the power uprate application on October 4, 2016. The notice provided the public an opportunity to comment or request a hearing. No comments or hearing requests were received. The agency's evaluation of the Columbia power uprate is available through the NRC's ADAMS online document database. Since the 1970s, NRC-approved uprates at U.S. commercial nuclear power plants have collectively added the equivalent of seven new reactors' worth of electrical generation to the power grid. *For additional information, please contact David McIntyre at (301) 415-8200.*

Hayre McElroy & Associates On May 12, 2017, NRC proposed a $7,000 civil penalty against a Redmond, Washington company for using radioactive materials in Hawaii without an NRC license. Hayre McElroy & Associates, LLC is authorized to use radioactive materials for industrial processes in the State of Washington. In 2011, it began using radioactive materials at various locations in Hawaii, but failed to obtain an NRC license to do so as is required after 180 days. The practice continued until 2015 when it was identified by the NRC during an unannounced inspection in which agency officials examined procedures and records, observed activities and interviewed personnel at their Aiea facility. The company subsequently obtained the necessary NRC license to conduct activities in Hawaii. The issue was described in an NRC inspection report dated March 22, 2017. Based on a written response by the company dated April 21, 2017, the NRC is proposing a Severity Level III violation and a $7,000 fine. The company has 30 days in which to dispute the violation or request Alternative Dispute Resolution (ADR), which uses a neutral third-party mediator to resolve disputes. *For additional information, please contact Victor Dricks at (817) 200-1128.*

Southeast Compact/States of Florida and Virginia

Turkey Point Nuclear Plant On June 20, 2017, an NRC ASLB held a teleconference to hear oral arguments on a hearing request regarding Florida Power & Light's (FPL) application for two new reactors at the Turkey Point site. The board is an independent body within the NRC that conducts adjudicatory hearings and renders decisions on legal challenges to licensing actions. The board

will hear arguments on the admissibility of a new contention filed by the City of Miami, the Village of Pinecrest and the City of South Miami. The contention challenges whether FPL has the financial ability to complete the proposed project. Members of the public and media were welcome to listen via telephone, but participation was limited to the representatives of the municipalities, FPL and the NRC staff. Documents related to the hearing request are available on the NRC's Electronic Hearing Docket by clicking on the folder entitled "Turkey_Point_52-040&52-041-COL" on the left side of the page. More information about the role of the ASLB in the licensing process is available on the NRC website at www.nrc.gov. *For additional information, please contact Scott Burnell at (301) 415-8200.*

North Anna Site On May 31, 2017, NRC announced that the agency had authorized the issuance of a Combined License for Dominion Virginia Power's North Anna site in Virginia. The license grants Dominion permission to build and operate an Economic Simplified Boiling Water Reactor (ESBW) design at the site, which is located near Mineral, Virginia. The Commission authorized the agency's Office of New Reactors to issue the license following a hearing on March 23, 2017. In so doing, the Commission found the staff's review of Dominion's application to be adequate to make the necessary regulatory safety and environmental findings. NRC issued the license in early June 2017. The license contains certain specified conditions including specific actions associated with the agency's post-Fukushima requirements for Mitigation Strategies and Spent Fuel Pool Instrumentation; as well as a pre-startup schedule for post-Fukushima aspects of the new reactor's emergency preparedness plans and procedures. On November 26, 2007, Dominion submitted the North Anna application to NRC for an ESBWR adjacent to the company's two existing reactors. The NRC certified the 1,600-megawatt ESBWR design following a Commission vote in September 2014. The NRC's Advisory Committee on Reactor Safeguards (ACRS) independently reviewed aspects of the application that concern safety, as well as the staff's final safety evaluation report. On November 15, 2016, the committee provided the results of its review to the Commission. In February 2010, the NRC completed its environmental review and published the final impact statement for the proposed reactor. *Additional information on the ESBWR 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.*

Texas Compact/State of Vermont

Vermont Yankee Nuclear Plant On May 25, 2017, NRC staff participated in a meeting of the Vermont Nuclear Decommissioning Advisory Panel in Brattleboro, Vermont to discuss an application to transfer the Vermont Yankee nuclear plant's operating license to NorthStar Decommissioning Company, LLC. The NRC will also take oral and written comments on the application for the proposed license transfer and proposed update to the post-shutdown decommissioning activities report. According to the agenda, following an update on decommissioning activities by Entergy, NRC staff will present an overview of review processes for the license transfer application and the revised PSDAR. They will answer questions from the panel followed by the public. In February 2017, current plant owner Entergy Nuclear Operations submitted an application to transfer the NRC license to NorthStar Decommissioning Company LLC. If approved, NorthStar would assume responsibility for the facility and the site's dry cask storage installation. In addition, NorthStar has submitted a revised PSDAR to reflect its plans to accelerate plant decommissioning should the license transfer be approved. Vermont Yankee permanently shut down in December 2014. The NRC will issue in the *Federal Register* a notice of an opportunity to request a hearing and petition for leave to intervene in the proceeding on the transfer application. The deadline to submit a

petition requesting a hearing is 20 days from publication. The notice will provide petition filing requirements in accordance with the Commission's rules. Background information regarding the hearing process is available on the NRC website at www.nrc.gov. A petition to intervene must be electronically submitted in a timely manner to the NRC's Electronic Information Exchange system. The petition must be filed in accordance with the NRC's E-Filing Rule. Additional guidance and instructions regarding electronic submissions to the EIE system are also available on the NRC website. The *Federal Register* notice will also include instructions for submitting written comments on the license transfer request or the PSDAR. The deadline for filing comments is 30 days after publication. *For additional information, please contact Diane Screnci at (610) 337-5330 or Neil Sheehan at (610) 337-5331.*

