

# LLW *notes*

Volume 30 Number 5 September/October 2015

*U.S. House of Representatives, Committee on Energy and Commerce, Subcommittee on Environment and the Economy*

## Congressional Subcommittee Holds Hearing to Examine LLW Disposal Issues

On October 28, 2015, the U.S. House of Representatives, Committee on Energy and Commerce, Subcommittee on Environment and the Economy, conducted a hearing entitled, "Update on Low-Level Radioactive Waste Disposal Issues."

The hearing, which was a continuation of the examination of nuclear material management from the prior month's hearing on the transportation of nuclear materials, began at 10:15 a.m. in Room 2322 of the Rayburn House Office Building.

*The hearing webcast is available at <http://energycommerce.house.gov/>.*

### **Witness List**

The witness list for the Subcommittee hearing was as follows:

#### Panel I

- ◆ Mark Whitney, Principal Deputy Assistant Secretary for Environmental Management, U.S. Department of Energy; and,

- ◆ Michael Weber, Deputy Executive Director of Operations for Materials, Waste, Research, State, and Compliance Programs, U.S. Nuclear Regulatory Commission.

#### Panel II

- ◆ Jennifer Opila, Director, Organization of Agreement States (OAS);
- ◆ Leigh Ing, Executive Director, Texas Low Level Radioactive Waste Disposal Compact Commission; and,
- ◆ Chuck Smith, Council Member, Aiken County, South Carolina, Chairman, Energy Communities Alliance.

*(Continued on page 26)*

### **In This Issue**

- Disused Sources Working Group Submits Comments re Byproduct Material Financial Scoping Study—page 5
- Operating License Issued for Watts Bar Unit 2: First New Reactor Authorization in Almost 20 Years—page 20
- Entergy Announces Plans to Shut Down Pilgrim Nuclear Power Plant—page 24
- News Brief for Nuclear Power Plants Across the Country—page 28

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

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# Low-Level Radioactive Waste Forum, Inc.

## LLW Notes

Volume 30, Number 5 September/October 2015

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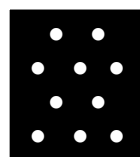
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## Table of Contents

Congress (Cover Story) .....	1
Congressional Subcommittee Holds Hearing to Examine LLW Disposal Issues .....	1
<b>Low-Level Radioactive Waste Forum, Inc</b> .....	<b>4</b>
LLW Forum Holds Fall 2015 Meeting in Chicago .....	4
DSWG Submits Comments re Byproduct Material Financial Scoping Study .....	5
DSWG Meets and Participates in Fall 2015 LLW Forum Meeting .....	13
P61WG Participates in Panel at Fall 2015 LLW Forum Meeting .....	14
<b>States and Compacts</b> .....	<b>16</b>
Corrective Actions Instituted at Millstone Nuclear Plant .....	16
Safety Review Completed for Early Site Permit for New Jersey Location .....	18
Confirmatory Action Letter Issued to International Isotopes .....	18
Rocky Mountain Low-Level Radioactive Waste Board Meets in October 2015 .....	19
Southeast Compact Commission Holds Annual Meeting in October 2015 .....	20
Operating License Issued for Watts Bar Unit 2 .....	20
Southwestern Compact Commission Hosts 71st Meeting .....	21
Texas Compact Commission Holds October 2015 Meeting .....	23
Safety Review for Proposed New Reactors at South Texas Project Site .....	24
Entergy Announces Plans to Shut Down Pilgrim Nuclear Power Plant .....	24
<b>Industry</b> .....	<b>28</b>
News Briefs for Nuclear Power Plants Across the Country .....	28
Mid-Cycle Assessments Issued for Nation's Nuclear Plants .....	32
<b>Federal Agencies and Committees</b> .....	<b>34</b>
NRC and FERC Commissioners Discuss Grid Reliability and Reactor Issues .....	34
NRC Ends Work on National Academy of Sciences Cancer Risk Pilot Study .....	34
NRC Seeks Stakeholder Input re Financial Planning and Management Of Byproduct Material .....	35
NRC Approves Changes to Petition-for-Rulemaking Process .....	42
NRC Holds Public Meeting re Potential Regulatory Changes for Research and Test Reactors .....	42
NRC to Hold Conference on Spent Fuel Management .....	43
NRC Announces Management Changes and Streamlining .....	43
NRC Awards Fiscal Year 2015 Grants .....	45
<b>Obtaining Publications</b> .....	<b>46</b>



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## Key to Abbreviations

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

## *Low-Level Radioactive Waste Forum, Inc.*

### LLW Forum Holds Fall 2015 Meeting in Chicago

The Low-Level Radioactive Waste Forum (LLW Forum) held its fall 2015 meeting at the Embassy Suites Downtown Chicago Hotel on October 22-23, 2015. The meeting was co-sponsored by the Central Midwest Interstate Low-Level Radioactive Waste Compact Commission, the Illinois Emergency Management Agency (IEMA), and the LLW Forum.

*All of the meeting documents—including the final agenda—have been posted to the LLW Forum's web site at [www.llwforum.org](http://www.llwforum.org).*

#### **Final Agenda**

The following is an overview of some of the topics included on the final agenda for the fall 2015 LLW Forum meeting:

- ◆ licensing and activities updates for the EnergySolutions' Clive facility in Tooele County, Utah and the Waste Control Specialists LLC (WCS) facility in Andrews County, Utah;
- ◆ white paper by the Conference of Radiation Control Program Directors' (CRCPD) E-42 Committee on radiological, environmental, regulatory and health and safety aspects of Technologically Enhanced Naturally Occurring Radioactive Material (TENORM);
- ◆ development of suggested state TENORM regulations by CRCDP's Part N Task Force;
- ◆ update from U.S. Nuclear Regulatory Commission (NRC) about low-level radioactive waste emerging issues;
- ◆ NRC's new proposed Part 61 rule and associated technical assistance guidance document;
- ◆ sited states' and industry stakeholder panels to provide comments and input on NRC's new proposed Part 61 rule;
- ◆ overview of activities and initiatives at the U.S. Department of Energy (DOE);
- ◆ management and disposition of Greater-than-Class C (GTCC) and Transuranic waste;
- ◆ implementation of the revised Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP);
- ◆ financial planning requirements and end-of-life management of certain radioactive byproduct material; and,
- ◆ scoping session on brokers and processors perspectives regarding the management and disposition of disused sources.

Persons interested in more detail are directed to the final agenda itself.

#### **Attendance**

Officials from states, compacts, federal agencies, nuclear utilities, disposal operators, brokers/processors, industry, and other interested parties attended the fall 2015 LLW Forum meeting.

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

## PowerPoint Presentations

PowerPoint presentations from the fall 2015 LLW Forum meeting will remain available to registered meeting attendees via a password-protected Drop Box account through November 13, 2015.

PowerPoint presentations from all recent LLW Forum meetings are available to LLW Forum members and subscribers on the restricted-access, members-only portion of the organization's web site at [www.llwforum.org](http://www.llwforum.org) by going to the "Publications" page and clicking on "Meeting Agendas and Presentations."

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

## ***LLW Forum/Disused Sources Working Group***

## **DSWG Submits Comments re Byproduct Material Financial Scoping Study**

The Low-Level Radioactive Waste Forum (LLW Forum) is a non-profit organization of representatives appointed by Governors and compact commissions that seeks to facilitate state and compact implementation of the Low-Level Radioactive Waste Policy Act of 1980 and its 1985 amendments, as well as to promote the objectives of regional low-level radioactive waste disposal compacts. In September 2011, the LLW Forum formed the Disused Sources Working Group (DSWG) to develop recommendations from the states and compacts for improving the management and disposition of disused sources.

