LLW notes

Volume 29 Number 5 September/October 2014

Radiation Source Protection and Security Task Force

Radiation Source Protection and Security Task Force Issues Report

On August 14, 2014, the Radiation Source Protection and Security Task Force delivered its report to the President and Congress. The Task Force, which is required to report every four years, issued its first report in 2006 and its second report in 2010.

The reports detail specific recommendations relating to the security of radioactive sources in the United States from potential terrorist threats including acts of sabotage, theft, or use of a radiation source in a radiological dispersal device (RDD) or radioactive exposure device (RED).

The 2014 Radiation Source Protection and Security Task Force report can be downloaded online at http://www.nrc.gov/security/byproduct/2014-task-force-report.pdf.

Key Challenges and Recommendations

The 2014 Task Force report identifies the following three challenges that require additional attention and has developed the following recommendations to address them:

- Security and Control of Radioactive Sources: The Task Force report states that cybersecurity is one of the most serious economic and security-related challenges facing the U.S. and the world today. Cybersecurity threats are becoming increasingly sophisticated, as evidenced by the number of attacks on industries and facilities each year. The U.S. Nuclear Regulatory Commission (NRC) has used a risk-informed approach to assess cybersecurity vulnerabilities in its regulated community. In this approach, the NRC prioritized, by taking consequences into consideration, implementation of security assessments and has identified effective countermeasures and mitigation measures to protect specific targets or radioactive sources. With regard to

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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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Editors and Writers: Todd D. Lovinger and Cecilia Snyder and Sebastian Christian
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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.

Registration Opens for Spring 2015 LLW Forum Meeting

Hilton Alexandria Old Town
April 20-21, 2015

The Low-Level Radioactive Waste Forum, Inc. is pleased to announce that registration is now open for the spring 2015 meeting, which will be held at the Hilton Alexandria Old Town located in Alexandria, Virginia on April 20-21, 2014.

The meeting is being co-sponsored by the Southeast Compact Commission for Low-Level Radioactive Waste Management and the Central Interstate Low-Level Radioactive Waste Compact Commission.

The meeting documents—including bulletin and registration form—have been posted to the LLW Forum's web site at www.llwforum.org.

Attendance

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

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

Location and Dates

The spring 2015 LLW Forum meeting will be held in Alexandria on Monday, April 20, 2015, from 9:00 am - 5:00 pm, and Tuesday, April 21, 2015, from 9:00 am - 1:00 pm.

The meeting will be held at:

Hilton Alexandria Old Town
1767 King Street
Alexandria, VA 80202
(800) 445-8667

Located in the historic, vibrant King Street neighborhood, the Hilton Alexandria Old Town hotel, renovated in April 2014, is one of the most convenient hotels in Alexandria, Virginia for business and leisure travelers visiting Washington, DC. The hotel is just steps away from the King Street Metro station and close to Reagan National Airport. Downtown Washington, 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 Linda Walters of the Southeast Compact Commission for Low-Level Radioactive Waste Management at the address, e-mail or fax number listed at the bottom of the form.

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

Reservations

Persons who plan to attend the meeting are strongly encouraged to make their hotel reservations and send in their registration forms as

soon as possible, as we have exceeded our block at the last few meetings.

A limited block of hotel rooms has been reserved for Sunday (April 19) and Monday (April 20) for meeting attendees at the special, discounted rate of $199 plus tax per night for the single/double rate ($219 plus tax per night for the triple rate and $239 plus tax per night for the quad rate). The same rates have been extended for three days prior and three days post the meeting dates.

To make a reservation, please call (800) 445-8667. The deadline for reserving a room at the discounted rate is March 20, 2015. *Please ask for the LLW Forum block to get the discount rate.*

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

LLW Forum Holds Fall 2014 LLW Forum Meeting

Denver, Colorado on October 30-31, 2014

The Low-Level Radioactive Waste Forum held its fall 2014 meeting at the Embassy Suites Denver — Downtown Convention Center located in downtown Denver, Colorado on October 30-31, 2014.

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

The agenda included a wide array of topics addressing issues related to low-level radioactive waste management and disposal including but not limited to

- the Waste Isolation Pilot Plant – the path forward for addressing transuranic waste across the DOE complex;
- state and compact perspectives on the NRC's draft proposed rule language re implementing requirements for a site-specific analysis for near-surface disposal (Part 61 rulemaking initiative);
- EPA's revision of the nuclear fuel cycle standards in 40 CFR Part 190;
- waste management decision-making and the state/federal relationship at the Nevada National Security Site;
- regulatory oversight regarding oil and gas operations including the management and disposition of the resultant radiological byprodcuts;
- plans for disposition of depleted uranium in the Army and DOE stockpiles;
- submittal of the report to Congress by the Radiation Source Protection and Security Task Force;
- developing alternative technologies and addressing the shortage and high costs of Type B containers for sealed sources; and,
- issuance of draft final documents for the Continued Storage Rulemaking (formerly known as "Waste Confidence").

The spring 2015 LLW Forum meeting will be held at the Hilton in Old Town Alexandria, Virginia on April 20-21, 2015. (See related story, this issue.)

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

Low-Level Radioactive Waste Forum Meetings

Fall 2014 and Beyond

The following information on future meetings of the Low-Level Radioactive Waste Forum is provided for planning purposes only. Please note that the information is subject to change.

For the most up-to-date information, please see the LLW Forum's web site at www.llwforum.org.

Fall 2014 Meeting

The Midwest Interstate Low-Level Radioactive Waste Compact Commission and the Rocky Mountain Low-Level Radioactive Waste Board recently co-hosted the fall 2014 meeting in Denver, Colorado. The meeting was held at the Embassy Suites Hotel in downtown Denver, Colorado on October 30-31, 2014. (*See related story, this issue)*

Spring 2015 Meeting

The Southeast Compact Commission for Low-Level Radioactive Waste Management and the Central Interstate Low-Level Radioactive Waste Commission have agreed to co-host the spring 2015 meeting. The meeting will be held at the Hilton Alexandria Old Town in Alexandria, Virginia on April 20-21, 2015.

Fall 2015 Meeting

The LLW Forum is currently seeking volunteers to host the fall 2015 meeting and those thereafter. Although it may seem far off, substantial lead-time is needed to locate appropriate facilities.

If your state or compact has not hosted a meeting in the past two years, we ask that you consider doing so. If necessary, we may be able to assist you in finding a co-host.

Non-state and non-compact entities are eligible to co-host LLW Forum meetings, so please let us know if your company or organization is interested in doing so.

Anyone interested in potentially hosting or sponsoring a meeting should contact one of the officers or Todd D. Lovinger, the organization's Executive Director, at (754) 779-7551 or at LLWForumInc@aol.com.

Atlantic Compact/State of New Jersey

Comments Accepted re PSEG Draft Environmental Report

On October 1, 2014, staff from the U.S. Nuclear Regulatory Commission and U.S. Army Corps of Engineers received comments during a meeting in Carneys Point, New Jersey on a Draft Environmental Impact Statement (DEIS) for an Early Site Permit (ESP) application for a site near Salem.

On May 25, 2010, PSEG submitted an application for an ESP for a site adjacent to the Salem and Hope Creek nuclear power plants, which it owns and operates. The site is located in Hancocks Bridge, New Jersey.

Formal comments were only accepted during the meetings, which were held in the theater at Davidow Hall at Salem Community College. NRC and Corps staff hosted informal discussions for one hour prior to the start of each meeting.

An ESP, if approved, allows a company to address site-related issues, including environmental impacts, for the possible future construction and operation of a nuclear power plant at a predetermined site. No specific type of reactor design has to be selected when an ESP application is being pursued and a company is not obligated to proceed with a project should the NRC grant approval. Under an ESP, a company has up to 20 years to decide whether to seek a license from the NRC to build and operate a reactor, or reactors, on the designated site.

As part of its review of the application, the NRC and the Corps' Philadelphia District issued a DEIS for the application on August 22, 2014. The Corps is participating as a cooperating agency in the preparation of the EIS because certain proposed building activities require the Corps' authorization.

The preliminary conclusion is that assessed environmental impacts would not prevent the issuance of an ESP for the project. The NRC staff's conclusion is based on an independent review of an environmental report submitted by PSEG, taking into account consultations with federal, state, tribal and local agencies and comments received during the public scoping process begun in 2010.

The public comment period on the DEIS will be open until November 6, 2014. A copy of the DEIS and more information on the PSEG ESP application are available on the NRC website at www.nrc.gov.

For additional information, please contact Diane Screnci at (610) 337-5330 or Neil Sheehan at (610) 337-5331.

Central Midwest Compact

Central Midwest Compact Commission Holds Fall Meeting

On September 17, 2014, the Central Midwest Interstate Low-Level Radioactive Waste Compact Commission held its fall meeting beginning at 10:00 am CST / 11:00 am EST.

The following items were on the meeting agenda:

- Call to Order
- Adoption or Modification of the Agenda
- Election of Officers
- Adoption of Minutes from the Spring 2014 Meeting
- Executive Session
- First Public Comment Period

- Reports
  - Investment Update
  - Chairman & Host State Report
  - Executive Assistant Report
- Acceptance of Auditor's Report
- Adoption of Fiscal Year Budget
- Acceptance of Annual Report
- Other Business
  - Unfinished Business
  - New Business
- Second Public Comment Period
- Next Scheduled Meeting or Announcement of Special Meeting
- Adjournment

For additional information, please contact Joseph Klinger, Chairman of the Central Midwest Interstate Low-Level Radioactive Waste Compact Commission, at (217) 836-3018 or at cmidwestcompact@yahoo.com.

Northwest Compact/State of Utah

Clive Facility Approvals re Groundwater Permit and Monitoring Plan

In October 2014, the Utah Department of Environmental Quality (DEQ) took three licensing actions regarding Energy*Solutions'* Clive low-level radioactive waste disposal facility in Tooele County, Utah. Specifically, the Director of the Division of Radiation Control (DRC) did the following:

- signed the Energy*Solutions* Groundwater Quality Discharge Permit Renewal, dated October 9, 2014;

- approved, by letter dated October 3, 2014, the Clive Environmental Monitoring Plan; and,

- granted conditional approval of the Construction Quality Assurance/Quality Control (QA/QC) Manual on October 9, 2014, for void remediation of resin waste using Controlled Low Strength Material (CLSM) in the Bulk Waste Facility.