Michigan

Tilden Mining Company On June 28, 2017, NRC issued a Confirmatory Order to Tilden Mining Company, LC of Ishpeming, Michigan outlining actions that the company has agreed to take to implement its security program in accordance with NRC requirements. Tilden Mining Company LC was issued an NRC license on July 3, 2014. The license authorizes the possession and use of fixed gauges and silica analyzers at the Tilden Mine in Marquette County, Michigan. The order formalizes commitments company officials made to the NRC following a special inspection of the radioactive materials security program conducted at the Tilden Mine site on September 12-13, 2016, with continued in-office review through February 16, 2017. The NRC preliminarily determined that there were violations of certain security requirements. Details of security-related violations are not made public. The company requested the ADR process to resolve differences with the NRC concerning the issue and to discuss corrective actions. The process uses a neutral mediator with no decision-making authority to assist the NRC and its licensees in coming to an agreement. "We expect companies authorized by the NRC to possess and use nuclear materials to ensure their security by adhering to applicable regulations and the conditions of their licenses," said NRC Region III Administrator Cynthia Peterson. "We will verify that Tilden Mining has taken thorough corrective actions outlined in this order to ensure compliance with regulatory requirements." As a result of the settlement agreement, Tilden Mining made a number of commitments in addition to the immediate actions to comply with security requirements. The company will: (1) establish a radioactive material oversight committee to oversee the implementation of the radiation safety and radioactive source security programs; (2) complete two effectiveness reviews of the corrective actions taken in response to the order to be conducted by an independent consultant; (3) track the implementation of items for five years from the date of the order including coordination of alarm system testing with the local law enforcement authority, corrective actions directed by the radioactive material oversight committee and maintenance of required security systems; and, (4) conduct annual training for five years from the date of the order for affected personnel on access control and alarm response requirements and the company's implementing procedures. When Tilden Mining completes these commitments, the company is required to notify the NRC in writing, including a description of actions taken to that end. The NRC will conduct an independent review to make sure these actions meet the conditions of the order. *For additional information, please contact Viktoria Mitlyng at (630) 829-9662 or Prema Chandrathil at (630) 829-9663.*

JANX Integrity Group On June 21, 2017, NRC issued an order barring Toby Lashley, a radiographer formerly employed by JANX Integrity Group, from participating in NRC-licensed activities for one year—effective June 30, 2017. This enforcement action follows Lashley's deliberate actions in not accompanying

the assistant radiographer during radiographic operations for which he was responsible at a temporary jobsite in Samaria, Michigan. The NRC issued the enforcement action after the Office of Investigations determined that Lashley remained in his vehicle facing away from the radiographic operations and engaged in unrelated work activities. The NRC requires two qualified individuals to observe and be present to prevent unauthorized entry into a restricted area where radiographic operations are being performed and to provide assistance when needed. The NRC also issued a Severity Level III Notice of Violation to the assistant radiographer and to JANX Integrity Group, Lashley's former employer. The company is located in Parma, Michigan. It is licensed by the NRC to use radioactive materials. "This enforcement action underscores that the NRC will hold individuals accountable for willful violations of safety requirements," 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 JANX Integrity Group. The NRC's order directs Lashley to cease all activities involving NRC-licensed activities for one year and to notify the NRC of his first involvement in NRC-licensed activities for the following year. 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.*

Nebraska

Fort Calhoun Nuclear Plant On May 31, 2017, NRC held a public meeting in Omaha, Nebraska to discuss the decommissioning process for the Fort Calhoun nuclear power plant, which shut down permanently on October 24, 2016. The plant is located about 20 miles north of Omaha. During the meeting, NRC technical staff gave a presentation describing the decommissioning process for nuclear power plants and then took questions and comments from the public. A plan for decommissioning the plant, submitted by the Omaha Public Power District, will also be discussed at the meeting. *For additional information, please contact Victor Dricks at (817) 200-1128.*

Seabrook Nuclear Plant On June 29, 2017, an NRC ASLB held an online video conference to hear oral arguments on a hearing request regarding a proposed license amendment for the Seabrook reactor in Seabrook, New Hampshire. The board is composed of members of the ASLB Panel, which is an independent body within the NRC that conducts adjudicatory hearings and renders decisions on legal challenges to licensing actions. The board will hear arguments on contentions filed by the C-10 Research and Education Foundation. The contentions challenge a request from Seabrook's owner, NextEra Energy, to amend the plant's license regarding analyses of concrete degradation caused by the "alkali-silica reaction." The public and media were welcome to observe the oral argument in person or via telephone, but participation was limited to the representatives of C-10, NextEra and NRC staff. Documents related to the hearing request are available on the NRC's Electronic Hearing Docket by clicking on the folder entitled "Seabrook Vogtle 50-443-LA2" on the left side of the page. More information about the role of the ASLB in the licensing process is available on the NRC website at www.nrc.gov. *For additional information, please contact Scott Burnell at (301) 415-8200.*

National Academies of Sciences, Engineering, and Medicine

NAS Releases LLW Workshop Proceedings

On June 6, 2017, the National Academies of Sciences, Engineering, and Medicine (NAS) released the final publication, *Low-Level Radioactive Waste Management and Disposition: Proceedings of a Workshop*.

The publication documents the proceedings from a workshop that was organized by the NAS Nuclear and Radiation Studies Board, Division on Earth and Life Studies, at the request of the U.S. Department of Energy (DOE or Department). The workshop was held in Washington, DC on October 24-25, 2016.

During the workshop, presenters and attendees provided perspectives from academia, industry, federal agencies (including those outside of DOE), state governments, international organizations, public interest groups, and national laboratories.

The proceedings provide a factual description of the workshop presentations and discussions and are limited to the views and opinions of those participating in the event. The proceedings do not contain consensus findings or recommendations.

The NAS proceedings are available to interested stakeholders for free download at https://www.nap.edu/catalog/24715/.

Overview

DOE asked NAS to organize this workshop to discuss approaches for the management and disposition of low-level radioactive waste. The workshop considered similarities between successful case studies, in which unique disposition pathways have been developed to address low-level radioactive wastes, and explored ways to extend these similar characteristics to problematic wastes—i.e., low-level radioactive wastes currently without a clear disposition pathway.