On August 2, 2015, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency

plans to conduct a financial scoping study to determine if financial planning requirements for decommissioning and end-of-life management for some radioactive byproduct material are necessary. (See 80 *Federal Register* 46,057. See also related story, this issue.) The development of robust and comprehensive financial planning requirements for disused sources was one of the 24 recommendations contained in the DSWG's original report as issued in March 2014. (See <http://www.disusedsources.org/wp-content/uploads/2014/12/DSWG-Report-March-2014.pdf>.)

The consideration of financial planning requirements was also one of the three recommendations contained in the Radiation Source Protection and Security Task Force (RSPSTF or Task Force) report that was delivered to the President and Congress on August 14, 2015. (See <http://www.nrc.gov/security/byproduct/2014-task-force-report.pdf>.) The Task Force, which was created pursuant to Section 651(d) of the Energy Policy Act of 2005 (Public Law 109-58), is required to report every four years. The Task Force is chaired by the 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.

The DSWG developed and submitted for consideration by NRC the following comments (citations omitted) in response to the agency's request for stakeholder feedback on its proposed byproduct material financial scoping study as published in the *Federal Register* on August 2, 2015.

- 1. What disposition pathways are available to various licensee types beyond the traditional disposal pathway and should be considered in any potential new financial planning requirements?***

Reuse and Recycle: Although reuse and recycle is not an option for most disused sources, it can at times be an alternative to traditional disposal. Some disused sources are still valuable resources. One user's disused sources may be usable by another, or the disused sources may contain valuable radioisotopes that can be used in the manufacture of new sources. This could extend the benefits derived from the radioisotopes contained within a disused source. The Conference of Radiation Control Program Directors (CRCPD) currently provides limited information on reuse and recycle options. However, the current regulatory system does not encourage (and at times hinders) the reutilization of disused sources despite the fact that, when available, taking advantage of reuse and recycle opportunities should reduce the number of sources being generated, limit storage and preserve future disposal capacity at existing facilities. Programs that encourage reuse and recycle in other areas of commerce (e.g., tires, computers, and large appliances) could provide beneficial examples to address the responsible disposition of disused sources.

The DSWG recommends that a detailed study should be conducted to identify measures to promote opportunities for the reuse and recycling of sources. In addition, a secure "source exchange" program should be created and administered to work with licensees, source and device manufacturers, and recyclers to provide them with information about sources still having a useful life, with the goal of increasing beneficial reuse and recycle opportunities. The program could identify sources meeting the specific application requirements being sought for reuse or recycling, identify sources containing radioisotopes that can be removed and used to manufacture new sources, and assist with paperwork required for source transfer.

Due to the fact that a relatively small number of disused sources are reusable or recyclable, however, the presumption for financial planning purposes should be that disposal is necessary.

Return to Manufacturers: There is no regulatory requirement that sources be returned to manufacturers and suppliers once their useful life is over. However, at their discretion, source and device manufacturers and suppliers will often accept the return of a disused source if the user is purchasing a new replacement source from the same manufacturer or supplier. This practice—commonly referred to as a "one-for-one exchange"—is not required by federal or state regulations and is not usually an option when the user chooses not to purchase a replacement source from the manufacturer or supplier. However, in its comments to the DSWG, JL Shepherd & Associates reports that the company does take back viable sources that are candidates for recycling without requiring the purchase of a new source.

The return of sources to manufacturers and suppliers results in fewer storage locations and increases the likelihood of beneficial reuse or recycle, thereby reducing the number of new sources that need to be manufactured. In addition, manufacturers and suppliers often have greater institutional knowledge of the product, more comprehensive oversight, and increased physical security in place. However, some source and device manufacturers and suppliers are accumulating large numbers of disused sources in storage with little possibility of reuse or recycle. To prevent the accumulation of an excessive number of sources by manufacturers and suppliers, the DSWG encourages NRC and Agreement States to require manufacturers and suppliers to dispose of those sources that have no reuse or recycle value on an annual basis.

Storage: Many source users are choosing to store their disused sources indefinitely rather than pay for the cost of disposal. This is a concern because sources in long-term storage are more likely to be subject to loss of control and accountability. The 2006 Task Force report states that two years of disuse usually reflects the lack of a plan to use material. In addition, there is a two-year timeframe in the current rules related to decommissioning. The DSWG recognizes, however, that storage for decay may be an appropriate waste management method for some sources with a short half-life and that there are cases (i.e., space propulsion, insect irradiation, some research, etc.) in which storage in excess of two years may be appropriate.

In most cases, NRC and Agreement State regulators currently lack adequate authority to require licensees to dispose of sources that have been stored for an extended period of time. At present, the NRC and Agreement State regulations limit storage for two years only for General Licenses (GL) and in the case of licensee inactivity, but enforcement of this requirement is less certain when licensees claim a potential future use of the source. In the past, it may have been difficult to enforce license storage limits due to a lack of disposal access. This is no longer a constraint for most Class A, B and C disused sources as disposal is now available for these sources throughout the United States. However, the existing regulations do not provide adequate enforcement authority to prevent the indefinite storage of disused sources.

Concentration Averaging: The NRC recently finalized revisions to the Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP), which provides guidance for waste generators, processors, disposal facility operators and regulators in complying with 10 CFR Part 61 regulations as they apply to classification of waste for disposal. In particular, the document outlines

acceptable methods to determine radionuclide concentrations in specific waste streams or mixtures of these waste streams and how the concentrations can be averaged over the volume or mass of the waste disposal container.

The revised draft CA BTP increases the allowed concentration and activity for certain isotopes. The NRC's analysis shows that a 130 curie (Ci) cesium-137 sealed source can be safely encapsulated and disposed in a Class C low-level radioactive waste disposal facility where previously the limit on such a source was 30 Ci. The revised draft CA BTP also includes an alternative approaches section that allows the waste generators and waste processors to work with Agreement State regulators in the states with commercial disposal facilities to consider site-specific and waste-specific information that would allow the acceptance of wastes that would not otherwise be acceptable. This may allow for the disposal of certain higher activity sealed sources.

Government Subsidized Programs: The CRCPD's Source Collection and Threat Reduction (SCATR) program provides cost-shared support for the packaging, transport, and disposal of Class A, B, and C sources with access to a commercial disposal facility. Licensees in all 50 States and U.S. territories are potentially eligible for program participation. SCATR is funded through a grant provided by the U.S. Department of Energy (DOE) National Nuclear Security Administration (NNSA). CRCPD/SCATR is targeting a 45% cost-share amount for 2014-2015 program participants.

The Off-Site Source Recovery Program (OSRP) is a U.S. government activity sponsored by NNSA's Office of Global Material Security and managed at Los Alamos National Laboratory (LANL) through the Nuclear Engineering & Nonproliferation

Division. OSRP has an NNSA sponsored mission to remove excess, unwanted, abandoned, or orphan radioactive sealed sources that pose a potential risk to health, safety, and national security. The initial scope of OSRP included any sealed sources comprising Greater than Class C (GTCC) low-level radioactive waste. However, since September 11, 2001, the mission expanded from environmental concerns to address broader public safety and national security requirements. In addition to transuranic sources, the expanded OSRP mission now includes recovery of beta/gamma emitting sources, which are of concern to both the U.S. government and the International Atomic Energy Agency (IAEA).