Groundwater Quality Discharge Permit Renewal

The Director signed the Groundwater Quality Discharge Permit Renewal—which is dated October 9, 2014—and published the Public Participation Summary and signed Permit. As of the August 18, 2014 deadline, no member of the pubic requested a hearing regarding changes to Energy*Solutions* Groundwater Discharge Permit and Environmental Monitoring Plan as stipulated in the Public Notice posted on the DRC's webpage and automatic email on August 8, 2014. Therefore, the question and answer session of the public hearing was cancelled. The DRC did hold a public hearing as originally scheduled on September 17, 2014. However, the public hearing was limited to the receipt of oral comments as part of the public comment period.

Environmental Monitoring Plan Approval

The Director approved the Clive Environmental Monitoring Plan—which is dated October 3, 2014—and published the Public Participation Summary and approved Plan. As of the August 18, 2014 deadline, no member of the pubic requested a hearing regarding changes to Energy*Solutions* Groundwater Discharge Permit and Environmental Monitoring Plan as stipulated in the Public Notice posted on the DRC's webpage and automatic email on August 8, 2014. Therefore, the question and answer session of the public hearing was canceled. The DRC did hold a public hearing as originally scheduled on September 17, 2014. However, the public hearing was limited to the receipt of oral comments as part of the public comment period.

Construction QA/QC Manual Approval

In letter dated April 14, 2014, Energy*Solutions* requested changes to the Construction QA/QC Manual regarding infilling of void space in resin filled containers. Based on the DRC review of the proposed revisions, the Director has approved Revision 27a of the Construction QA/QC Manual. The revision allows the use of CLSM to remediate voids in resin containers disposed at the Bulk Waste Facility in the Class A West Embankment.

The final Groundwater Permit, Environmental Monitoring Plan, public participation summaries and the conditional approval letter have been placed on the Utah DEQ web page at http://www.deq.utah.gov/businesses/E/EnSolutions/currentactivities.htm.

For additional information, please contact Rusty Lundberg, Director of the DRC at the Utah DEQ, at (801) 536-4257 or at rlundberg@utah.gov.

Utah Extends Clive Sealed Source Disposal Variance through December 2014

By letter dated September 29, 2014, the Director of the State of Utah's Division of Radiation Control (DRC) approved a request from Energy*Solutions* for an extension to the sealed source disposal variance which was set to expire on September 30, 2014. Energy*Solutions* requested the extension by letter dated September 17, 2014.

The extension authorizes the Clive low-level radioactive waste disposal facility in Toole County, Utah to receive and dispose of Class A sealed sources until December 31, 2014.

The approval letter and the request letter are posted on the DRC's web page at http://www.deq.utah.gov/businesses/E/EnSolutions/currentactivities.htm#ess.

Variance Extension

The basis for granting the extension was on the information DRC has received regarding the remaining shipments of sealed sources that have been or are in the final stages of being collected under the Conference of Radiation Control Program Directors' (CRCPD) Source Collection and Threat Reduction (SCATR) program, and in recognition of the potential need to account for the additional logistical and administrative matters for the final shipment to Clive.

The variance to license condition 16A was extended to and will expire on December 31, 2014. All other previous approval conditions for this variance remain in place and are not suspended or superseded by this approval to extend the expiration date.

Original Variance

In a letter dated April 11, 2012, the Executive Secretary of the State of Utah's Radiation Control Board (RCB) granted a variance to License Condition 16A for the disposal of Class A sealed sources at the Energy*Solution's* low-level radioactive waste disposal facility in Clive, Utah. The variance was issued for a term of one year (365 days) starting from the receipt of the first shipment at the Clive facility, and as long as the commitments and additional conditions outlined below are followed. If any commitment or condition is not followed, the variance shall be suspended or terminated. For disposal of sealed sources beyond the 12 month variance, Energy*Solutions* will need to obtain approval through a license amendment of RML UT2300249.

Commitments In the variance request, Energy*Solutions* proposed certain commitments with which the DRC concurred as amended:

- Each individual source shall not exceed Class A low-level radioactive waste limits as defined in UAC R313-15-1009 (10 CFR 6l). Packages disposed under the variance will also not exceed Class A low-level radioactive waste limits as defined in UAC R3l3-15-1009 (10 CFR 61).

- Energy*Solutions* will not seek NRC approval to import foreign sources and will only manage and dispose of domestic sources.

- Shipments shall be certified in accordance with the Energy*Solutions'* Waste Characterization Plan Exhibit 2. Sources will be packaged in accordance with the U.S. Nuclear Regulatory Commission's (NRC's) 1995 final Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP).

- Sources will be disposed in the Compact Waste Facility (CWF) in accordance with the most currently approved Construction Quality Assurance/Quality Control Manual requirements for CWF disposal and other applicable CWF criteria for disposal.

- Energy*Solutions* will review and approve each shipment before it is transported from the generator's or processor's facility.

- DRC will be notified at least seven (7) calendar days prior to scheduled receipt of the first shipment under the variance.

- The variance will have a term of one year (365 days) from the date the first shipment is received under the variance.

- Energy*Solutions* will track and report the total number, volume, and activity of sources received and the serial numbers or other unique identification number of each source disposed under the variance. A report will be due no later than three (3) months after the variance expiration date.

Additional Conditions After evaluation of Energy*Solutions'* request, the DRC determined to grant the variance to License Condition 16A with the following additional conditions:

- The sealed source or sources must be encased within the disposal containers with grout or concrete.

- Only sealed sources recovered as part of a round-up coordinated by the SCATR Program are authorized for disposal under the variance.

- The half-lives of the isotopes in the sources to be disposed are equal to the half-life of Cs-137 or less.

- The total number of curies shall be limited to 708,678 curies—which is equivalent to l% of the calculated total source term limit of the Class A North Embankment.

Background

Prior to the granting of the April 2012 variance, License Condition l6A prohibited the disposal of sealed sources at the Clive facility. On August 2, 2011, however, Energy*Solutions* submitted to the DRC variance request (CDl l-0216) to RML UT 2300249.

In a meeting on August 18, 2011, Energy*Solutions* presented their request to DRC staff. The request was made in support of NNSA/GTRI, whose OSRP recovers and disposes of certain unused sealed sources from civilian sites. In this regard, OSRP requested that certain sealed sources be authorized for disposal at Energy*Solutions'* Clive, Utah facility.

By letter dated October 13, 2011, the Executive Secretary requested additional information from

the licensee. In particular, Energy*Solutions* was asked to provide information demonstrating that the requested variance complies with all requirements stated in Utah Administrative Code (UAC) R313-25-8(l). By letter dated November 7, 2011, the licensee provided information to address each individual requirement in UAC R3l3-25-8(1).

DRC staff evaluated Energy*Solutions* response and provided the following comments:

- UAC R313-25-8(1)(a): The DRC agrees that sealed sources were considered by NRC when developing radioactive waste classification criteria in 10 CFR 61 and therefore is not a unique waste stream. The variance request complies with this requirement.

- UAC R313-25-8(1)(b): The half-lives of the isotopes in the sources to be disposed is equal to the half-life of Cs-137 or less. Therefore the dose limits will not be reached. The variance request complies with this requirement.

- UAC R3l3-25-8(l)(c): To comply with this requirement, the DRC will allow l% of the calculated total source term limit (which equals 708,678 curies) of the Class A North Embankment CWF Cell which will ensure compliance with the requirement.

- UAC R313-25-8(1)(d): Sealed sources were considered by the NRC in developing l0 CFR 61. Additionally, sealed sources have been evaluated in the NRC's CA BTP. Therefore, the form of the waste (i.e. sealed sources verses bulk waste) does not constitute an unanalyzed condition. The variance request complies with this requirement.

For additional information on the Clive variance, please contact Rusty Lundberg at (801) 535-4257 or at rlundberg@utah.gov or John Lundquist at (801) 536-4250 or at jlundquist@utah.gov.

Utah Proposes Changes to Administrative Rules for Control of Radiation

The Utah Radiation Control Board (Board) recently solicited comments regarding proposed changes to the administrative rules for control of radiation. Comments were accepted through the close of business on October 1, 2014.

During a meeting on August 12, 2014, the Board approved seven rulemaking actions and instructed the Division to initiate the rulemaking process for each action. (See *LLW Notes*, July/August 2014, pp. 8-9.) The seven rulemaking actions propose changes to the following:

- R313-17, *Administrative Procedures*;

- R313-24, *Uranium Mills and Source Material Mill Tailings Disposal Facility Requirements,* regarding public participation procedures for licensing uranium mills and radioactive byproduct material management per 42 U.S.C. §2021(o)(3);

- R313-26, *Generator Site Access Permit Requirements for Accessing Utah Radioactive Waste Disposal Facilities;*

- R313-70, *Payments, Categories and Types of Fees;*

- R313-12-3, *Definitions*;

- R313-22-33, *General Requirements for the Issuance of Specific Licenses;* and,

- R313-25-2, D*efinitions* (NRC RATS ID – 2011-2)

This process included the 30-day public comment period.

For additional information about the rulemakings approved by the Board, please go to http://www.deq.utah.gov/boards/radiationcontrol/docs/08Aug/August2014BoardPacket.pdf.

Information about each rulemaking action filed with the Division of Administrative Rules is available at http://www.deq.utah.gov/NewsNotices/notices/radiationcontrol/rulemaking_actions.htm.

Utah Radiation Control Board Holds October 2014 Meeting

On October 14, 2014, the Utah Radiation Control Board held a regularly scheduled meeting in Salt Lake City, Utah. The meeting, which was open to the public, began at 1:00 p.m. MDT. It was held in Room 1015 (DEQ Board Room) at the Multi Agency State Office Building, which is located at 195 North 1950 West in Salt Lake City, Utah.