Specifically, the workshop explored:

- the key physical, chemical, and radiological characteristics of low-level radioactive waste that govern its safe and secure management (i.e., packaging, transport, storage) and disposition, in aggregate and for individual waste-streams; and,

- how key characteristics of low-level waste are incorporated into standards, orders, and regulations that govern the management and disposition of low-level radioactive waste in the United States and in other major waste-producing countries.

Workshop Structure

The workshop began by defining the "universe" of low-level radioactive waste within the United States and elsewhere—first by introducing the types of waste that exist and then by exploring the standards, orders, regulations, and laws that define and control their disposal. Case studies were then presented to highlight the successful disposal of a variety of wastes that previously lacked a clear disposition pathway—these case studies are referred to as "success stories." The studies were selected from within and outside of the United States.

The participants explored common themes that led to success within the case studies such as: the use of existing regulations and standards (i.e., waste classification) to provide an anchor for disposal decisions; the identification of lessons learned from similar or analogous problems such as Canada's or France's approach to managing and disposing of very low-level waste (VLLW); and, the importance of site characteristics for disposal decisions. These themes were organized

into an approach to guide future discussions and disposition decisions for challenging low-level radioactive waste streams—referred to in the proceedings as a "common themes approach."

The common themes approach was applied to a set of five pre-selected challenging low-level radioactive waste streams that spanned a variety of waste characteristics including:

- Greater-Than-Class C (GTCC) and commercial transuranic waste (TRU) waste in excess of 100 nCi/g;
- sealed sources;
- VLLW and very low-activity waste;
- incident waste; and,
- depleted uranium.

One leader from each breakout group introduced a specific challenging low-level radioactive waste stream to the full workshop and later summarized the breakout group's results of applying the common themes approach to the issues associated with the disposal of this waste stream. Several participants identified short-term actions or next steps that could be taken to show progress in addressing each challenging waste stream in the final session of the workshop.

Challenges

Each of the waste streams discussed at the workshop presents a unique set of challenges for disposal. For example, GTCC waste and commercial TRU waste in excess of 100 nCi/g lack a clear disposition pathway, while VLLW and very low-activity waste have a disposition pathway in which the level of protection may be considered incommensurate with the hazard, or a potentially non-optimal disposition pathway.

According to NAS, the application of the common themes approach to these diverse waste streams was intended to explore how adaptable this approach would be as a tool in discussing or presenting a variety of disposal options.

Common Themes Approach

The workshop planning committee was not charged with inventing a new regulatory framework for low-level radioactive waste. Rather, the workshop used case studies to highlight successful examples of low-level radioactive waste management and disposal within existing regulatory frameworks.

Common themes within the case studies that led to successful disposition of the wastes were identified such as: the use of existing regulations and standards—such as the U.S. Nuclear Regulatory Commission's (NRC's) Class A, B, and C classification scheme—to provide an anchor for disposal decisions; the identification of lessons learned from similar or analogous approaches such as Canada's or France's approach to managing and disposing of very LLW; and, acknowledgement that the disposal site characteristics are as important for safe disposal as the inherent characteristics of the waste.

These common themes were organized into a common themes approach that could be used within the current low-level radioactive waste regulations as an aid to guide decisions and direct discussions. The approach includes the following three key elements:

- Anchors: The current regulatory framework that governs low-level radioactive waste disposal provides a starting point for decisions about the disposition of challenging low-level radioactive waste streams.
- Analogies: Learn from successful disposition of similar wastes. Examples of past decisions for successful disposition of challenging low-level radioactive waste streams offer additional guidance for future waste disposal decisions.

- Adjustments: Use flexibility within current regulatory frameworks for making decisions about disposing of challenging low-level radioactive waste streams.

The common themes approach acknowledges that existing United States' regulations, as well as regulations and standards from international organizations, offer valuable guidance for making decisions about dispositioning challenging low-level radioactive waste streams. It also makes use of the roughly proportional relationship between the hazard of a low-level radioactive waste stream and the required protectiveness of the facility that will be used for its disposal.

According to the workshop proceedings, the graphical representation of the common themes approach included in the final document could help guide disposition decisions for wastes without clear or potentially non-optimal disposition pathways and could also help explain disposal decisions to non-experts. This representation is risk informed—a concept advocated by reports from the NAS and others including the National Research Council—and is relatively easy to comprehend because it uses a small number of readily understood characteristics and shows the relationship between hazard and protection measures. The workshop proceedings further state that the graphical representation of the common themes approach can also help to improve decision-making consistency for challenging low-level radioactive waste streams.

Major Topics

Several major topics emerged during the discussions throughout the workshop including complexity of regulations; communication among stakeholders; diversity of the type, source and hazard of low-level radioactive waste; and, integration of knowledge gained from operations.

The following is a brief overview of the discussion of the major topics from the proceedings:

- Complexity of Regulations: The complexity of the current low-level radioactive waste regulatory structure in the United States was mentioned in several presentations and discussions. Participants noted that the current regulatory structure is the result of "tweaks" and "adjustments" to regulations to address unanticipated types of wastes or other challenges. Several participants argued that the current low-level radioactive waste regulatory system should be thrown out and that a new system should be "developed from scratch." This "revolution instead of an evolution" of the low-level radioactive waste regulatory structure was raised several times during the workshop. Participants also discussed the complexity of the definition and regulation of TRU waste, noting that multiple laws and regulations contain definitions of TRU waste that can be inconsistent with each other. It was also noted, however, that the current low-level radioactive waste regulatory system has the flexibility to deal with unanticipated waste streams through case-by-case exceptions—which adds to the system's complexity. The proceedings state that the unintended impacts of this complex system include the following: potential loss of public trust and confidence; mounting costs for disposal that are passed on to rate payers; and, levels of regulation that are disproportionate to the hazards posed by low-level radioactive waste.