Although these programs continue to provide significant benefits, the DSWG advocates a reevaluation due to the availability of additional disposal access and the potential that these programs may provide an unintended disincentive to prompt disposal by licensees.

Additional Considerations: Due to the age, activity, packaging, expired certifications and condition most sources cannot be recycled, so in general financial planning should not be based on the unlikely possibility of an alternative disposal pathway. Financial planning must always take into account the possibility that a governmental agency will have to step in and arrange for disposal and in such situations there must be financial resources in place to cover the full disposal costs.

Additionally, the NRC needs to adopt waste policies that minimize the number of waste sources being transferred as usable material, particularly for the purposes of *sham recycling*. A simple test should be employed that a licensee must have a need for and be authorized and able to use a source to accept it as non-waste material. Authorization to accept

waste should be a specific authorization on a license for anyone accepting waste from another licensee.

### 2. ***What should be the primary considerations in establishing and imposing appropriate and equitable financial planning requirements on radioactive sealed sources?***

General Recommendations: All licensees including most currently under GL must be able to show that they understand their financial obligations and have a financial plan in place to cover disposal costs. If the disposal costs exceed available monthly discretionary funds, the licensee needs to have a funding instrument of some type in place. All licensees in possession of Category 1, 2 and 3 sources must have a written financial plan and funding instrument such as a bond or letter of credit, with the possible exceptions of isotopes with <120 day half life, and sources possessed by government entities. A letter of intent is usually sufficient for government entities.

Due to bankruptcy or other situation in which a source becomes orphaned or abandoned, no funds may be available. Accordingly, an orphan source fund of other program must be in place.

Storage vs. Disposal: The development of more stringent financial planning requirements by the NRC and the Agreement States is crucial to ensuring that licensees properly manage and promptly dispose of disused sources. After using a source for its original purpose, most licensees place it in storage or return it to the manufacturer. Often, the disused source is not reused by the licensee and is stored indefinitely. In this regard, the 2006 Task Force report acknowledges that two years of disuse usually reflects the lack of a plan to use material. This is a problem because sources in long-term storage are more likely to be subject to



loss of control and accountability. In addition, users of sealed sources have little or no incentive to dispose of disused sealed sources. Most sources are small and require very little space to store, so users incur very little cost or other negative consequences in storing disused sources. By comparison, disposal can be very costly. As disposal was not available for many states for some years, users are also not accustomed to including funds for disposal in their annual budgets.

Economics, Budgeting and Planning: The economics of sealed source possession do not motivate licensees to plan or budget for the management and disposal of sources they possess or plan to purchase. Although the NRC has established limited financial planning regulations, they do not apply to the vast majority of sealed source users since the regulations currently only apply to licensees who possess a very large quantity of radioactive material (greater than 100,000 curies). In addition, existing NRC financial planning requirements for sealed sources—including those for Category 1 and 2 sources—do not reflect the full cost of packaging, transport, and disposal.

Orphaned and Abandoned Sources: Another concern that must be taken into consideration when establishing and imposing appropriate and equitable financial planning requirements is the fact that the cost of dispositioning orphaned and abandoned sources often falls on the state or federal government. NRC has an orphaned and abandoned source funding agreement with the CRCPD, but it is limited in scope (\$50,000 per year for five years). The existing program is insufficient to address the orphaned and abandoned source disposition needs of the nation.

State Regulations: Several Agreement States have taken the lead in developing more stringent and comprehensive regulations to address gaps in the current NRC source

regulation program. Some which have been identified by the DSWG include: Oregon's comprehensive GL requirements and possession fees for each source in a licensee's possession; Texas' fees on licensees to cover the cost of orphaned and abandoned source recovery; Illinois' financial planning requirement for most sources; Florida's radiation protection trust fund covering all costs associated with licensee bankruptcy and orphaned sources; and, Colorado's comprehensive GL registration and annual self-certification program and requirement for Specific Licenses (SLs) for certain Category 3 sources that are normally generally licensed. The NRC could expedite the development of revised regulations by incorporating the best practices already in use by the states, as some of the benefits of financial planning may be gained through these relatively more simple mechanisms. Revised regulations initiated by the NRC will also help states with regulatory reform to adopt compatible regulations by streamlining the economic impact review process.

CRCPD's Development of Suggested State Regulations: Finally, the CRCPD's Part S (Bonding and Surety) Committee is developing suggested state regulations related to financial surety for sealed sources. NRC should consult with and review the work of CRCPD's Part S Committee.

3. ***Should licensees be required to specifically declare disused sources? If so, how long after a source is disused must a licensee declare it as disused?***

National Source Tracking System: On May 12, 2014, NRC issued Regulatory Issue Summary 2014-04 to encourage licensees, on a *voluntary* basis, to submit additional information pertaining to sources that are identified as being in long-term storage in the National Source Tracking System (NSTS). In particular, NRC encouraged licensees to

include the “use status” of their sealed sources – i.e., whether or not their sources are in use or have become disused.

In its March 2014 report, the DSWG advocated that NRC and Agreement States should enhance the NSTS to include as a *required* field the date last used of all sealed sources of concern and that these data should be validated during routine inspections. The DSWG continues to advocate the mandatory entry of such data as it does not constitute an undue burden and should be easily obtainable from use logs.

State Efforts and Interest: The Texas State Department of Health Services (TSDHS) has drafted 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. The Department of State Health Services Council approved the draft revisions. The TSDHS plans to publish the revisions in the *Texas Register* as a proposed rule along with the state’s Part 37 changes.

Several other states, including New York, have expressed interest in developing regulations to limit the storage of disused sources. In a recent survey of state radiation control program directors jointly initiated by the DSWG and CRCPD, 60% of respondents answered that their state can take initiative on policy making. However, 66.7% of respondents answered that if a rule change is required, NRC will have to change their rules first.

Recommendations: Licensees should be required to declare when sources are disused so that the regulator can provide oversight and

assistance geared toward safe and timely disposal of the disused sources. Licensees should have a 2 year regulatory window from the time that sources become disused until they must be disposed of or an alternative disposition found. Category 1 and 2 sources that fall into disuse must be reported within 90 days on the NSTS database, to allow governmental organizations to assist in the safe and timely disposition of those sources. Category 3 sources should be added to NSTS as soon as practical so that they can also be also reported on that system. All disused sources should be noted as disused on a licensee’s inventory so the information is available to the regulator at the time of inspection or license renewal.

#### ***4. How should source characteristics be factored into establishing equitable financial planning requirements for end-of-life management?***

General Recommendations: With the exception of short half-life isotopes, financial planning should cover the full disposal costs based on the activity at the time the financial planning is established. For <120 day half-life sources (ex. Ir-192), allowances can be made so that sources can decay to Class A waste levels while being properly managed prior to disposal. In some cases, decay-in-storage may be appropriate. Management of waste that was initially Category 1 or 2 should be a licensed activity performed by a manufacturer, distributor or licensed waste management company that has appropriate security in place for larger quantities of material.

Equity Considerations: In order to establish “equitable” financial planning requirements, licensees that are receiving economic benefit from the use of sealed sources should bear the cost of disposition therefore.

Source Categorization: To encourage timely disposal, the DSWG advocates that NRC should develop robust financial planning requirements for Categories 1 through 3 disused sources. The financial planning requirements should be adequate to cover the entire cost of packaging, transportation and disposal.