The following items, among others, were on the regular Board meeting agenda:

I. Welcome

II. Approval of the Minutes from the August 12, 2014 Board Meeting

III. Administrative Rulemaking

- a. Review of Public Comments
  - i. Proposed changes to R313-26, *Generator Site Access Permit Requirements for Accessing Utah Radioactive Waste Disposal Facilities*
  - ii. Proposed changes to R313-17, *Administrative Procedures;* R313-24, *Uranium Mills and Source Material Mill Tailings Disposal Facility Requirements,* regarding public participation procedures for licensing uranium mills and radioactive byproduct material management per 42 U.S.C. §2021(o)(3)
- b. Approve for Final Adoption
  - i. Proposed changes to R313-70, *Payments, Categories and Types of Fees*
  - ii. Proposed changes to R313-12-3, *Definitions;* R313-22-33, *General Requirements for the Issuance of Specific Licenses;* and, R313-25-2, *Definitions* (NRC RATS ID – 2011-2)
- c. Approve for Rulemaking and Public Comment
  - i. Proposed changes to R313-19, *Requirements of General Applicability to Licensing of Radioactive Material,* and creation of R313-37, *Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material,* (NRC RATS ID – 2013-1)
- d. Petition for Rulemaking
  - i. Aribex petition to amend R313-28, *Use of X-rays in the Healing Arts,* for NOMAD MD and NOMAD 75kV Xray sources

IV. Information Items

- a. Nuclear Regulatory Commission—Activity Update
- b. Uranium Mills
  - i. White Mesa Mill— Energy Fuels Resources—status update
  - ii. Shootaring Canyon Mill—Uranium One / Anfield Resources—request for transfer of control

c. Low-Level Radioactive Waste—Energy*Solutions*

i. Sealed Source Variance—update

ii. Resin*Solutions* (Erwin, TN)—presentation and update

iii. Ground Water Discharge Permit Renewal and Environmental Monitoring Plan Revisions—update

iv. Depleted Uranium Performance Assessment—update

d. Other Items

i. Third Quarter 2014 Activities Report

ii. Introduction of New Staff

V. Public Comment

VI. Next Scheduled Board Meeting:

Monday, November 10, 2014, 1:00 p.m.
Multi Agency State Office Building, Board Conference Room #1015
195 North 1950 West
Salt Lake City, Utah

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 Radiation Control Board meeting agendas can be found at http://www.radiationcontrol.utah.gov/Board/minagd/agenda.pdf.

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

Southwestern Compact

Southwestern Compact Commission Hosts 69th Meeting

On October 3, 2014, the Southwestern Low-Level Radioactive Waste Commission hosted its 69th meeting beginning at 9:00 am PDT at the Hyatt Regency in Sacramento, California.

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

- call to order
- roll call
- welcome and introductions
- statement regarding due notice of meeting
- reports, status and/or activity
  - Commission Chair
  - Executive Director
  - licensing agency
  - license designee
  - party states
- presentation by David Martin, National Nuclear Security Administration/Global Threat Reduction Initiative (NNSA/GTRI)
- exportation actions
  - ratification of approved petitions
  - amend "Policy of the Southwestern Low-Level Radioactive Waste Commission Regarding Exportation of Various Low-Level Radioactive Waste Streams" and extend effective date

  - amend "Requirements for Exportation Petitions for Low-Level Radioactive Waste Disposal" and extend effective date
  - approve new petition forms: Energy*Solutions* and Waste Control Specialists
- discuss status of incompatibility issues
- present financial audit report
- Executive Session pursuant to California Government Code §11126(a)(1) to discuss staff performance evaluations
- review and approve Counsel's contract
- annual Governor's report review—*draft*
- amend fiscal year 2014-15 budget
- approve proposal for fiscal year 2015-16
- present and adopt annual fee schedules
- public comment
- election of officers
- future agenda items
- next meeting date and location
- 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 Compact

Texas Compact Commission Holds September Meeting

On September 25, 2014, the Texas Low-Level Radioactive Waste Disposal Compact Commission (Texas Compact Commission) held a regularly scheduled meeting.

The meeting, which began at 9:30 a.m. CDT, was held in Room E1.028 at the Texas State Capitol located at 1100 Congress Avenue in Austin, Texas.

Meeting 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;
- discussion and potential action on revisions to 31 Texas Administrative Code §675.20, §675.21, §675.22 and §675.23 related to exportation and importation of waste;
- discussion and possible actions associated with the Resource Conservation and Recovery Act (RCRA) Exemption Subcommittee;
- consideration of and possible action on requests for amendments to agreements for importation of low-level radioactive waste from Radiac Environmental Services, Tennessee Valley Authority and Xcel Energy Monticello;
- consideration of and possible action on applications and proposed agreements for importation of low-level radioactive waste from Bionomics, Duke Energy Brunswick and Duke Energy McGuire;

- 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;
- update on activities of the Texas Compact Commission's Fiscal Advisory Committee related to the funding and expenditure of Commission activities for 2014 and 2015 and the development of a Legislative Appropriations Request to fund Commission operations during Texas Fiscal Years 2016 and 2017;
- possible action with respect to the bank account that was opened to receive Vermont's portion of the Texas Compact Commission's operating expenses;
- Chairman's report on Texas Compact Commission activities including reporting on fiscal matters and on other actions to be taken by the compact;
- report from Leigh Ing, Consulting Supervisory Director of the Texas Compact Commission, on her activities and questions related to Commission operations;
- discussion and possible changes of dates and locations of future Texas Compact Commission meetings; and,
- adjourn.

Background

Texas Compact Commission Meetings 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.

Texas Compact Commission meeting agendas may be found on the Commission's website at http://www.tllrwdcc.org/.

Draft Import/Export Rules On July 18, 2014, the Texas Compact Commission announced the availability for public review and comment of working drafts of proposed revisions to 31 Texas Administrative Code (TAC) §675.21, §675.22 and §675.23 related to exportation and importation of waste. (See *LLW Notes*, July/August 2014, p. 12.) Comments received will be reviewed in order to develop rules for proposal in the *Texas Register*.

The working draft rules for comment include redline/strikeout versions in PDF format and clean versions in PDF format. Links are provided to the current rules in the TAC, and clean versions of the revised working drafts are also provided in Word to assist reviewers in developing comments. The working draft rules and associated links can be found at http://www.tllrwdcc.org/rules/.

For additional information, please contact Leigh Ing, Consulting Supervisory Director of the Texas Compact Commission, at (512) 217-8045 or at ing.leigh@gmail.com or Robert Wilson, Chairman of the Texas Compact Commission, at (512) 820-2930 or at bob.wilson@tllrwdcc.org.

Texas Compact/State of Texas

Texas Releases Draft Two-Year Storage Rule for Comment

In early September 2014, the Texas State Department of Health Services (TSDHS) released for public comment draft revisions to both 25 Texas Administrative Code (TAC) §289.251 concerning exemptions, general licenses, and general license acknowledgements and 25 TAC §289.252 concerning licensing of radioactive material.

Among other things, the draft revisions seek to implement a two-year limit on the storage of disused sources for both specific and general licensees.

Public comments on the draft revisions were due by September 29, 2014.

The draft rules, which primarily contain the agency's planned implementation of the new U.S. Nuclear Regulatory Commission (NRC) revisions to Title 10 Code of Federal Regulations (CFR) Part 37 and Part 40, can be found at http://www.dshs.state.tx.us/radiation/draft.shtm.

Specific Licensees in §289.252

Overview The TDSHS has made available for comment draft revisions to 25 TAC §289.252 concerning licensing of radioactive material. Revisions to §289.252 include, but are not limited to, the following:

- To maintain rules compatible with NRC regulations in 10 CFR Parts 37 and 73:

  1. new requirements for the transfer of small quantities of source material are added;

  2. the subsection labeled "Increased Controls" is deleted and replaced with the new physical protection requirements of Category 1 and Category 2 quantities of radioactive material; and,

  3. the equation for the combination of radionuclides unity rule was corrected in rule text and the table.

- Recordkeeping language is revised throughout the section due to the addition of a new records retention table.

- Language is added for holding radioactive waste or sources or devices that are not in use for longer than two years.

- The tables for isotope quantities and quantities of radioactive materials requiring consideration of the need for an emergency plan for responding to a release are replaced due to typographical errors which appeared in the TAC.

- Minor grammatical, typographical, format, rule reference, form changes, and language consistency changes are made throughout the rule.

Draft Language re Two-Year Storage Limit
The draft revisions imposing a two-year storage limit for specific licensees (with the new language underlined) state as follows:

> *(11) Licensees shall not hold radioactive waste, or sources or devices that are not in use, for longer than 2 years following the last principal activity use. Sources and devices kept in standby for future use may be excluded from the 2 year time limit if the Radiation Safety Licensing Branch approves a plan for future use submitted by the licensee. Licensees shall submit plans at least 30 days prior to the end of the 2 years of nonuse.*

General Licensees in §289.251

Overview The TDSHS has made available for comment draft revisions to 25 TAC §289.251 concerning exemptions, general licenses, and general license acknowledgements. Revisions to §289.251 include, but are not limited to, the following:

- To maintain rules compatible with the NRC regulations in 10 CFR Part 40:

  1. an exemption for source material relating to glazed ceramics, tableware and glassware is revised for clarification and the words "manufactured before August 27, 2013," are added;

  2. a reference to certain counterweights containing depleted uranium which are manufactured in accordance with an NRC license is deleted and references to counterweights manufactured under a specific license issued by the Atomic

Energy Commission are added (additional language is revised for clarification);

3. in reference to finished optical lenses under exemptions for source materials, the terms "uranium" and "mirror" are added and the words "manufactured before August 27, 2013" are added;

4. a new exemption is added that restricts a person from initial transfer for sale or distribution of a product containing source material to persons who are exempt under certain regulations;

5. a category for a general license for small quantities of source material is added with the revision of existing language and the addition of requirements under the new category; and,

6. the elements Polonium (84) and Radium (88) are deleted from the exempt concentrations table and the elements Beryllium-7, Radon-222, and Strontium-87m are deleted from the exempt quantities table.