- Communication Among Stakeholders: Several participants noted that the complexity of the current low-level radioactive waste regulatory system leads to communication problems with stakeholders. Many stakeholders assume that low-level radioactive waste must be dangerous because the regulations are so strict and complex. Several participants also questioned the

appropriateness of the language used when discussing stakeholder or public concerns. Some favored a move away from the use of the term "stakeholder"—which is a term that is difficult to define—to "concerned" or "interested parties" in order to be inclusive of a wider group including waste producers, academics, and other members of the public. According to the proceedings, another phrase often used by experts that raises concern is "talking to the public," which implies a one-way flow of information, instead of "talking with the public." In addition, "educating the public," was identified as denigrating—its use presupposes that the public is uneducated and also that, if given education, the public would agree with the experts doing the educating. Some participants stated that improving communications among stakeholders involves a change in mindset in addition to a change in language, and that decisions on the final disposition of challenging wastes could be informed by a continuing conversation with stakeholders throughout the lifetime of a project. The topic of accepting responsibility for the waste streams now to ensure safe disposal for future generations was repeatedly discussed at the workshop. Several participants noted that discussions with stakeholders on the final disposition of low-level radioactive waste were aided when the origins and social value of the activities that produced the wastes (i.e., medical treatments, electricity generation) were described.

- Diversity of the Type, Source and Hazard of Low-Level Radioactive Waste: Participants noted that the "universe" of low-level radioactive waste in the United States is large due to its definition by exclusion. In the United States, high-activity wastes such as irradiated metals and sealed sources of high activity are considered low-level radioactive waste. Also, very low-activity wastes in the United States are subject to disposal requirements that many participants believe exceed the hazard of the waste. Participants noted that characteristics such as half-life and activity levels (or hazards) of the waste are used in other countries to define waste categories and disposal options. Participants also noted that other countries have a "cleared" or "exempt" category of waste that allows for less protective disposal—an approach that is commensurate to the hazard of the waste—while there is no low-end threshold of activity for low-level radioactive waste in the United States. The workshop proceedings point out that, in the United States, the states have regulatory authority for some radioactive wastes and regulations can be inconsistent across state boundaries even though the characteristics and hazard of the waste remain the same.

- Integration of Knowledge Gained from Operations: The United States and other countries have been managing and disposing of nuclear waste for at least six decades. Several comparisons of early to modern low-level radioactive waste disposal concepts and facilities were presented at the workshop including: the Energy*Solutions* (Utah), Barnwell (South Carolina), Waste Control Specialists (Texas)—as well as both the Centre de la Manche (CSM) and Centres de stockage de l'Aube (CSA) (France)—disposal facilities. The workshop proceedings state that these comparisons highlighted the improvements in modern facilities that resulted from applying the knowledge gained from the construction and operation of earlier facilities. Another point that was repeatedly raised by participants at the workshop was the importance of site characteristics of modern facilities in the United States, many of which are located in arid regions of the country. Several participants noted that the United States should find a way to integrate this new knowledge into the regulations and rules that govern the management and disposal of low-level radioactive waste.

The above topics are described in detail in the proceedings.

Background

The Department's Office of Environmental Management (DOE-EM) is responsible for the cleanup of the sites used by the federal government for nuclear weapons development and nuclear energy research. DOE-EM cleanup involves retrieval, treatment, storage, transportation, and disposition of hundreds of different radioactive and hazardous solid and liquid wastes.

Low-level radioactive waste—which is defined by exclusion as waste that does not meet the statutory definitions for spent nuclear fuel, high-level radioactive waste, or transuranic waste—is physically and chemically diverse, ranging from lightly contaminated soils and building materials to highly irradiated nuclear reactor components. It is the most volumetrically significant waste stream (millions of cubic meters) being generated by the cleanup program.

For additional information, please contact Jennifer Heimberg, Senior Program Officer, Nuclear and Radiation Studies Board (NRSB), Board on Life Sciences (BLS), Board on Environmental Change and Society (BECS), NAS at (202) 334-3293 or at jheimberg@nas.edu.

Waste Management 2018 Conference

Waste Management Accepting Abstracts & Fellow Award Nominations

Abstracts are now being accepted for the Waste Management 2018 Conference, which will be held at the Phoenix Convention Center in Phoenix, Arizona on March 18-22, 2018.

This year's conference theme is Nuclear and Industrial Robotics, Remote Systems and Other Emerging Technologies.

The Call for Abstracts and the detailed Topic Listing are available online at www.wmsym.org.

Background

The annual Waste Management Conference, presented by WM Symposia (WMS), is an international symposium concerning the safe and secure management of radioactive wastes arising from nuclear operations, facility decommissioning and environmental remediation, as well as storage, transportation and disposal and associated activities. WMS was founded to provide a forum for discussing and seeking cost-effective and environmentally responsible solutions for the safe management and disposition of radioactive waste and radioactive materials.

WM2018 marks the 44th year of the conference and is expected to attract over 2,000 nuclear specialists from over 35 countries, presenting more than 500 papers in over 130 technical sessions.

Supporting Organizations

Supporting organizations include the American Nuclear Society (ANS), the International Atomic Energy Agency (IAEA), the International

Framework for Nuclear Energy Cooperation (IFNEC) and the Organization for Economic Co-operation and Development/Nuclear Energy Agency (OECD/NEA).

The conference is also organized in cooperation with the U.S. Department of Energy (DOE), the U.S. Nuclear Regulatory Commission (NRC), the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Defense (DoD).

Abstract Submissions

WMS welcomes abstracts in nine topic areas related to nuclear waste management. The submission site became available in mid-June 2017.

To submit an abstract, interested parties will need to visit the WMS website at www.wmsym.org and login using a registered username and password. The deadline for submission is Friday, August 11, 2017.

Please note, there is a limit of abstract submissions to two (2) per presenter, but no limit on the number of abstracts that may be co-authored.