Manufacturer Considerations: As noted above, in many cases, disused sources are returned to manufacturers and suppliers that often have greater institutional knowledge of the product, more comprehensive oversight, and increased physical security in place. Nonetheless, the DSWG is concerned that some source and device manufacturers and suppliers are accumulating large numbers of disused sources in storage with little possibility of reuse or recycle and believes that additional regulatory oversight is needed to minimize manufacturers' and suppliers' inventories. Accordingly, the NRC and Agreement States should require manufacturers and suppliers to dispose of those sources that have no reuse or recycle value on an annual basis.

**5. *If NRC rulemaking is initiated as a result of this scoping study, how should NRC engage with and consider the impact on Agreement States? What would be the primary considerations in establishing compatibility levels for rule requirements?***

Engaging with Agreement States: NRC should reach out to Agreement States via various organizations including the Organization of Agreement States (OAS), Low-Level Radioactive Waste Forum (LLW Forum) and CRCPD.

Compatibility Level Considerations: As noted above, in a recent survey of state radiation control program directors, 60% of respondents answered that their state can take initiative on policy making. However, 66.7% of

respondents answered that if a rule change is required, NRC will have to change their rules first. (For additional information, see footnote 6.)

General Recommendations: The NRC should engage with the states and consider the impact on the states during all phases of rulemaking. Some proposed financial planning solutions may be too labor intensive for smaller state programs, so in that case these states may need to opt into a federal program rather than have their own.

Any new financial planning rule should remain compatibility C so that states can choose to adopt equivalent programs of their own choosing and retain the ability to adopt or retain stricter rules than the NRC's.

**6. *When necessary, what mechanism should be used to administer financial planning requirements on general licensees?***

Background: In 2010, the OAS petitioned NRC to increase the regulatory control over certain GL sources. When this came before the Commission, the additional controls failed upon a tie vote, resulting in a non-decision. However, the NRC did authorize Agreement States to increase controls on GL sources at their own discretion. As a result of this, few states enacted increased controls.

A previous NRC-Agreement State Working Group (NRC-AS Working Group) determined that there is a lack of oversight of GL licensees by the regulators. The NRC-AS Working Group also found that regulators have not taken an active role in ensuring that GL licensees maintain control over and accountability for GL sources and in ensuring that licensees possess, use, and transfer GL devices in accordance with the regulations. This has led to a loss of control and sometimes to improper disposal or even to orphaned or abandoned sources.

Subsequently, NRC and Agreement States have implemented registration and annual reporting requirements for GL sources. However, there remains a time lag in reporting information and limited regulatory oversight of GL sources.

General Recommendations: Financial planning requirements need to be applied to persons who are currently generally licensed. Since financial planning is not consistent with the GL concept, general licensees who possess sources that require financial planning should be required to be specifically licensed.

At a minimum, all Category 3 GL devices should be specifically licensed, but to adequately address financial planning the Commission should consider a lower activity threshold such as 10% of Category 3, Category 4, or the current activities that require registration. Alternatively generally licensed devices should be done away with altogether.

7. ***What are the ideal characteristics and qualifications for an entity that will act as the custodian for any funds earmarked for long-term management of disused sealed sources? For instance, what characteristics and qualifications should be taken into consideration regarding the custodian's relationship to the licensee (e.g., the ability of the custodian to access the funds, or the custodian's independent financial viability)? In the event that there is a residual amount remaining in the fund following payment of disposition cost, what should be the fate of the residual funds?***

Because the costs are highly variable and licensee specific, it is first important that the burden for obtaining financial assurance be weighted based on the costs. Some existing financial planning methods such as letters of credit or bonds are very effective and can continue to be used for private licensees with

the greatest liability. For licensees with lower disposal liability, it is better to pool their funds in some fashion.

A single, small leaking source can cost \$250,000 or more to clean up and a radiological dispersal device (RDD) made from even a Category 3 source can potentially cost billions of dollars to clean up and have significant economic impacts for decades. There is a need for all licensees, even those with Category 4 sources, to have the ability of covering the costs of a contamination incident. In addition, there is a need for a pooled fund and/or insurance mechanism to cover these contingencies, noting that no company or existing fund could likely cover the full cost of the worst case RDD incident. Such a fund can also be used for orphaned and abandoned sources or sources from bankruptcies.

Such funds can be part of the state or federal entity; however, distribution of funds can be difficult if not properly set up and may require special legislation. Such a fund may be more effectively administered by a private entity that has government or industry funding. If the insurance option were selected, American Nuclear Insurers may be a good model or a candidate to fill that role.

8. ***What are the key characteristics of a tracking system for byproduct material (sealed sources) subject to financial planning requirements? Which of these characteristics are not available as part of the NSTS?***

Sources do not necessarily need to be part of NSTS for the NRC to effectively study financial planning. Most of the licensees that are not in NSTS but need to consider financial planning are specifically licensed already, so regulators should know the number and activity of sources in their possession.

GLs in possession of large sources or a large number of sources should be converted to SLs so that they may be tracked more effectively.

In addition, at NRC's urging, the LLW Forum reached out to other stakeholders (i.e., users, manufacturers, industry organizations, etc.) to encourage and solicit input and feedback. The DSWG included the stakeholder comments as an Appendix for NRC's review and consideration.

*For additional information about the DSWG, please contact Project Director Todd D. Lovinger, Esq at (754) 779-7551 or at [LLWForumInc@aol.com](mailto:LLWForumInc@aol.com) and/or go to the DSWG web site at [www.disusedsources.org](http://www.disusedsources.org).*

### DSWG Meets and Participates in Fall 2015 LLW Forum Meeting

The following is a brief update on activities of the Low-Level Radioactive Waste Forum's (LLW Forum's) Disused Sources Working Group (DSWG).

*For additional information and ongoing updates, interested stakeholders are encouraged to go to the DSWG web site at [www.disusedsources.org](http://www.disusedsources.org).*

#### **DSWG Members Participate in Fall 2015 LLW Forum Meeting**

DSWG members participated in a scoping session at the fall 2015 LLW Forum meeting designed to increase awareness about and address issues related to the management and disposition of disused sources. The scoping session addressed the following topics, among others:

- ◆ case study of a non-compliant low-level radioactive waste licensee in Illinois;

- ◆ development of suggested state regulations and consideration of financial assurance programs;
- ◆ the need for access to technical support from Los Alamos;
- ◆ assistance from states for special conditions;
- ◆ access to transportation resources and challenges posed by limited availability of Type B casks;
- ◆ lessons learned from implementation of Part 37 physical protection of Category 1 and 2 quantities of radioactive material;
- ◆ broker and processor perspectives regarding difficulties related to the disposition of sources;
- ◆ licensing process, issues and updates regarding Type B casks; and,
- ◆ path forward and next steps.

The fall 2015 LLW Forum meeting was held at the Embassy Suites Downtown Lakefront Hotel in Chicago, Illinois on October 22-23, 2015. (See related story, this issue.)