- An exception is added to the exemption of persons who transport and store radioactive material in accordance with a general license.

- Language is added for holding devices that are not in use for longer than two years.

- Minor grammatical, typographical, format, rule reference, and language consistency changes are made throughout the rule.

Draft Language re Two-Year Storage Limit
The draft revisions imposing a two-year storage limit for general licensees (with the new language underlined) state as follows:

(XV) not hold devices that are not in use for longer than 2 [two] years following the last principal activity use.
(-a-) If devices with shutters are not being used, the shutter shall be locked in the closed position. The testing required by clause (iv) of this subparagraph need not be performed during the period of storage only. However, when devices are put back into service or transferred to another person, and have not been tested within the required test interval, they shall be tested for leakage before use or transfer and the shutter tested before use.
(-b-) Devices kept in standby for future use are excluded from the 2-year [two-year] time limit if the Radiation Safety Licensing Branch approves a plan for future use submitted by the licensee. Licensees shall submit plans at least 30 days prior to the end of the 2 years of nonuse.

Public Meeting and Submitting Comments

Public Meeting A public meeting on the draft revisions to both §289.251 and §289.252 was held in conjunction with the Texas Radiation Regulatory Conference to accept oral comments on the draft rules. The meeting—which began at 3:30 pm on Thursday, September 11, 2014—was held at the Double Tree by Hilton at 6505 Interstate Highway 35 North in Austin, Texas. There was no fee for attending the public meeting.

Submitting Comments Comments on draft revisions to both §289.251 and §289.252 should be submitted to Chuck Flynn of the TSDHS at Chuck.Flynn@dshs.state.tx.us. The deadline for submitting comments on both §289.251 and §289.252 was September 29, 2014.

For additional information about the draft rule revisions, please contact Peggy Westlund of the TSDHS at (512) 834-6770, extension 2823, or at Peggy.Westlund@dshs.state.tx.us.

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/Commonwealth of Pennsylvania

Limerick Nuclear Power Plant On September 17, 2014, the U.S. Nuclear Regulatory Commission published its final Supplemental Environmental Impact Statement (SEIS) on the license renewal application for the Limerick nuclear power plant in Pennsylvania. The report contains the NRC staff's conclusion that potential environmental impacts do not preclude renewing the plant's license to operate for an additional 20 years. Limerick is the site of two boiling-water reactors owned and operated by Exelon Generation Co. LLC. The company submitted a license renewal application for the plant on June 22, 2011 to extend the licenses for 20 years beyond the current expiration dates of October 26, 2024 for Unit 1 and June 22, 2029 for Unit 2. The NRC issued a Draft Environmental Impact Statement for public comment in April 2013. The final SEIS includes summaries of comments received and the staff's responses. The final SEIS also draws upon the analysis and findings in the NRC's Generic Environmental Impact Statement on license renewal; the Environmental Report submitted by Exelon; and, consultation with federal, state, tribal and local agencies. The NRC completed its technical review of the license renewal application and published its Safety Evaluation Report in January 2013, with a supplement published in early August 2014. Information about the license renewal process and the Limerick renewal application (including the safety and environmental reports), is available on the NRC website. *For additional information, please contact David McIntyre at (301) 415-8200.*

Atlantic Compact/State of Connecticut

Millstone Nuclear Power Plant On September 15, 2014, a three-member NRC Special Inspection team began evaluating problems affecting a pump that is part of a reactor safety system at the Millstone Unit 3 nuclear power plant. The plant, which is operated by Dominion Nuclear, is located in Waterford, Connecticut. The component of interest is the plant's turbine-driven auxiliary, or back-up, feed-water pump. That pump is one of several that can be used to help cool down the reactor after a shutdown by pumping water into the secondary side of the plant's steam generators. The steam generators are essentially large heat exchangers that convert heat generated by the reactor into steam, which in turn is used to spin the turbine and produce electricity. NRC determined to conduct a Special Inspection following the failure of the turbine-driven auxiliary feed-water pump to pass quarterly surveillance tests on July 15 and September 10. During both tests, the pump started and then unexpectedly stopped. It then restarted without operator intervention and reached rated speed approximately 15 minutes later. The pump has since undergone repairs and been restored to service. Areas reviewed during the Special Inspection included the adequacy and completeness of testing on the pump and causal evaluations of the problems. The results of the Special Inspection will be discussed in a report expected to be issued within 45 days after the completion of the review. The NRC conducted a Special Inspection earlier this year into what appear to be unrelated issues with the same pump. That inspection report was issued on August 28, 2014. *For additional information, please contact*

Diane Screnci at (610) 337-5330 or Neil Sheehan at (610) 337-5331.

Central Interstate Compact/States of Kansas and Louisiana

Wolf Creek Nuclear Power Plant On October 2, 2014, NRC staff met with Wolf Creek Nuclear Operating Corp. (WCNOC) officials to discuss long-standing design issues with the cooling water system at the Wolf Creek nuclear plant, which is located north of Burlington, Kansas. Following the discussion between NRC staff and the licensee, the public was invited to ask questions. The cooling water system draws water from Coffey County Lake, pumps it to plant systems for cooling purposes and then returns it to the lake. The service water does not come into contact with any radioactive steam or water during this process. There has been a long-standing issue with corrosion and pressure surges in system piping and NRC staff wants to hear the licensee's plan to implement design modifications to eliminate the problems. *For additional information, please contact Victor Dricks at (817) 200-1128 or Lara Uselding at (817) 200-1519.*

Chicago Bridge and Iron On September 26, 2014, NRC announced that the agency and Chicago Bridge & Iron (CB&I) have agreed on several enhancements to a 2013 Confirmatory Order on the company's commitments to improve its focus on nuclear safety requirements that affect its work. The settlement, as with the original Confirmatory Order, was reached through the agency's alternative dispute resolution process. The latest action resolves two apparent violations identified by the NRC in a February 2014 letter to CB&I regarding deliberate misconduct during welder qualification training at CB&I's facility in Lake Charles, Louisiana. Through mediation, the company agreed to take several measures to enhance the understanding of NRC requirements and the significance of willful violations for all company employees, including contractors and subcontractors, involved in NRC-regulated activities. These measures include improving quality control and processing for welding products; enhancing new employee training to highlight the errors behind the recent violations; and, enhancing CB&I's nuclear safety culture monitoring program based on lessons from the recent violations. The mediation process also documented how CB&I self-reported some of the issues and promptly fired the employees that committed the violations. NRC inspectors will continue to periodically inspect the company's work practices to ensure that the company properly implements the required actions. The NRC will evaluate any future apparent violations with similar root causes to those described in the Confirmatory Order and will take additional enforcement actions as outlined in the order. *The revised Order is available in the NRC's electronic document database, ADAMS, under accession number ML14248A445. For additional information, please contact Dave McIntyre at (301) 415-8200.*

Midwest Compact/State of Missouri

Metro Cardiovascular Diagnostics On October 2, 2014, NRC staff proposed a $3,500 civil penalty to Metro Cardiovascular Diagnostics—a cardiology practice which is located in Florisstant, Missouri—for violations of its radiation protection procedures and NRC requirements. The violations were identified during a routine NRC inspection and an investigation looking into the handling of radioactive material used for diagnostic medical tests. The NRC staff concluded the company violated NRC safety requirements by failing to properly calibrate and test survey instruments at required intervals; retain records of required training for an employee; annually review the radiation protection program; and, ensure radiation safety activities were performed in accordance with the company's procedures and regulatory requirements. The NRC also identified one willful violation for using a radiation detection meter that was not properly calibrated. The company conducted a wide range of corrective actions to restore compliance and prevent

recurrence of safety violations. The NRC will conduct an inspection to verify that the company's actions to correct the problem are thorough and sustainable. *The NRC's inspection report and the summary of the NRC's investigation are available on the NRC's website. The Notice of Violation is available in the NRC's online document system under accession number ML14275A165. For additional information, please contact Viktoria Mitlyng at (630) 829-9662 or Prema Chandrathil at (630) 829-9663.*

Southeast Compact/State of Tennessee

Nuclear Fuel Services On September 30, 2014, NRC officials held a public meeting in Erwin, Tennessee to provide local residents with information on the agency's inspection and oversight activities at the Nuclear Fuel Services facility. NFS fabricates fuel for the U.S. Navy's nuclear fleet. During the meeting, NRC officials discussed the current status of the facility, the plant's safety culture and the results of an independent NRC sampling of stream and river water downstream from the facility. After a series of presentations, local residents were given an opportunity to ask questions of NRC officials. In addition to the NRC presentations, a representative of the National Academy of Sciences discussed the status of the ongoing study of cancer risks near seven nuclear facilities around the country, including NFS. *For additional information, please contact Roger Hannah at (404) 997-4417 or Joey Ledford at (404) 997-4416.*

Watts Bar Nuclear Power Plant On October 1, 2014, NRC staff held two meetings to discuss the status of the Watts Bar Unit 2 construction project. Watts Bar Unit 2 is being built by the Tennessee Valley Authority near Spring City, Tennessee—approximately 60 miles southwest of Knoxville. TVA also operates Unit 1 at the site. The meetings were held back-to-back and NRC staff was available prior to the meetings for informal discussions with the public. During the first meeting, NRC discussed the project with TVA officials including the project's status, major milestones and potential challenges that could impact the unit's completion schedule. During the second meeting, NRC officials will discuss the status of NRC licensing and inspection activities with members of the public. *For additional information, please contact Roger Hannah at (404) 997-4417 or Joey Ledford at (404) 997-4416.*