Fellow Award Nominations

WMS is also accepting nominations for the conference Fellow Award. Nominations must be submitted no later than August 11, 2017. Nomination forms should be submitted to awards@wmarizona.org.

All questions related to the WMS Fellowship should be directed to Fred Sheil, Chair of the WM Board of Directors Honors & Awards Committee. Sheil can be reached by phone at +44-19-46-813342 or by email at Fred@Sheil.myzen.co.uk.

For additional information on the Waste Management Conference, please call (480) 557-0263 or email to shelley@wmarizona.org.

Perma-Fix Environmental Services

Perma-Fix to Host 15th Nuclear Waste Management Forum

Nashville, Tennessee on November 27-29, 2017

On November 27-29, 2017, the 15th Perma-Fix Nuclear Waste Management Forum will be held in Nashville, Tennessee. Registration details and forum hotel accommodation information will be released in the upcoming weeks.

Nuclear industry leaders that focus on the area of radioactive waste management attend this event. Attendees learn information about the latest technologies and applications regarding waste characterization, packaging, treatment, transportation and disposition while sharing lessons learned that improve safety and efficiency for their projects. This is an opportunity to network with experts from a variety of U.S. and international waste generator sites, government officials and other companies focused on waste management objectives.

For additional information, please contact Autumn Bogus at (865) 251-2088 or at abogus@perma-fix.com.

U.S. Nuclear Regulatory Commission

New Potential Regulations for Power Reactor Decommissioning

From May 8-10, 2017, the U.S. Nuclear Regulatory Commission (NRC) held a public meeting to discuss the draft regulatory basis and preliminary draft regulatory analysis for a future regulation on decommissioning commercial nuclear power plants.

The meeting was held at the NRC's headquarters in Rockville, Maryland.

Overview

On March 15, 2017, NRC published the draft regulatory basis for the rulemaking for public comment. (See *LLW Notes*, March/April 2017, pp. 23-24.) It describes several decommissioning issues to be addressed in the new regulation, as well as possible resolutions.

The rule would establish clear requirements for commercial power reactors transitioning to decommissioning. The draft regulatory basis draws upon comments submitted in response to an Advance Notice of Proposed Rulemaking (ANPR) that was published in November 2015.

A notice regarding the draft regulatory basis was published in the *Federal Register* later in March 2017, initiating a 90-day public comment period.

The preliminary draft regulatory analysis, which describes the costs and benefits of all approaches to resolving the issues, was published prior to the public meeting.

Public Meeting

During the public meeting, NRC staff members presented both the draft regulatory basis and the preliminary draft regulatory analysis with extended discussions of various subjects to be addressed in the rulemaking. Members of the public were encouraged to ask questions and provide feedback, although the staff did not take formal public comment on either document at the meeting.

The following is a brief overview of the agenda topics for each day of the meeting:

- On May 8, 2017, NRC staff discussed the current regulatory approach to decommissioning, the back-fit analysis of the proposed rulemaking, drug and alcohol testing and fatigue management.

- On May 9, 2017, the meeting addressed emergency preparedness, aging management, cyber security and physical security.

- On May 9, 2017, the agenda included decommissioning trust funds, onsite and offsite insurance indemnity agreements, and certified fuel handler training and minimum staffing. The last day also included discussion of the preliminary draft regulatory analysis.

The sessions were scheduled to run from 9:30 a.m. until at least 5:00 p.m. each day. Those unable to attend in person were able to participate by telephone bridgeline and webcast.

Staff Analysis

In the draft regulatory basis, the NRC staff concludes there is sufficient justification to proceed with rulemaking in the following areas:

- emergency preparedness;

- physical security;

- decommissioning trust funds;
- offsite and onsite financial protection requirements and indemnity agreements; and,
- application of the back-fit rule.

The staff suggests guidance, rather than rulemaking, should be used to address the following items:

- the role of state and local governments in the decommissioning process;
- the level of NRC review and approval of a licensee's post-shutdown decommissioning activities report; and,
- whether to revise the 60-year limit for power reactor decommissioning.

The NRC staff is seeking additional public input before making recommendations on the following topics:

- cyber security;
- drug and alcohol testing;
- minimum staffing and training requirements for certified fuel handlers;
- aging management; and,
- fatigue management.

That additional input, as well as comments received on the draft document, will be considered as the staff develops the final regulatory basis, which the NRC plans to publish in late 2017. That document will be used in developing a proposed rule to be provided to the Commission in the spring of 2018. The NRC staff expects to provide a draft final rule to the Commission in fall 2019.

Background

The NRC published an ANPR on the draft regulatory basis for a future power reactor decommission rule in November 2015, seeking public comment on a number of areas to be considered during the rulemaking process.

The NRC began a similar rulemaking process in 2000-2001, but stopped after a stronger focus on security was prompted by the terrorist attacks of September 11, 2001. However, five reactors have permanently shut down since the beginning of 2013, and three more are expected to cease operations by 2019.

The five reactors now undergoing decommissioning required several exemptions from NRC's regulations for operating reactors to reflect their decommissioning status. By incorporating changes into regulation, the NRC believes the transition from operation to decommissioning can become more efficient and effective for the agency and the licensee, as well as more open and transparent for the public.

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

NRC Holds Fuel Cycle Information Exchange

On June 13-14, 2017, the U.S. Nuclear Regulatory Commission (NRC) hosted the 11th Fuel Cycle Information Exchange at the agency's headquarters in Rockville, Maryland.

This event enables NRC staff, licensees, international counterparts, members of the public and other stakeholders to discuss issues related to uranium enrichment and conversion, and nuclear fuel fabrication.

Agenda Overview

On the morning of June 13, 2017, NRC Executive Director for Operations Victor McCree delivered opening remarks and Eileen Supko, Principal at Energy Resources International, gave a keynote address.

The conference also included discussions and presentations on safety culture, advanced fuels, small modular and advanced reactors, waste disposal, fees, operating experience, and cybersecurity.