*PowerPoint presentations from the fall 2015 LLW Forum meeting are available to LLW Forum members and subscribers on the restricted-access, members-only portion of the organization's web site at [www.llwforum.org](http://www.llwforum.org) by going to the "Publications" page and clicking on "Meeting Agendas and Presentations."*

#### **DSWG Holds Fall Meeting in Chicago**

On October 21, 2015, the DSWG held a one-day meeting in advance of the fall 2015 LLW Forum meeting in Chicago, Illinois. The following topics, among others were addressed during the DSWG meeting:

- ◆ report on significant activities since DSWG meeting in Austin, Texas in July 2015 including presentation and outreach at the Health Physics Society (HPS) annual meeting in Indianapolis, Indiana from July 12-16, 2015; Organization of Agreement States (OAS) annual meeting in Boston, Massachusetts from August 23-27, 2015; special event re management and disposition of sealed sources in the State of California on July 28, 2015 and July 30, 2015;
- ◆ report on additional significant activities since July 2015 DSWG meeting including status of proposal, feedback received to date, and next steps on the Texas draft storage rule; announcement in early October 2015 that the U.S. Federal Bureau of Investigations (FBI) helped to thwart several plots to sell nuclear material in Moldova for potential use in a dirty bomb; release of Interagency Working Group Report on Financial Assurance for Disposition of Category 1, 2 and 3 Radioactive Sealed Sources; the U.S. Nuclear Regulatory Commission's (NRC's) byproduct material financial scoping study public meeting/webinar and submittal of comments by DSWG and others;
- ◆ outreach to and coordination with other stakeholders;
- ◆ status update, prioritization and path forward re implementation of recommendations contained in the March 2014 DSWG report;
- ◆ update and path forward re Conference of Radiation Control Program Directors (CRCPD) working group on developing suggested state regulations concerning financial assurance for disused sources;
- ◆ status update and potential further action re joint DSWG-CRCPD survey about the management and disposition of disused sources;

- ◆ experiences and lessons learned from State of Illinois; and,
- ◆ development and distribution of materials to educate licensees about the life-cycle costs related to source management prior to purchase.

The DSWG plans to meet again in the winter 2016. The location and date of the winter 2016 DSWG meeting has not yet been determined.

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

### ***LLW Forum/Part 61 Working Group***

## **P61WG Participates in Panel at Fall 2015 LLW Forum Meeting**

The following is a brief update on activities of the Low-Level Radioactive Waste Forum's (LLW Forum's) Part 61 Working Group (P61WG) — which is comprised of representatives from the four sited-states of South Carolina, Texas, Utah and Washington, as well as a representative from the Commonwealth of Pennsylvania.

*For additional information and ongoing updates, interested stakeholders are encouraged to go to the P61WG web site at [www.part-61.org](http://www.part-61.org).*

### **P61WG Members Present at Fall 2015 LLW Forum Meeting**

P61WG members participated in an extended panel presentation at the fall 2015 LLW Forum meeting designed to provide stakeholder input and feedback on the proposed rule to amend 10 CFR Part 61, *Licensing Requirements for Land Disposal of Radioactive Waste*, as published for public comment at 80 *Federal Register* 16,081 on

## Low-Level Radioactive Waste Forum, Inc. *continued*

March 26, 2015. Representatives for the following stakeholders were included on the panel:

- ◆ the states of Utah, Washington, and South Carolina;
- ◆ the Northwest Interstate Compact on Low-Level Radioactive Waste Management;
- ◆ Talisman International;
- ◆ the Nuclear Energy Institute (NEI);
- ◆ the Electric Power Research Institute (EPRI);
- ◆ EnergySolutions;
- ◆ Waste Control Specialists LLC; and,
- ◆ URENCO USA.

The fall 2015 LLW Forum meeting was held at the Embassy Suites Downtown Lakefront Hotel in Chicago, Illinois on October 22-23, 2015. (See related story, this issue.)

*PowerPoint presentations from the fall 2015 LLW Forum meeting are available to LLW Forum members and subscribers on the restricted-access, members-only portion of the organization's web site at [www.llwforum.org](http://www.llwforum.org) by going to the "Publications" page and clicking on "Meeting Agendas and Presentations."*

### **P61WG Submits Comments re Part 61 Rulemaking Initiative**

On July 22, 2015, the P61WG submitted formal comments to the U.S. Nuclear Regulatory Commission (NRC) on the proposed rule to amend 10 CFR Part 61.

The P61WG agrees with statements made by the NRC that the current 10 CFR Part 61 regulations ensure public health and safety at all the commercial low-level radioactive waste facilities

and also supports statements to that affect as contained in the NRC's *Federal Register* notice. In addition, the P61WG agrees with the following changes to 10 CFR Part 61 as proposed by NRC:

- ◆ revisions to the existing technical analysis for protection of the general population to include a 1,000 year compliance period and explicitly requiring a site specific analysis using modern dose methods;
- ◆ adding a new site-specific technical analysis for the protection of inadvertent intruders that would include a 500 mSv/yr dose limit;
- ◆ providing licensees and regulators flexibility by allowing waste acceptance criteria (WAC) to be developed using site-specific analyses for low-level radioactive waste disposal of unique waste streams (based on the results of these technical analyses) or to continue using the existing low-level radioactive waste classification requirements;
- ◆ use of the total effective dose equivalent (TEDE) in § 61.41 and the dose limit of 25 mSv/yr;
- ◆ allowing licensees the flexibility to use International Commission on Radiation Protection (ICRP) dose methodologies in a site-specific performance assessment; and,
- ◆ the new requirement to redo performance assessments within five years of closure, provided no new additional sampling should be done (unless absolutely needed) and provided only updating the inventory and equation values such as kd and potential exposure scenarios appropriate to the specific location.

The P61WG provided detailed comments and asked questions concerning specific topics addressed in NRC's proposed rule including:

- ◆ intruder analysis;
- ◆ institutional control period;
- ◆ performance assessment;
- ◆ defense-in-depth; and,
- ◆ site stability.

The P61WG also offered detailed comments regarding applicability of the proposed new requirements and policy considerations related to the Part 61 rulemaking initiative. And, the P61WG provided detailed comments regarding compatibility categories and administrative issues. Finally, the P61WG encouraged NRC to consider performing a regulatory analysis and back-fit analysis.

In addition, the P61WG provided a detailed analysis in support of keeping the 10 CFR Part 61 regulations as written for traditional low-level radioactive waste streams, as well as retaining the current language in § 61.58 and its intended flexibility for NRC and Agreement States. In regard to waste streams that were not previously anticipated, the P61WG recommends that NRC develop a new stand-alone § 61.60 or a new Subpart H as more fully explained in the formal comments.

*The full text of the P61WG formal comments as submitted to NRC can be found at <http://part-61.org/wp-content/uploads/2015/07/P61WG-Comments-re-New-Proposed-Part-61-Rule-Language-FINAL-7.22.15.pdf>.*

*For additional information about the P61WG, please contact Project Director Todd D. Lovinger, Esq at (754) 779-7551 or at [LLWForumInc@aol.com](mailto:LLWForumInc@aol.com).*

### *Atlantic Compact/State of Connecticut*

## Corrective Actions Instituted at Millstone Nuclear Plant

In late August 2015, it was announced that Dominion is implementing a broad range of corrective actions at its Millstone Unit 2 nuclear power plant in Waterford, Connecticut pursuant to a settlement agreement reached with the U.S. Nuclear Regulatory Commission. These actions are designed to address violations of certain regulations, prevent recurrences and respond to questions the NRC raised regarding changes involving a reactor safety system at the facility.

The settlement was achieved under the NRC's Alternate Dispute Resolution (ADR) process after the NRC's Office of Investigations identified apparent violations of agency regulations during an investigation.