State of Nebraska

Fort Calhoun Nuclear Station On September 25, 2014, NRC met with Omaha Public Power District (OPPD) officials to discuss the status of performance improvement activities at the Fort Calhoun nuclear power plant. The plant, operated by OPPD, is located 19 miles north of Omaha, Nebraska. NRC officials answered questions from the public after the business portion of the meeting. The plant remains under increased NRC oversight and the discussion centered on the status of OPPD's improvement initiatives in the engineering and operations performance areas, results of self-assessment activities, and effectiveness of the corrective action process. NRC staff also discussed the results of a recent inspection that looked at actions taken by OPPD to address commitments described in the post-restart Confirmatory Action Letter and specifically the corrective action program. Items described in the post-restart Confirmatory Action Letter must be resolved before the plant would be allowed to return to the NRC's reactor oversight process. The plant restarted on December 18, 2013 after a shutdown of 32 months. *The inspection report is available at ML14261A455. For additional information, please contact Victor Dricks at (817) 200-1128 or Lara Uselding at (817) 200-1519.*

State of North Carolina

Global Nuclear Fuel On October 1, 2014, NRC held a pre-decisional enforcement conference with officials of Global Nuclear Fuel of Wilmington, North Carolina to discuss apparent

violations of the agency's requirements related to the company's failure to maintain items relied on for safety. The meeting was open to the public and NRC officials were available after the meeting to answer any questions. Specifically, the purpose of the meeting was to discuss apparent violations associated with the failure to ensure that equipment designed to prevent a large amount of steam from entering a container in the facility's dry conversion process recycle operation remained available and reliable. In March 2014, Global Nuclear Fuel officials notified the NRC that the company had discovered two items credited with limiting steam from intruding into the container could not perform their intended functions. The company immediately shut down the affected equipment. Although no actual event occurred, the lack of the two safety items could have increased the likelihood of a high consequence event that could have affected workers in the immediate area. No decision on enforcement action was made at the October 1 meeting. Instead, NRC officials will review information presented by Global Nuclear Fuel at the meeting and reach a decision on appropriate regulatory action at a later date. *For additional information, please contact Roger Hannah at (404) 997-4417 or Joey Ledford at (404) 997-4416.*

U.S. Congress / Senate

Two NRC Nominees Approved by Senate

On September 16, 2014, nominations for two new members of the U.S. Nuclear Regulatory Commission were confirmed by the U.S. Senate. The two energy experts were originally nominated to fill open slots for Commissioners at the NRC by President Barack Obama on July 23 2014. (See *LLW Notes*, July/August 2014, p. 25.)

Jeffrey Martin Baran, who served as a Democratic Staff Director for the House Energy and Commerce Committee, was confirmed for the remainder of the term of Commissioner William Magwood that expires on June 30, 2015. Baran has also worked as a lawyer for the House Committee on Oversight and Government Reform. His policy work has touched on NRC oversight, uranium mining cleanup efforts and medical isotope production.

Stephen Burns, who formerly served as General Counsel to the NRC, was confirmed for a five-year term that will expire on June 30, 2019. Burns, who previously worked for the NRC for 33 years, will fill the slot formerly held by NRC Commissioner George Apostolakis.

NRC Commissioner William Magwood stepped down from his position at the Commission on August 21 to assume a new position as Director-General of the Organization for the Paris-based Economic Cooperation and Development's (OECD) Nuclear Energy Agency. (See *LLW Notes*, July/August 2014, pp. 40-41.) NRC Commissioner George Apostolakis left the Commission on June 30, after the White House did not re-nominate him.

U.S. Department of Energy

New Manifest Information Management System (MIMS) Web Site and Data

The U.S. Department of Energy (DOE) has established a new Manifest Information Management System (MIMS) website and is in the process of transitioning data from the old MIMS platform to the new platform. MIMS is a database used to monitor the management of commercial low-level radioactive waste in the United States

The new MIMS website address is http://mims.doe.gov. Users that access the old website address will automatically be directed to the new address.

New Web Site and Data

In reviewing the new website and data, please note the following:

- The new MIMS platform is intended to be more user-friendly and to provide greater flexibility in generating custom reports online.
- Currently, DOE has posted all historical Generator Data and Isotope Data and will post the remaining historical data (i.e., shipment information) over the coming weeks. *All historical data found on the old platform will be transitioned to the new MIMS platform.* When this is complete, DOE will begin posting 2014 data.
- Waste Control Specialists (WCS) and DOE are working together to begin posting WCS disposal facility data.

DOE welcomes feedback from stakeholders on the new reporting platform as the agency completes the posting of historical information and adds new data.

To provide feedback or for additional information and questions, please contact Jamie Joyce of the DOE's Office of Disposal Operations at (301) 903-2151 or at James.Joyce@em.doe.gov.

Background

MIMS was developed in 1986 by DOE in response to provisions in 42 U.S.C. 2021g(a). The low-level radioactive waste information in MIMS is derived from manifests for waste shipments to the three operating commercial disposal facilities—including US Ecology in Richland, Washington; Duratek/Chem-Nuclear in Barnwell, South Carolina; and, Energy*Solutions* in Clive, Utah—as well as one closed disposal facility in Beatty, Nevada. Reports in MIMS contain information on low-level radioactive waste volume, radioactivity, and number of shipments. Based on agreement reached with the disposal site operators during initial development of MIMS, waste generators are not specifically identified, but instead are given a unique code indicating the state of origin. Some shipments include waste from multiple states and/or waste generators which are delivered via brokers or waste processors.

The scope of the data in MIMS is limited to low-level radioactive waste from utilities and industries including waste brokers/processors, academic/research institutions, medical facilities, and government (state and federal outside of DOE). In addition, MIMS has historically provided information on disposal of naturally-occurring radioactive material (NORM) at the US Ecology site.

In June 2004, the Government Accountability Office (GAO) raised concerns in a report (GAO-04-604) regarding the usefulness and reliability of the MIMS data. In December 2004, in response to those concerns, inaccuracies in waste disposed at Energy*Solutions* (formerly Envirocare of Utah)

were identified and resolved. To further address GAO concerns, a new summary table of information is posted outside of MIMS to provide interested users with the volume of other waste disposed at Energy*Solutions* that is not reported in MIMS. The summary table includes the following waste volume data: low-level radioactive waste from DOE, mixed low-level waste (MLLW), NORM, and byproduct material that is also known as 11e.(2).

For additional information, please contact Douglas Tonkay of the DOE's Office of Disposal Operations at (301) 903-7212 or at Douglas.Tonkay@em.doe.gov.

U.S. Nuclear Regulatory Commission

NRC Reorganizes Materials and Waste Programs

On October 6, 2014, the U.S. Nuclear Regulatory Commission announced that the agency has combined its two nuclear materials and waste program offices into one. The action completes a restructuring that was directed by the Commission in July to help the agency position itself to complete its work most effectively in the materials, waste and environmental areas.

Reorganization and Staffing

Effective immediately, programs housed in the Office of Federal and State Materials and Environmental Management Programs (FSME) and the Office of Nuclear Material Safety and Safeguards are merged. The new office will retain the name of the Office of Nuclear Material Safety and Safeguards or NMSS, an office established by Congress when it created the NRC in 1974. The merger reflects changes in the NRC's materials and waste management workload and an effort to integrate regulation of the front and back ends of the nuclear fuel cycle, as well as the agency's goal to reduce costs and improve efficiency.

Catherine Haney has been named Director of the merged organization with Scott Moore as Deputy Director. Senior staff include Laura Dudes, Director of the Division of Materials Safety and State Agreements; Mark Lombard, Director of the Division of Spent Fuel Management; Marissa Bailey, Director of the Division of Fuel Cycle Safety, Safeguards and Environmental Review; Larry Camper, Director of the Division of Decommissioning, Uranium Recovery and Waste Programs; Josephine Piccone, Director of the Yucca Mountain Directorate; and, Andy Imboden, Director of the Program Planning, Budgeting and Program Analysis staff.

Background

NRC's materials and waste programs include many activities such as licensing facilities and devices that use radioactive materials; event assessment; source security; state and tribal programs; intergovernmental liaison and rulemaking; environmental review; waste management; the nuclear fuel cycle from uranium recovery through conversion, enrichment and fabrication; spent fuel storage, radioactive materials transportation; power plant and materials facility decommissioning; and, environmental remediation.

NMSS was split into the two offices in 2006, with FSME focused in part on coordinating with the increasing number of Agreement States that regulate radioactive materials. NMSS was focused on high-level waste management, storage and disposal in preparation for receiving the Yucca Mountain repository application, as well as regulating new fuel cycle facilities. Today, an increasing number of nuclear plants are moving to decommissioning, and the focus is shifting to long-term waste storage and disposal strategies. These functions will now all be housed in NMSS.

"The realignment will help us meet these demands while maintaining our ability to protect public health and safety and the environment," said Mark Satorius, Executive Director for Operations. "We fully expect these changes to make us more efficient and improve our communications both inside and outside of the agency."

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

NRC Chair Allison Macfarlane Announces Decision to Leave Agency

On October 21, 2014, U.S. Nuclear Regulatory Commission Chairman Allison Macfarlane announced that she will leave the NRC to take a position at the George Washington University effective January 1, 2015.

Macfarlane, the 15th person to serve as NRC Chair, was nominated by President Barack Obama to complete the last year of Gregory Jaczko's term as Chair. After the Senate confirmed her, she took over as Chair in July 2012. President Obama nominated her for a second term as Chair and, in June 2013, she was confirmed to a five-year term ending June 30, 2018.