Logistics

The conference ran from 8:30 a.m. to 4:20 p.m. on June 13 and from 8:30 a.m. to 4:15 p.m. on June 14. It was held in the NRC Auditorium.

A telephone bridge line was set up for those who could not attend the conference in person. An operator moderated the bridge line, allowing participants to ask questions at designated times.

For additional information, please contact Maureen Conley of the NRC at (301) 415-8200. More information about the conference is available on the NRC website.

NRC Issues Annual Report on Abnormal Occurrences for FY 2016

On May 11, 2017, the U.S. Nuclear Regulatory Commission (NRC) released its annual report to Congress on abnormal occurrences for Fiscal Year (FY) 2016. The report cites one event at a fuel cycle facility, one event involving radiation exposure to an embryo or fetus, another involving radiation exposure to a radiographer, and eight medical events involving radioactive materials. It details investigation of each incident by the NRC, state agencies and licensees, as well as measures taken to ensure such incidents do not recur.

The report on abnormal occurrences for fiscal year 2016 is published as NUREG-0090, Volume 39. It was transmitted to Congress on May 9, 2017.

The report is available on the NRC website at www.nrc.gov.

Background

An accident or event is considered an abnormal occurrence if it involves a major reduction in the degree of protection of public health and safety.

Abnormal occurrences can include, but are not necessarily limited to, the following:

- moderate exposure to or release of radioactive material licensed by the NRC or a state agency;
- major degradation of safety-related equipment;
- or, major deficiencies in design, construction, use of, or management controls for facilities or radioactive material.

Abnormal occurrences represent a very small fraction of the average number of nuclear medicine and radiation therapy procedures conducted annually.

Overview

The NRC report states that three reported abnormal occurrences happened at NRC licensee facilities. These included the discovery of an excessive amount of low-enriched uranium in a scrubber at the Westinghouse Columbia Fuel Fabrication Facility in Columbia, South Carolina. The other two were medical events involving misadministration of radioactive material during cancer treatment.

Additionally, eight reported abnormal occurrences happened in Agreement States. (The NRC has agreements with 37 states under which the states regulate industrial and medical uses of radioactive materials.) One event involved an overexposure to an industrial worker performing radiography, one event resulted in an exposure to an embryo or fetus, and the other six were medical events.

Three of the 11 events occurred in previous fiscal years, but are included in the report because the NRC completed its evaluation of these events in FY 2016.

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

NRC Issues Information Notices

To date, the U.S. Nuclear Regulatory Commission (NRC) has released the following Information Notice (IN) documents during calendar year 2017:

- IN 2017-01, *Reactor Coolant System Leakage from a Control Rod Drive Threaded Connection,* was issued on May 3, 2017 to inform addressees of operating experience regarding reactor coolant system (RCS) leakage through a control rod drive threaded connection. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems.

- IN 2017-02, *Best Practice Concepts for Patient Release,* was issued on May 17, 2017 to provide addressees with best practices to consider for patients treated with Sodium Iodine-131 (NaI-131) and released in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 35.75, "Release of Individuals Containing Unsealed Byproduct Material or Implants Containing Byproduct Material." The included best practice concepts are intended to provide information to licensees to consider and individualize for their patients in regards to maximizing radiation safety and minimizing unnecessary radiation exposure.

- IN 2017-03, *Anchor/Darling Double Disc Gate Valve Wedge Pin and Stem-Disc Separation Failures,* was issued on June 15, 2017 to inform addressees of operating experience regarding Anchor/Darling (a subsidiary of Flowserve) double disc gate valve (DDGV) failures. IN 2017-03 provides a discussion of the recent LaSalle County Station Unit 2 Anchor/Darling DDGV failure, events at Browns Ferry that led to Part 21 reporting, and other operating experience that resulted in stem-disc separations. The document contains information available to NRC staff as of May 2017.

Suggestions contained in these IN's are not NRC requirements; therefore, no specific action or written response is required.

Additional information can be found on the NRC's website at www.nrc.gov.

NRC Receives High Marks for Small Business Contracting

The U.S. Nuclear Regulatory Commission (NRC) received its first "A+" from the Small Business Administration (SBA) for its Fiscal Year (FY) 2017 efforts to meet the federal contracting goals for small businesses. This marks the fifth consecutive year the NRC has been recognized for meeting the goals.

"We are very proud that the collaborative and strategic efforts of the agency have enabled our

ability to maximize prime and subcontract opportunities, which has led to the achievement of our first A+," said Pamela Baker, Director of the Office of Small Business and Civil Rights. "The agency recognizes the important role small businesses play in supporting our mission and remains committed to ensuring that agency practices and policies maximize opportunities for small businesses."

In FY 2017, the NRC had $227 million in eligible contracting dollars. Of that amount, over 37 percent went to small businesses—exceeding the agency goal of 32 percent. A breakdown of individual agency scores, as well as a detailed explanation of the scorecard methodology used by the SBA, is available at www.sba.gov.

For additional information, please contact Ivonne Couret at (301) 415-8200.

The White House and the U.S. Nuclear Regulatory Commission (NRC)

President Trump Announces Intent to Nominate NRC Commissioners

On May 22, 2017, U.S. President Donald J. Trump announced his intent to nominate Annie Caputo and David Wright as Commissioners for the U.S. Nuclear Regulatory Commission (NRC), as well as to nominate current NRC Chair Kristine Svinicki as Commissioner and Chair for a new five-year term.

Nominations

Annie Caputo According to the White House news release dated May 22, 2017, President Trump intends to nominate Annie Caputo of Virginia to be an NRC Commissioner for the remainder of a five-year term expiring June 30, 2021. Caputo currently serves as Senior Policy Advisor for Chairman John Barrasso (R-WY) on the Senate Environment and Public Works Committee. She also held this position for previous Chairman James Inhofe (R-OK) from 2007 to 2012.