“The use of the ADR process in this case has yielded meaningful corrective actions on the part of Dominion that are designed to prevent these kinds of issues from occurring in the future, at Millstone and at other U.S. nuclear power plants,” said Scott Morris, Director of the Division of Inspection and Regional Support in the NRC's Office of Nuclear Reactor Regulation. “The lessons learned will be shared at the site, throughout the Dominion nuclear plant fleet and throughout the industry.”

### **Background**

In September 2011, the NRC became aware that Dominion—the plant's owner and operator—had submitted requests for NRC approval of amendments to the Millstone Unit 2 operating license that were incomplete and inaccurate. The requests sought to modify the requirements for Millstone Unit 2's charging pumps and irradiated fuel decay time.



## States and Compacts *continued*

The Office of Investigations initiated an investigation in November 2011 to determine if wrongdoing had occurred. In an inspection report issued on April 29, 2015, the agency notified Dominion that the violations were being considered for heightened, or escalated, enforcement.

The first violation considered for escalated enforcement was for a willful violation for changes made to the plant's Updated Final Safety Analysis Report, without a license amendment, that removed credit for a specific type of safety-related pump in the mitigation of a postulated accident. The second violation was a non-willful violation for a failure to provide complete and accurate information to the NRC pertaining to the changes. A third apparent violation, related to Dominion's failure to obtain a license amendment prior to making changes related to spent fuel pool heat-load analysis, was not considered for escalated enforcement.

The NRC offered Dominion a choice of attending an enforcement conference or ADR to address the apparent violations. ADR entails a trained neutral mediator working with the parties to reach resolution on the issues. ADR can result in broad, long-term corrective actions. Based on those discussions, a settlement agreement was reached.

### **Settlement Agreement**

In exchange for the array of corrective actions by Dominion, the NRC agreed not to pursue further enforcement action against the company related to the apparent violations. On August 26, 2015, the NRC issued a legally binding Confirmatory Order that requires the company to, among other things:

- ◆ Make any needed changes to plant procedures governing the operation and testing of the charging pumps, and perform an evaluation of the use of the pumps.

- ◆ Issue a fleet-wide communication to reinforce the importance of providing complete and accurate information to the NRC.
- ◆ Submit a license amendment request to the NRC that addresses the use of charging pumps and seeks the agency's approval of the spent fuel pool heat-load analysis.
- ◆ Complete an assessment of its 50.59 program. (50.59 refers to a section of NRC regulations that allows plant owners to make changes to their facilities without prior NRC approval, provided certain criteria are satisfied.) The results of the assessment will be provided to the NRC and any corrective actions deemed necessary will be performed.
- ◆ Complete a formal sampling program of plant changes made under the 50.59 program since 2002 to identify whether other deficiencies exist in this program.
- ◆ Provide a presentation at an industry forum to discuss the events that led to the Confirmatory Order.

The NRC will follow up to ensure the corrective actions are fully implemented. A copy of the settlement agreement is available in the NRC's ADAMS electronic documents system under Accession Number ML15236A207.

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

*Atlantic Compact/State of New Jersey*

## Safety Review Completed for Early Site Permit for New Jersey Location

Staff from the U.S. Nuclear Regulatory Commission (NRC) has completed its Final Safety Evaluation Report for an Early Site Permit (ESP) application from PSEG Power and PSEG Nuclear. The report concludes there are no safety aspects that would preclude issuing the permit for the site, which is located adjacent to the existing Salem and Hope Creek nuclear power plants in Salem County, New Jersey.

The 688-page report describes the agency's review of the application and incorporates comments from the Advisory Committee on Reactor Safeguards (ACRS). The NRC staff reviewed information on topics including:

- ◆ site seismology, geology, meteorology and hydrology;
- ◆ risks from potential accidents resulting from operation of a nuclear plant at the site;
- ◆ the site's ability to support adequate physical security for a nuclear plant; and,
- ◆ the proposed complete and integrated emergency plan PSEG would implement if a reactor was built at the site.

The ESP process allows an applicant to address site-related issues, such as environmental impacts, for possible future construction and operation of a nuclear power plant at the site. The PSEG companies submitted the application on May 25, 2010. Additional information on the ESP process is available on the NRC website at [www.nrc.gov](http://www.nrc.gov).

The staff will provide the report on the application to the Atomic Safety and Licensing Board (ASLB) for a mandatory hearing on the permit. The staff must also finalize its Environmental Impact Statement (EIS) on the application prior to the board's hearing, which will determine whether the staff's review supports the findings necessary to issue the permit.

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

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*Northwest Compact/State of Idaho*

## Confirmatory Action Letter Issued to International Isotopes

On September 4, 2015, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency has issued a Confirmatory Action Letter documenting actions that International Isotopes, Inc., has agreed to take before resuming some operations at its facility in Idaho Falls, Idaho.

The NRC is also conducting a follow-up inspection to learn more about the incident.

### Background

The letter formalizes commitments company officials have made to the NRC following an incident on August 20, 2015 in which a technician received a radiation exposure in excess of NRC limits. The worker was preparing to transfer a shielded Cobalt-60 source into another shielded container when it became stuck. In attempting to move it, the worker received a brief radiation exposure.

While no immediate adverse health effects to the technician are expected, the worker was sent to a local hospital for a blood test to help determine

the extent of his exposure. On August 21, 2015, the NRC dispatched an inspector to the site to review the sequence of events associated with the exposure and to monitor the licensee's immediate response and follow-up actions.

"We are conducting a follow-up inspection to better understand the circumstances that contributed to this incident and to evaluate actions that International Isotopes has taken to ensure their workers are adequately protected," said Region IV Administrator Marc Dapas.

### Next Steps

The NRC will develop a detailed chronology of the event, evaluate the adequacy of licensee actions in response to the incident and assess the factors that may have contributed to the event. The NRC will prepare a written report that will be made publicly available.

Following a conversation with NRC officials, the company has agreed not to conduct similar transfers of radioactive materials at its Idaho Falls facility until completion of corrective actions. The company has also agreed to provide the NRC with calculations and evaluations used to determine the worker's radiation exposure, perform a detailed root cause analysis of the event, and describe corrective actions to prevent recurrence.

Issuance of the Confirmatory Action Letter does not preclude the NRC from taking other additional actions for any violations of NRC requirements that may be identified.

*For additional information, please contact Victor Dricks at (817) 200-1128 or Lara Uselding at (817) 200-1519.*

### ***Rocky Mountain Compact***

## **Rocky Mountain Low-Level Radioactive Waste Board Meets in October 2015**

On October 15, 2015, the Rocky Mountain Low-Level Radioactive Waste Board held a Regular Meeting at the Eldorado Hotel & Spa in Santa Fe, New Mexico.

The following items were on the meeting agenda:

- ◆ Executive Session (re: discuss legal advice regarding proposed rule concerning Executive Director discretion on export and import applications);
- ◆ approval of minutes of June 24, 2015 Regular and Annual meetings;
- ◆ notice of actions taken at September 2, 2015 telephonic meeting;
- ◆ oil and gas NORM waste and compact compliance issues;
- ◆ oil and gas waste regulation and oil and gas NORM regulation in the member states;
- ◆ facilities in the member States that commercially dispose of oil and gas waste;
- ◆ public comment on oil and gas NORM waste;
- ◆ discussion on future board activities concerning oil and gas NORM waste;
- ◆ rule(s) amendment regarding Executive Director's discretion on export and import applications;
- ◆ Executive Director's report; and,
- ◆ investment options.