Macfarlane issued the following statement after notifying the NRC senior managers, the NRC staff, members of Congress and others:

> I came to the Commission with the mission of righting the ship after a tumultuous period for the Commission, and ensuring that the agency implemented lessons learned from the tragic accident at Fukushima Daiichi, so that the American people can be confident that such an accident will never take place here. With these key objectives accomplished, I am now returning to academia as Director of the Center for International Science and Technology Policy at George Washington University. At George Washington, I will continue to work on nuclear safety and security and for a better public dialogue on nuclear technology through my teaching and writing as well as by training a new generation of specialists in this area.
>
> It has been a great privilege to serve with the men and women who work for the NRC and public safety with such dedication. I came to the agency as an outsider, but leave with warm feelings for the many friends I have made here. The NRC staff display on a daily basis how seriously they take their responsibility as regulators and I have valued the time I spent with them. I now understand why the Commission is regularly listed as one of the best federal agencies to work for in government.
>
> Under my leadership, we have:
>
> - implemented a number of safety improvements including the addition of protective equipment at reactor sites and at regional centers around the country, seismic and flood protection enhancements at power plants, and progress on hardening venting systems at plants of similar design to those at Fukushima;
> - given priority to effective engagement with the public;
> - heightened attention to the back-end of the fuel cycle, which is of increasing importance as we move to decommission a number of plants;

- met the challenge presented by the court remand of the agency's "waste confidence" rule and the resultant "continued storage" rule;
- consolidated staff on a single campus at White Flint in Rockville, Maryland, thus improving the agency's internal communications and efficiency;
- implemented an agency-wide review to improve effectiveness and efficiency and oversaw the transition to a new generation of senior management leaders at the agency;
- renewed focus on relationships with nuclear regulators in other countries, in part through my chairing of the Multinational Design Evaluation Program, and my membership on the International Nuclear Regulator's Association, as well as numerous bilateral relationships; and,
- enhanced interagency relations by chairing the Interagency Task Force on Radioactive Source Security and the Cybersecurity Forum for Independent and Executive Branch Regulators.

I have notified the White House of my decision to leave the NRC effective January 1. I am honored that the President placed his trust in me and consider it a great privilege to serve my country in this role. To the men and women of the NRC, I say: I could not have done this job without your dedication and commitment to the agency's safety and security mission. Together, we have accomplished much, and I feel very confident about the agency's future.

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

Jeff Baran Sworn in as NRC Commissioner

On October 14, 2014, Jeff Baran was sworn in as a Commissioner at the U.S. Nuclear Regulatory Commission. Baran was nominated by President Barack Obama and confirmed by the U.S. Senate to serve the remainder of the term vacated by William Magwood IV that is scheduled to end on June 30, 2015. (See *LLW Notes*, July/August 2014, pp. 40-41.)

Magwood stepped down from his position at NRC on August 31, 2014. The following day, he assumed his new position as the Director-General of the Organization for Economic Cooperation and Development's (OECD) Nuclear Energy Agency (NEA). (See *LLW Notes*, July/August 2014, pp. 40-41.)

NRC Comments

Baran took the oath of office in the Commission hearing room from Chair Allison Macfarlane. "We're pleased to welcome Jeff to the Commission and look forward to benefitting from his energy and commitment to safety," said Macfarlene. "We have substantial work ahead of us and I am confident that Jeff will make a valuable contribution to our mission."

"NRC's nuclear safety mission has never been more important," said Baran, who became the 34th individual to serve on the Commission since its inception in 1975. "I look forward to working with my colleagues and the NRC staff to advance the agency's vital mission."

Background

The NRC has five members, one of which is designated by the President as Chair. Commissioners formulate policies, develop regulations, issue orders to licensees and adjudicate legal matters. Members serve five-

year terms, with one term expiring every year on June 30. No more than three Commissioners may be of the same political party.

Baran comes to the NRC from the U.S. House of Representatives Committee on Energy and Commerce, where he most recently served as Staff Director for Energy and Environment. He previously served as Senior Counsel to the Committee. During his tenure with Energy and Commerce, oversight of NRC was one of his primary areas of responsibility. From 2003 to 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.

Baran received a B.A. and M.A. from Ohio University and a J.D. from Harvard Law School.

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

Final Rule and GEIS Released re Continued Storage of Spent Nuclear Fuel

On September 20, 2014, the U.S. Nuclear Regulatory Commission (NRC) published the final rule, "Continued Storage of Spent Nuclear Fuel" (RIN 3150-AJ20; NRC-2012-0246). Ten days earlier, on September 10, 2014, NRC published NUREG-2157, "Generic Environmental Impact Statement [GEIS] for Continued Storage of Spent Nuclear Fuel," which provides a regulatory basis for the final rule and addresses the environmental impacts of continued storage of spent nuclear fuel beyond the licensed life for operations of a commercial nuclear reactor.

NRC approved the final rule on the environmental effects of continued storage of spent nuclear fuel on August 26, 2014. (See *LLW Notes*, July/August 2014, pp. 39-40.) On the same date, NRC announced that the agency will lift its suspension of final licensing actions on nuclear power plant licenses and renewals once the rule becomes effective.

The final rule and GEIS were renamed from "waste confidence" to "continued storage of spent nuclear fuel." The name was changed in response to near-unanimous public comment to more accurately reflect the nature and content of the rule.

Overview and Analysis

The continued storage rule adopts the findings of the GEIS regarding the environmental impacts of storing spent fuel at any reactor site after the reactor's licensed period of operations. As a result, those generic impacts do not need to be re-analyzed in the environmental reviews for individual licenses. The GEIS analyzes the environmental impact of storing spent fuel beyond the licensed operating life of reactors over three time frames: for 60 years (short-term), 100 years after the short-term scenario (long-term) and indefinitely.

The GEIS analyzes impacts across a number of resource areas throughout each time frame. Areas examined include land use, air and water quality, and historic and cultural resources. It also contains the NRC's analysis of spent fuel pool leaks and fires.

The rule does not authorize, license or otherwise permit nuclear power plant licensees to store spent fuel for any length of time.

In a separate Order on August 26, 2014, the Commission approved lifting the suspensions and provided direction on the resolution of related contentions in 21 adjudications before the Commission and the Atomic Safety and Licensing Boards. The Order authorizes the NRC staff to issue final licensing decisions as appropriate once

the final rule becomes effective, 30 days after publication in the *Federal Register*.

Publication of Documents

Final GEIS Published in two volumes, NUREG-2157 is available in the NRC's Agency-wide Documents Access and Management System (ADAMS):

- NUREG-2157, Vol. 1 (Accession No. ML14196A105) http://pbadupws.nrc.gov/docs/ML1419/ML14196A105.pdf

- NUREG-2157, Vol. 2 (Accession No. ML14196A107) http://pbadupws.nrc.gov/docs/ML1419/ML14196A107.pdf

NUREG-2157 can also be accessed on the NRC's website at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/.

Final Rule The final rule is available in the ADAMS under Accession No. ML14262A011 at http://pbadupws.nrc.gov/docs/ML1426/ML14262A011.pdf.

The final rule is also available on the *Federal Register* website at https://www.federalregister.gov/articles/2014/09/19/2014-22215/continued-storage-of-spent-nuclear-fuel.

Background

The Commission's action signals the end of a two-year effort to satisfy a remand by the U.S. Court of Appeals for the District of Columbia Circuit. In June 2012, the court struck down the NRC's 2010 revision of its "waste confidence" rule. The court directed the agency to consider the possibility that a geologic repository for permanent disposal of spent fuel might never be built and to do further analysis of spent fuel pool leaks and fires. In August 2012, the Commission responded by suspending final licensing decisions on new reactors, reactor license renewals and spent fuel storage facility renewals. The Commission subsequently directed the staff to develop a new rule and a supporting GEIS within 24 months. (See *LLW Notes*, July/August 2012, pp. 34-35.)

A proposed rule and draft GEIS were published in September 2013, with a public comment period of 98 days. (See *LLW Notes*, September/October 2013, pp. 36-37.) The staff conducted 13 public meetings across the country during that period to present the proposed rule and draft GEIS and receive public comments. Appendix D of the final GEIS contains summaries of the comments received and the NRC responses.

More information about the final rule and GEIS is available on the NRC website at www.nrc.gov. The Commissioners' individual vote records and comments on the final rule and GEIS will be posted at http://www.nrc.gov/reading-rm/doc-collections/commission/cvr/2014/ (reference SECY-14-0072), and the Memorandum and Order lifting the licensing suspensions and providing direction on the resolution of related adjudicatory contentions will be posted at http://www.nrc.gov/reading-rm/doc-collections/commission/orders/2014/.

For additional information regarding the final rule and NUREG-2157, or to request a hardcopy of the documents, please contact Sarah Lopas of the NRC at (301) 287-0675 or at Sarah.Lopas@nrc.gov.

GE-Hitachi New Reactor Design Certified by NRC

On September 16, 2014, the U.S. Nuclear Regulatory Commission approved a rule to certify GE-Hitachi Nuclear Energy's Economic Simplified Boiling-Water Reactor (ESBWR) design for use in the United States. The rule will go into effect 30 days after its publication in the *Federal Register*.

Overview and Analysis

The design certification process provides for early public participation and resolution of safety issues for proposed reactor designs. NRC certification, in the form of the September 16 final rule, means that the ESBWR meets the agency's applicable safety requirements. If an applicant for a nuclear power plant license references a certified design, the applicant need not submit safety information for the design. Instead, the license application and the NRC's safety review would address the remaining site-specific safety issues for the proposed nuclear power plant.

The certified design is fully described in a "design control document," which is approved (incorporated by reference) in the design certification rule. In March 2011, the NRC conducted an extensive technical evaluation of the design and issued a safety evaluation report. The certification rule notice includes discussion of both public comments on a March 2011 proposed rule, as well as information in petitions submitted to the NRC after the Fukushima nuclear accident in Japan.

The NRC supplemented the draft certification rule in May 2014 to account for changes in analysis of the design's steam dryer, which prevents excess moisture from damaging a nuclear power plant's electricity-generating turbine. NRC reviewers asked for additional steam dryer information from GE-Hitachi between 2011 and 2013. The staff's examination of that information led to the supplement, which also formally incorporated several dozen reference documents as requirements in the draft certification rule. The NRC received no comments on the supplemental rule.

Background

GE-Hitachi Nuclear Energy submitted its application for ESBWR certification on August 24, 2005. The ESBWR is a 1,594 megawatt electric, natural circulation reactor. The design includes passive safety features that would cool down the reactor after an accident without the need for human intervention. These passive features include:

- enhanced natural circulation via a taller reactor vessel, a shorter core and improved water flow through the vessel;
- an isolation condenser system to control water levels and remove decay heat while the reactor is pressurized, and;
- a gravity-driven cooling system to maintain water levels when the reactor pressure has dropped.