From 2005 to 2006 and from 2012 to 2015, Caputo worked for the House Committee on Energy & Commerce handling nuclear energy issues. Prior to working for the Congress, Caputo worked as an Executive Assistant and Congressional Affairs Manager for Exelon Corporation.

Caputo has more than 20 years of experience advising the U.S. House of Representatives and Senate, as well as the nuclear industry, on nuclear energy regulation, policy development, legislation, and communications. Caputo graduated from the University of Wisconsin-Madison with a Bachelor's degree in Nuclear Engineering. Caputo, her husband and two children reside in McLean, Virginia.

Kristine L. Svinicki President Trump also plans to nominate Kristine L. Svinicki of Virginia to be an NRC Commissioner for a five-year term expiring June 30, 2022, as well to designate her as Chair.

Svinicki currently serves as an NRC Commissioner, having been originally confirmed in 2008, re-nominated to a second term in 2012 and designated as the Commission's Chair by President Trump in January of 2017. Prior to being confirmed as an NRC Commissioner, Svinicki served in various staff positions in the U.S. Senate, including as a Professional Staff Member for the Committee on Armed Services, with a concentration on defense science and technology policy and the atomic energy defense activities of the U.S. Departments of Energy (DOE) and Defense (DoD).

Previously, Svinicki worked as a Nuclear Engineer in DOE's Washington headquarters and the Department's Idaho Operations Office. Earlier in her career, she was an Energy Engineer with the State of Wisconsin, Public Service Commission in Madison, Wisconsin.

Svinicki graduated from the University of Michigan and currently resides in Falls Church, Virginia.

David Wright The May 22 press release states that President Trump also plans to nominate David Wright of South Carolina to be an NRC Commissioner for the remainder of a five-year term expiring June 30, 2020.

Wright is currently the President of Wright Directions, LLC—a strategic consulting and communications business in the energy sector. Wright previously served as a Member and Chair of the South Carolina Public Service Commission (SCPSC) from 2004 - 2013. He was elected to serve as President of the National Association of Regulatory Utility Commissioners (NARUC) for 2011 - 2012.

Wright has owned and operated several different businesses, and served as a Councilman, Mayor and a Member of the South Carolina House of Representatives. A colon cancer survivor, Wright is active as an advocate for colon cancer awareness and education and is frequently asked to share his message with groups around the country.

Wright received his Bachelor's Degree from Clemson University. He has four children and three grandchildren and currently resides in Columbia, South Carolina.

Background

Five Commissioners appointed by the President and confirmed by the Senate for five-year terms head the NRC. One of them is designated by the President to be the Chairman and official spokesperson of the Commission.

Overview The Chair is the Principal Executive Officer of and the Official Spokesperson for the NRC. As Principal Executive Officer, the Chair is responsible for conducting the administrative, organizational, long-range planning, budgetary and certain personnel functions of the agency. The Chair has ultimate authority for all NRC functions pertaining to an emergency involving an NRC license. The Chair's actions are governed by the general policies of the Commission.

The Commission operates as a collegial body to formulate policies, develop regulations governing nuclear reactor and nuclear material safety, issue orders to licensees, and adjudicate legal matters.

In addition to Chair Kristine L. Svinicki, the NRC currently has two other Commissioners including Jeff Baran and Stephen G. Burns.

Jeff Baran Jeff Baran was sworn in as an NRC Commissioner on October 14, 2014. He is currently serving the remainder of the term ending on June 30, 2018.

Since joining the Commission, Baran's priorities have included ensuring effective implementation of safety enhancements in response to the Fukushima Daiichi accident, improving oversight of power reactors entering decommissioning, and boosting the openness and transparency of agency decisionmaking. He has visited a number of NRC-licensed facilities, including operating power reactors, a nuclear plant undergoing active decommissioning, a research reactor, fuel cycle facilities, a low-level radioactive waste disposal facility, as well as a variety of facilities using radioactive materials for medical and industrial purposes. Baran also traveled to Fukushima Daiichi for a first-hand look at conditions and activities at the site.

Before serving on the Commission, Baran worked for the U.S. House of Representatives for over 11

years. During his tenure with the Energy and Commerce Committee, oversight of NRC was one of his primary areas of responsibility. As a Senior Counsel and later as Democratic Staff Director for Energy and Environment, Baran worked on a range of NRC issues including new reactor licensing; existing reactor oversight and decommissioning; high-level and low-level radioactive waste; and, uranium mining, milling, and enrichment. He worked to coordinate the efforts of six federal agencies, including the NRC and two Native American tribes, to clean up uranium contamination in and around the Navajo Nation. He also helped negotiate bills related to pipeline safety, energy efficiency, hydropower and medical isotopes that were enacted with bipartisan support. From 2003 - 2008, he was Counsel to the House Oversight and Government Reform Committee. Prior to his work on Capitol Hill, Baran served as a Law Clerk for Judge Lesley Wells of the U.S. District Court for the Northern District of Ohio.

Born and raised in the Chicago area, Baran earned a Bachelor's Degree and a Master's Degree in Political Science from Ohio University. He holds a Law Degree from Harvard Law School.

Stephen G. Burns Stephen G. Burns was sworn in as an NRC Commissioner on November 5, 2014. He is serving a term that ends June 30, 2019.

He served as the 16th Chairman of the NRC from January 1, 2015 through January 23, 2017. As a Commissioner, he continues to be engaged in the work of the agency, and its safety and security mission.

Burns has had a distinguished career as an attorney both within the NRC and internationally. Before returning to the NRC, he was the Head of Legal Affairs of the Nuclear Energy Agency (NEA) of the Organization for Economic Co-operation and Development in Paris. In that position, which he held since April 2012, Burns provided legal advice and support to NEA management, carried out the legal education and publications program of the NEA, and provided advice and secretariat services to the Nuclear Law Committee and to the Contracting Parties to the Paris Convention on Third Party Liability in the Field of Nuclear Energy.