Interested parties and the public were welcome to attend the meeting, and there was an opportunity for public comment at the meeting.

*For additional information, please contact Leonard Slosky, Executive Director of the Rocky Mountain Low-Level Radioactive Waste Board, at [lslosky@rmlwb.us](mailto:lslosky@rmlwb.us) or at (303) 825-1912.*

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### *Southeast Compact*

## Southeast Compact Commission Holds Annual Meeting in October 2015

On October 1-2, 2015, the Southeast Compact Commission for Low-Level Radioactive Waste Management held its annual meeting at the Williamsburg Woodlands Hotel & Suites, which is located at 105 Visitor Center Drive in Williamsburg, Virginia.

Both the Policy & Planning Committee and the Administrative Committee met on October 1, 2015, which was followed by the 107<sup>th</sup> business meeting on October 2, 2015.

### **Committee Meetings**

**Policy and Planning Committee** The Policy and Planning Committee met in the Azalea Room at 10:00 a.m. on October 1, 2015. The committee discussed the Pilot Project in Tennessee for Determining Disposal Challenges Facing Generators, reviewed the Strategic Plan, considered a draft policy statement regarding the management of low-level radioactive waste, and discussed other matters as they came before the committee.

**Administrative Committee Meeting** The Administrative Committee met in the Azalea Room at 2:30 p.m. on October 1, 2015. The committee received an update on the Commission's investments, discussed possible by-laws amendments, discussed Commission planning for succession and transition, and discussed other matters as they came before the committee.

### **Southeast Compact Commission Meeting**

The 107<sup>th</sup> business meeting of the Southeast Compact Commission for Low-Level Radioactive Waste Management began at 9:00 a.m. EDT in the Azalea Room on October 2, 2015. The Commission received committee reports, received a report on the Decommissioning of Nuclear Power Plants from a Nuclear Energy Institute (NEI) representative, elected officers, and conducted other business as it came before the Southeast Compact Commission.

Committee and Commission meetings are open to the public.

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

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### *Southeast Compact/Tennessee*

## Operating License Issued for Watts Bar Unit 2

### *First New Reactor Authorization in Almost 20 Years*

On October 22, 2015, the U.S. Nuclear Regulatory Commission announced the issuance to the Tennessee Valley Authority (TVA) of a 40-year operating license for Watts Bar Unit 2. This is the first U.S. reactor the NRC has authorized to

## States and Compacts *continued*

operate since 1996, when the agency issued the license for Watts Bar Unit 1.

The Watts Bar plant—which is located approximately 60 miles southwest of Knoxville in Spring City, Tennessee—now has two pressurized-water reactors. The Unit 2 license allows operation through October 22, 2055.

### Remarks from NRC

The Watts Bar 2 decision means there are now 100 U.S. commercial reactors licensed to operate. Information on these plants and the NRC’s oversight of them is available on the NRC web site.

“After devoting more than 200,000 hours over eight years conducting extensive safety reviews and inspections, we’re satisfied Unit 2 is safe to operate and we’ve issued TVA the operating license,” said Bill Dean, Director of the NRC’s Office of Nuclear Reactor Regulation. “We already monitor Unit 1’s performance through our Reactor Oversight Process, which is used at all reactor sites throughout the country, and we’re adding Unit 2 to that system. Staff from our Region II office in Atlanta will ensure TVA meets its requirements as it loads fuel into Unit 2 and runs tests before the unit starts generating electricity.”

### Background

TVA had maintained Unit 2 in an incomplete state since 1985 and had extended the unit’s construction permit since then. In 2007, the utility began efforts to complete Unit 2 and updated its operating license application in March 2009. The NRC staff completed its Unit 2 environmental review in May 2013 and the staff has been supplementing the Unit 2 safety evaluation report on an ongoing basis. The NRC’s Advisory Committee on Reactor Safeguards also reviewed the staff’s work and supported the licensing decision.

Watts Bar is the first site to comply with the agency’s Fukushima-related Orders on Mitigation Strategies and Spent Fuel Pool Implementation. The agency has two Resident Inspectors at Watts Bar for day-to-day oversight of site activities, as well as an additional Resident Inspector for continued oversight of start-up activities at Unit 2.

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

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### *Southwestern Compact*

## Southwestern Compact Commission Hosts 71<sup>st</sup> Meeting

On October 9, 2015, the Southwestern Low-Level Radioactive Waste Commission hosted its 71<sup>st</sup> 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/moment of silence for Don Womeldorf;
- ◆ roll call;
- ◆ welcome and introductions;
- ◆ statement regarding due notice of meeting;
- ◆ reports, status and/or activity;
  - Commission Chair;
  - Executive Director;
  - licensing agency; and,
  - party states;
- ◆ presentation by SONGS;
- ◆ QalTek update and request for sealed sources storage program;

## States and Compacts *continued*

- ◆ amend export policy re: warning letter to broker and violation letter to generator;
- ◆ export committee report and actions;
  - ratification of approved petitions from EnergySolutions and Waste Control Specialists LLC (WCS);
  - amend “Policy of the Southwestern Low-Level Radioactive Waste Commission Regarding Exportation of Various Low-Level Radioactive Waste Streams” for extend effective date;
  - amend “Requirements for Exportation Petitions for Low-Level Radioactive Waste Disposal” for extend effective date;
  - review and approve new petition forms for EnergySolutions and WCS; and,
  - QalTek out-of-region petition form—new;
- ◆ review and approve financial audit report;
- ◆ review and approve letter of intent for 2015-16 audit;
- ◆ Chair review of all compact committees;
- ◆ executive session pursuant to California Government Code §11126(a)(1) to discuss staff performance evaluations;
- ◆ review and approve Executive Director’s and Counsel’s contracts;
- ◆ annual Governor’s report review and approve;
- ◆ amend fiscal year 2015-16 budget;
- ◆ approve fiscal year 2016-17 budget;
- ◆ adopt fee schedule;
- ◆ public comment;

- ◆ announcement of retirement;
- ◆ election of officers;
- ◆ future agenda items;
- ◆ next meeting date; and,
- ◆ 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](mailto:swllrwcc@swllrwcc.org).*

*Texas Compact/State of Texas*

## Texas Compact Commission Holds October 2015 Meeting

On October 1, 2015, 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. EDT, was held in Room 11 of the Vermont State House located at 115 State Street in Montpelier, Vermont.

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 by Entergy Vermont Yankee on the closure and decommissioning of the Vermont Yankee nuclear power plant;
- ◆ consideration of and possible action on the removal of all references to C-14, Tc-99, I-129 and Depleted Uranium from import agreements and amendments from Entergy—James A. Fitzpatrick; Southern Nuclear Operating Company; Radiac Research; Zion Solutions; Xcel Energy—Prairie Island; Duke Energy—McGuire; PG&E Diablo Canyon; PerkinElmer; Arizona Public Service Company; Ecology Services, Inc.; American Airlines; RAM Services; Thomas Gray and Associates—EMC; Indiana Michigan Power—D.C. Cook; Bionomics, Inc.; Duke Energy—Brunswick; Exelon; PerkinElmer, Inc.; ThermoProcess Instruments; and, Tennessee Valley Authority;
- ◆ consideration of and possible action on the request by Zion Solutions for an amendment to agreement TLLRWDC #2-0060-00 as amended by TLLRWDC #2-0060-01 to reduce the disposal limit on volume and curies;
- ◆ discussion and consideration of and possible action on the limitation of authorization of disposal of curie amounts to ensure maintenance of the curie limit for Compact Facility as specified in Texas Health and Safety Code (THSC) 401.207(e)(2) including a reduction in curie amounts previously authorized;
- ◆ consideration of and possible action on applications and proposed agreements for importation of low-level radioactive waste from Dominion Kewaunee Power Station; Aerojet Ordnance Tennessee; Alaron Nuclear Services; U.S. Army Joint Munitions Command; Entergy Operations, Inc.—River Bend Station; Tennessee Valley Authority; and, Philotechnics, Ltd.;
- ◆ 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;
- ◆ Chairman’s report on Texas Compact Commission activities including reporting on fiscal matters to be taken by Compact;
- ◆ report from Leigh Ing, Consulting Supervisory Director of the Texas Compact Commission, on her activities and questions related to compact commission operations;
- ◆ discussion and possible changes of dates and locations of future Texas Compact Commission meetings in 2015 and 2016; and,
- ◆ adjourn.