The NRC is currently reviewing two Combined License applications referencing the GE-Hitachi design. Detroit Edison Company is seeking a license for Fermi Unit 3 in Monroe County, Michigan and Dominion is seeking a license for North Anna Unit 3 in Louisa County, Virginia.

The NRC has certified four other standard reactor designs: the Advanced Boiling Water Reactor, System 80+, AP600, and AP1000.

Additional information about the ESBWR design review can be found on the NRC's website at www.nrc.gov or by contacting Scott Burnell of the NRC at (301) 415-8200.

NRC Issues Strategic Plan

On September 9, 2014, the U.S. Nuclear Regulatory Commission issued a new Strategic Plan covering Fiscal Years 2014-2018. The document provides a blueprint for the agency to plan, implement and monitor the work needed to achieve the NRC's mission for the next four years.

The NRC's mission is to license and regulate the civilian use of radioactive materials to protect public health and safety, promote the common defense and security, and protect the environment. To accomplish this mission, the agency set two strategic goals: to ensure the safe use and to ensure the secure use of radioactive materials. The mission and strategic goals have been revised to highlight the agency's focus on the safe and secure use of radioactive materials.

To reflect principles of good regulation, the plan includes a new vision statement—a trusted, independent, transparent and effective nuclear regulator. It also sets new strategic objectives that describe what is needed to achieve the agency's strategic goals.

To meet the strategic objectives, the plan describes strategies that reflect how the agency will respond to new challenges affecting nuclear regulations. These challenges include processing license applications for new technologies such as small modular reactors and continuing to implement enhancements to improve reactor safety based on insight from the 2011 nuclear accident at Fukushima Dai-ichi.

The NRC issued its first Strategic Plan in September 1997 and is now required to update it every four years. The new Strategic Plan replaces the agency's existing plan (FY 2008-2013). It is available on the NRC's website along with a summary of how the final plan addresses comments received from the public on the draft.

The current and historical strategic plans can be found on the NRC's website at www.nrc.gov. For additional information, please contact Maureen Conley of the NRC at (301) 415-8200.

NRC Staff Issues Volume 3 of Yucca Mountain Safety Evaluation Report

On October 16, 2014, the U.S. Nuclear Regulatory Commission published Volume 3 of its Safety Evaluation Report on the proposed underground geologic nuclear waste repository at Yucca Mountain, Nevada.

NUREG 1949, Safety Evaluation Report Related to Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada, Volume 3, is now publicly available in the NRC's ADAMS online database as ML14288A121.

Additional information on the Yucca Mountain licensing process is available on the NRC website at www.nrc.gov.

Publication of Volume 3

Volume 3 covers the period after a repository at Yucca Mountain would be permanently closed should NRC authorize construction following completion of the remaining steps in the licensing process. Volume 3 contains the staff's finding that the U.S. Department of Energy's repository design meets the requirements that apply after the repository is permanently closed, including but not limited to the post-closure performance objectives in NRC's regulations contained in 10 CFR Part 63, Subpart E. These performance objectives include the requirement that the repository be composed of multiple barriers to isolate radioactivity from the environment. The staff also found the proposed repository design

meets the NRC's limits or standards as found in 10 CFR Part 63, Subpart L for individual protection, human intrusion and groundwater protection.

Background

The U.S. Department of Energy submitted its Yucca Mountain application in June 2008. The NRC staff published Volume 1 (General Information) of the Safety Evaluation Report in August 2010. After DOE moved to withdraw the application and Congress stopped appropriating funds for the NRC's review, the agency closed out its application review and published three technical evaluation reports containing the staff's technical analyses to that point but no regulatory conclusions. The adjudication of nearly 300 contentions filed by various parties contesting the application was also suspended in September 2011.

The U.S. Court of Appeals for the District of Columbia Circuit ordered the NRC in August 2013 to resume the licensing process using currently available funding appropriated from the Nuclear Waste Fund. That court order led to publication of Volume 3. The staff expects to publish Volume 2 (Repository Safety Before Permanent Closure), Volume 4 (Administrative and Programmatic Requirements) and Volume 5 (License Specifications) by January 2015, as they are completed.

Path Forward/Next Steps

Publication of Volume 3 does not signal whether the NRC might authorize construction of the repository. A final licensing decision, should funds beyond those currently available be appropriated, could come only after completion of the Safety Evaluation Report, a supplement to DOE's Environmental Impact Statement, hearings on contentions in the adjudication, and Commission review.

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

(Continued from page 1)

Category 1 and 2 quantities of radioactive sources, current protective measures focus primarily on access control, detection, assessment, and response to unauthorized access events and work is ongoing to assess specific cybersecurity vulnerabilities. The cybersecurity landscape for Category 1 and 2 radioactive source licensees varies greatly due to the diversity of operating environments. An NRC-led working group, including Agreement State representation, was formed in 2013 to examine the potential threats to information systems of Category 1 and 2 radioactive material licensees' facilities and control systems. To further address this challenge, the Task Force recommends that U.S. Government agencies assess the adequacy of and coordinate strategies for preventing and mitigating cybersecurity vulnerabilities related to Category 1 and 2 radioactive sources. In addition, the Task Force will continue to work on recommendations contained in the 2006 and 2010 reports that propose that (1) the U.S. Government agencies should reevaluate their protection and mitigation strategies to protect against significant RDD and RED attacks using both potential severe, immediate or short-term exposure and contamination consequences to public health, safety, and the environment as the consequences of concern; (2) a Transport Security Memorandum of Understanding (MOU) be developed to serve as the foundation for cooperation in the establishment of a comprehensive and consistent transport security program for risk-significant sources; and, (3) the U.S. Government should encourage suppliers to provide arrangements for the return of disused sources and examine means to reduce regulatory impediments that currently make this option unavailable.

- Recovery and Disposition of Radioactive Sealed Sources: Despite the development of new disposal capacity for radioactive sealed

sources since 2010, the Task Force concludes that challenges remain. Commercial disposal options are still unavailable for many Category 1 and 2 sources. In addition, the availability of certified Type B containers necessary for the transport of many of these disused sources is limited. The design, testing, construction, and certification of new transportation containers is a lengthy and expensive process. Low-level radioactive waste generators currently lack significant incentive to dispose of sealed source waste rather than keeping the waste in storage. Disposal capability for Greater-Than-Class C (GTCC) low-level radioactive waste still does not exist. The U.S. Department of Energy (DOE) continues to work on a final Environmental Impact Statement (EIS) for the disposal of such waste. The Task Force recommends that the NRC evaluate the need for sealed source licensees to address the eventual disposition/disposal costs of Category 1 and 2 radioactive sources through source disposition/disposal financial planning or other mechanisms. Disposition costs should include the cost of packaging, transport, and disposal (when available) of these sources. The Task Force has completed two recommendations in the area of recovery and disposition of radioactive sealed sources and continues to work on recommendations and actions that propose that (1) the U.S. Government support short and long-term research and development of certified Type B containers for use in domestic and international source recovery efforts; (2) the U.S. Government and states continue to evaluate waste disposal options for disused radioactive sealed sources; (3) DOE continues its ongoing efforts to develop disposal capability for GTCC low-level radioactive waste, subject to required Congressional action; and, (4) federal and state governments investigate options such as providing short-term secured storage of sources recovered from U.S. owners that contain foreign-origin americium-241 radioactive material so these sources can be recovered now and increase efforts to investigate options for disposal of these sources.

- Alternative Technologies: While there have been advancements in the development and application of alternative technologies for several common sealed source devices since 2010, the Task Force determined that challenges in widespread application of alternative technologies remain. For example, blood irradiators using x-ray technologies instead of Category 1 and 2 radioactive sources are now commercially available in both domestic and international markets. Nonetheless, replacement of sealed sources with non-radioactive technologies continues on a case-by-case basis and the process is challenged by a lack of awareness by users, the often higher cost of new technologies and efficacy of replacement technologies. As efforts to develop and promote effective replacement technologies continue, the Task Force believes that federal, state, and private sector organizations could play an important role in addressing the challenges that are hindering progress and setting an example for others to follow. In particular, the Task Force recommends that the U.S. Government, as appropriate, investigate options such as voluntary, prioritized, incentivized, programs for the replacement of Category 1 and 2 radioactive sources with effective alternatives. The Task Force further recommends that U.S. Government agencies, where appropriate, lead by example in the consideration of and transition to alternative technologies that meet technical, operational, and cost requirements. The Task Force has completed two earlier recommendations related to alternative technologies and continues to work on a recommendation that proposes that the U.S. Government enhance support for short-term and long-term research and development for alternative technologies. The Task Force's previous recommendations that focused on the replacement of cesium

chloride (CsCl) radioactive sources with alternatives are now considered complete with the publication of the "Policy Statement of the U.S. Nuclear Regulatory Commission on the Protection of Cesium-137 Chloride Sources" on July 25, 2011. The policy statement sets forth NRC's policy on the secure use of sealed sources containing CsCl. It states that the NRC recognizes that near-term replacement of devices or CsCl sources in existing blood, research, and calibration irradiators is not practicable or necessary due to implementation of the additional security requirements and lack of a disposal capacity. In the event that changes in the threat environment necessitate regulatory action, the NRC, in partnership with the Agreement States, will be ready to issue additional security requirements to apply appropriate limitations for the use of CsCl, as necessary.

For the most part, the report reflects a consensus position from the Task Force. However, some Task Force member agencies differed on some limited text in the report, principally as a reflection of the variation in the missions of the agencies represented on the Task Force. The most notable difference is in the area of non-radioactive technologies as replacements for sealed sources. Several member agencies believe that public perception and cost represent the major challenges to a wider acceptance of alternative non-radioactive technologies. However, the NRC has concluded through its public policy-making process that, in addition to the often higher cost of new technologies, the comparable efficacy of these replacement technologies has not yet been demonstrated.