Burns joined the NRC as an Attorney in 1978. Prior to assuming his post at the NEA, he served as General Counsel of the NRC from May 2009 - April 2012 after having served as the NRC's Deputy General Counsel from 1998. He also served as Executive Assistant to former NRC Chairman Kenneth M. Carr.

Burns received a Bachelor's Degree, *Magna Cum Laude,* in 1975 from Colgate University in Hamilton, New York. He received his law degree *with honors* in 1978 from the George Washington University in Washington, D.C., where he was an editor on the George Washington Law Review. Burns received the NRC's Distinguished Service Award in 2001 and the Presidential Meritorious Executive Rank Award in 1998 and 2008.

For additional information related to Commission business, please contact Annette L. Vietti-Cook, Secretary of the Commission, at (301) 415-1969 or at NRCExecSec@nrc.gov. For additional information related to Federal Intergovernmental Matters, please contact Darrell Adams, Congressional/External Affairs Officer, at (301) 415-1776 or at oca_web@nrc.gov.

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- DOE Distribution Center ..... (202) 586-9642
- EPA Information Resources Center ..... (202) 260-5922
- GAO Document Room ..... (202) 512-6000
- Government Printing Office (to order entire *Federal Register* notices) ..... (202) 512-1800
- NRC Public Document Room ..... (202) 634-3273
- Legislative Resource Center (to order U.S. House of Representatives documents) ..... (202) 226-5200
- U.S. Senate Document Room ..... (202) 224-7860

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**

- EPA • (for program information, publications, laws and regulations) ..... **www.epa.gov**

- 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

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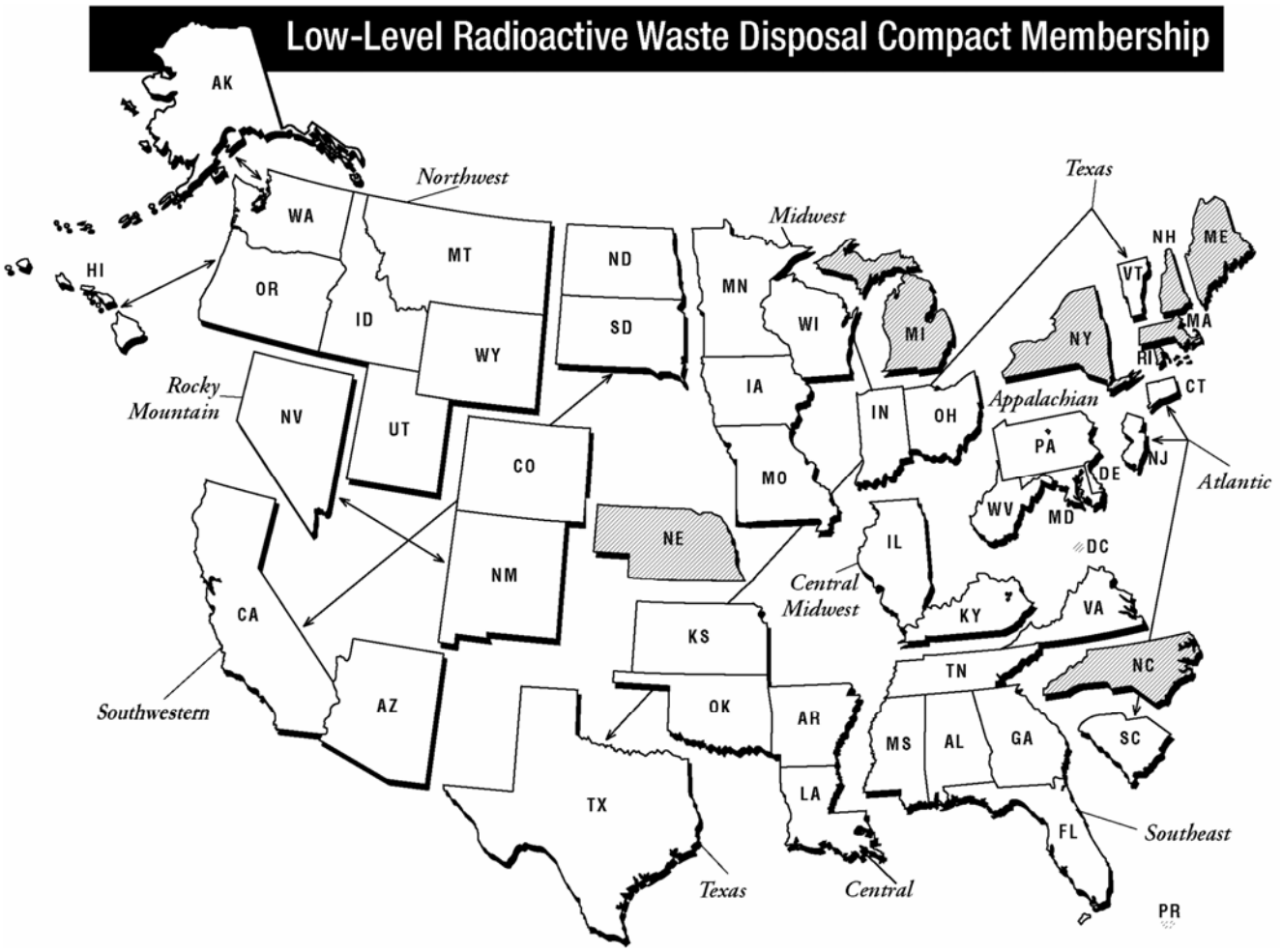

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Atlantic Compact
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Central Compact
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Hawaii
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Montana
Oregon
Utah
Washington
Wyoming

Midwest Compact
Indiana
Iowa
Minnesota
Missouri
Ohio
Wisconsin

Rocky Mountain Compact
Colorado
Nevada
New Mexico

Northwest accepts Rocky Mountain waste as agreed between compacts

Southeast Compact
Alabama
Florida
Georgia
Mississippi
Tennessee
Virginia

Southwestern Compact
Arizona
California
North Dakota
South Dakota

Texas Compact
Texas
Vermont

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