Key Accomplishments

In the 2014 report, the Task Force identifies the following key accomplishments that have been made in the area of radioactive source security since the issuance of its 2010 report:

- Expanded Disposal Capacity: Disposal options for many commercial Class A, B, and C sealed sources are now available to low-level radioactive waste generators in all 50 states. Progress has been made in addressing ongoing challenges regarding the transportation of sealed sources that exceeds current commercial disposal activity limits. These efforts include public and private sector engagement on the revision of NRC guidance regarding commercial disposal of sealed sources, development of new transportation containers to facilitate the recovery of high-activity sources and devices, and progress toward a final EIS for the disposal of GTCC low-level radioactive waste.

- Increased Physical Protection: In March 2013, the NRC published a final rule in the *Federal Register* in which security requirements for the use and transport of Category 1 and 2 quantities of radioactive material were incorporated in a new 10 CFR Part 37 titled "Physical Protection of Byproduct Material." The rule sets revised requirements for background investigations; access controls; security plans; immediate detection, assessment, and response to unauthorized access; tracking of shipments; security barriers; and other requirements. All NRC licensees subject to the rule were required to comply with the final rule by March 19, 2014, and the Agreement States are required to adopt compatible requirements by March 19, 2016. Additionally, the DOE's National Nuclear Security Administration (NNSA) continues to provide voluntary security enhancements and specialized training to holders of such sources through its Global Threat Reduction Initiative (GTRI) at sites that use Category 1 and 2 radioactive sources.

- Enhanced Tracking and Accounting: In August 2012 and May 2013, the NRC deployed two key software systems—the Web-Based Licensing System (WBL) and the

License Verification System (LVS). The WBL supports the entry of licensing information that enables the NRC and Agreement States to manage the licensing life cycle from initial application through license issuance, amendment, reporting, and termination. In addition to its use by the NRC, the WBL can be used as a licensing system by those Agreement States that choose to use it. The LVS is a web-based system designed to enable licensed users to electronically verify the validity of a license issued by the NRC or an Agreement State. Any licensee transferring Category 1 or 2 quantities of radioactive sources to another licensee, prior to conducting such transfer, must verify with the LVS or verify with the applicable regulatory agency that the transferee's license authorizes the receipt of the type, form, and quantity of radioactive material to be transferred. The WBL and the LVS, along with the National Source Tracking System that was deployed in 2009, are the three key systems that make up the Integrated Source Management Portfolio, which support the Radioactive Materials Security Program and related radioactive materials licensing and tracking activities of the NRC.

- Increased Preparedness and Communication: Significant strides were made in public education efforts and coordination amongst the federal, state, and Tribal Government organizations in the area of radioactive source security. For example, one of the seven projects within the Public Education Action Plan developed by the interagency Public Education Steering Committee for the 2010 Task Force report was completed in 2013 and can serve as a foundation for a guide for communicating with the public following RDD events. This would complete a triad of communications guides for radiological and nuclear events: nuclear power plant accidents, improvised nuclear devices, and RDDs.

- Improved Transportation Security Coordination: In 2014, a final draft of the Transport Security MOU between the NRC, the U.S. Department of Homeland Security, and the U.S. Department of Transportation (DOT) was completed and signature is expected later this year. The MOU serves as a foundation for cooperation in the establishment of a comprehensive and consistent transport security program for risk-significant sources. It aims to ensure that the transportation of radioactive sources in the U.S. and across U.S. borders is carried out in a manner that protects the public health and safety and does not impact the common defense and security of the United States. The MOU addresses, among other things, issues relating to risk assessments, strategic planning, inspections and enforcement, technical support, coordination during an emergency response, information sharing, background investigations, and cooperative research programs.

- Heightened International Activity and Visibility: At the 2012 and 2014 Nuclear Security Summits, held in Seoul and the Hague, respectively, the security of radioactive sources received high-level attention. In particular, the U.S. sponsored a Joint Statement at the 2014 Summit that was signed by 22 other countries that expresses the countries' intent to secure Category 1 sources within their territories by 2016. In addition, the U.S. continued to support International Atomic Energy Agency (IAEA) efforts to encourage nations to make a political commitment to work toward following the guidance in the Code of Conduct. To date, 122 nations have made this political commitment, marking an increase of 22 nations since 2010. The U.S. also took an active role in assisting the IAEA with organizing the 2013 *International Conference on the Safety and Security of Radioactive Sources: Maintaining Continuous Control Throughout the Lifecycle* in Abu Dhabi,

United Arab Emirates. Furthermore, the U.S. was instrumental in periodically convening the 10-member *ad hoc* group of countries that are major suppliers of radioactive sources to continue a dialogue on ways to improve implementation of export controls for radioactive sources and develop best practices for the repatriation of legacy sources.

Background

Section 651(d) of the Energy Policy Act of 2005 (Public Law 109-58) charges the Task Force with

- evaluating and providing recommendations relating to the security of radiation sources in the United States from potential terrorist threats, including acts of sabotage, theft, or diversion for use in a radiological dispersal device; and,

- providing, within one year of enactment of the Act and not less than every four years thereafter, reports to the President and Congress, with recommendations, including recommendations for appropriate regulatory and legislative changes.

The Task Force is chaired by the U.S. Nuclear Regulatory Commission (NRC) and includes members from 14 federal agencies and the Organization of Agreement States (OAS), which represents all state governments that regulate the use of radiation sources.

In September 2011, at the request of the NNSA/ GTRI, the Low-Level Radioactive Waste Forum (LLW Forum) Forum formed the Disused Sources Working Group (DSWG). The working group, which was comprised of eight Directors of the LLW Forum, solicited input from a broad range of stakeholders at 19 meetings over a 30-month period. In March 2014, the DSWG released its report identifying findings and recommendations related to the management and disposition of disused sealed sources that pose a threat to national security.

A PDF copy of the Low-Level Radioactive Waste Forum's Disused Sources Working Group report may be downloaded and printed from the organization's web site at www.llwforum.org or the National Directory of Brokers and Processors web site at www.bpdirectory.com.

Background information on the Radiation Source Protection and Security Task Force report, as well as links to the 2006 and 2010 reports, can be found on the NRC's web site at http:// www.nrc.gov/security/byproduct/task-force.html.

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

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

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- 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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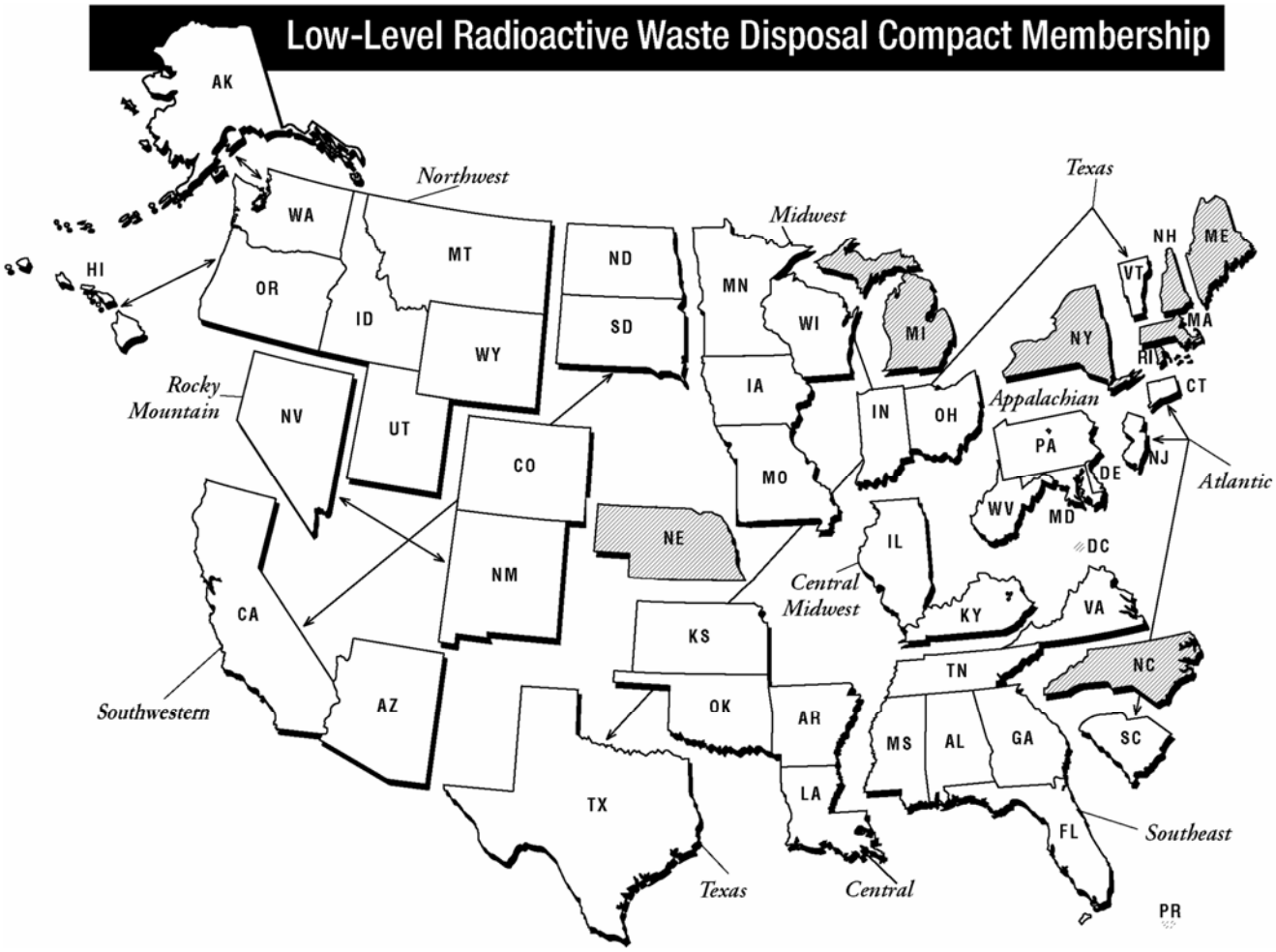

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Wisconsin

Rocky Mountain Compact
Colorado
Nevada
New Mexico

Northwest accepts Rocky Mountain waste as agreed between compacts

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Georgia
Mississippi
Tennessee
Virginia

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