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

*For additional information, please contact Texas Compact Commission Consulting Supervisory Director Leigh Ing or Texas Compact Commission Executive Assistant Audrey Ferrell at (512) 305-8941.*

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### *Texas Compact/State of Texas*

## Safety Review for Proposed New Reactors at South Texas Project Site

On October 1, 2015, the U.S. Nuclear Regulatory Commission (NRC) announced that agency staff has completed its Final Safety Evaluation Report for the Combined Licenses (COL) for the proposed South Texas Project (STP) Units 3 and 4. The report concludes that there are no safety aspects that would preclude issuing licenses for construction and operation of the proposed reactors at the site, which is located near Bay City, Texas.

The staff will provide the report and Final Environmental Impact Statement (FEIS) on the application to the Commission for the mandatory hearing phase of the licensing process. In the mandatory hearing, expected to take place later this year, the Commission will determine whether the staff's review supports the findings necessary to issue the licenses. Following the mandatory hearing, the Commission will vote on whether to authorize the staff to issue the licenses.

On September 20, 2007, STP Nuclear Operating Company submitted its COL application for Units 3 and 4 for permission to build and operate two Advanced Boiling Water Reactors (ABWR) at the site. On January 24, 2011, Nuclear Innovation North America became the lead applicant. The proposed reactors would be adjacent to STP's existing Units 1 and 2. The NRC certified the 1,300-megawatt electric ABWR design in 1997. Additional information on the ABWR certification process is available on the NRC website at [www.nrc.gov](http://www.nrc.gov).

The NRC's Advisory Committee on Reactor Safeguards independently reviewed those aspects of the STP application that concern safety. On February 19, 2015, the committee provided the results of its review to the Commission. The NRC and the Army Corps of Engineers, Galveston District, completed the environmental review and issued the final impact statement for the proposed STP reactors in February 2011.

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

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### *Commonwealth of Massachusetts*

## Entergy Announces Plans to Shut Down Pilgrim Nuclear Power Plant

In mid-October 2015, Entergy Corporation announced plans to shut down the Pilgrim Nuclear Power Plant in Plymouth, Massachusetts by June 1, 2019. Entergy Corporation, which is one of the largest energy companies in the United States, cited economic factors in making the decision to close the plant.

Pilgrim 1 is a General Electric Type 3 boiling water reactor with an operating license that is set



## States and Compacts *continued*

to expire on June 8, 2032. However, according to Entergy, the nuclear power station's revenues have been significantly impacted by low wholesale energy prices driven by record low natural gas prices and shale gas production. The company also cited a decrease in power prices of approximately \$10 per megawatt hour, which represents an annual loss of more than \$40 million in revenues for Pilgrim.

According to news reports, Entergy blamed "unfavorable state energy proposals that subsidize renewable energy resources at the expense of Pilgrim and other plants" in making its decision. There is reportedly a proposal under consideration in Massachusetts that could hurt the nuclear plant financially, as it would provide above-market prices to utilities in Canada for hydropower representing about 33 percent of the state's electricity demand. In addition, a recent state order may further lower the price of natural gas, thereby potentially increasing the region's reliance on it.

Entergy's Chair and Chief Executive Officer Leo Denault was quoted as describing the decision to shutter Pilgrim as "incredibly difficult ... because of the effect on our employees and the communities in which they work and live." In the same news report, Entergy officials described "design flaws" in the energy market that do not compensate nuclear power plants for providing carbon-free, large-scale 24/7 energy generation and onsite fuel storage.

Company officials were also quoted as saying that they had invested hundreds of millions of dollars to improve Pilgrim's safety, as well as its reliability and security. Nonetheless, the company faces increased operating costs and enhanced U.S. Nuclear Regulatory Commission (NRC) oversight related to the agency's recent placement of Pilgrim in Column 4 of the Reactor Oversight Process Action Matrix.

In terms of decommissioning, the plant's trust is reported to have excess financial assurance for

license termination activities above NRC-required assurance levels. Filings with the NRC for planned shutdown activities will determine whether any other financial assurance may be required and will specifically address funding for spent fuel management. According to Entergy officials, however, no additional funding is currently anticipated.

*(Continued from page 1)*

The Subcommittee hearing witness list was formally noticed at <http://energycommerce.house.gov/hearing/update-low-level-radioactive-waste-disposal-issues>.

### Subcommittee Press Release

The Subcommittee news release on the hearing stated in part as follows:

In 1980, Congress passed the Low-Level Radioactive Waste Policy Act to establish a national policy for the disposal of Low-Level Radioactive Waste (LLRW). Members will examine ongoing issues relating to the implementation of the Act, which provided state governments with the responsibility of managing and disposing of LLRW generated within state borders, in an effort to find out what's working with the law, what's not, and how low-level waste interstate compacts are functioning. The subcommittee will also examine the Nuclear Regulatory Commission's regulations governing management and disposal of low-level radioactive waste. Members will also hear from the Department of Energy about the federal government's disposal strategy and receive an update on DOE's plan to dispose of waste Greater Than Class C – the most hazardous LLRW.

Full Committee Chairman Fred Upton (R-MI) and Subcommittee Chairman Shimkus added, "We're looking forward to an informative discussion next week as we work to ensure that the Low-Level Radioactive Waste Policy Act is working as it was intended and that any issues related to its implementation are addressed. The federal government is also responsible for the disposal of a significant amount of nuclear materials,

which requires effective planning and a disposal pathway. Getting these answers will help provide the foundation to identify the path forward for the permanent disposal of nuclear materials."

The subcommittees press release can be found at <http://energycommerce.house.gov/press-release/next-week-subvenvecon-examine-low-level-radioactive-waste-disposal-issues#sthash.9NMzHnhs.dpuf>.

### Background and Issues as Per Majority Memorandum

In preparation for the hearing, a Majority Memorandum was posted to the Subcommittee's web site.

**Issues** The Majority Memorandum identifies the following issues that may be examined at the hearing:

- issues associated with implementing the Low-Level Radioactive Waste Policy Act;
- NRC revisions to Part 61 regulations for LLRW facilities; and,
- DOE's efforts to dispose of LLRW, specifically GTCC waste.

**Background Information** The Majority Memorandum contains the following background information:

Low-Level Radioactive Waste (LLRW) is generated from a wide variety of industrial, research, medical, and utility activities. LLRW is material that is contaminated with radioactive material or has become radioactive through neutron radiation. This waste generally has a shorter half-life to decay and is less radioactive

than spent nuclear fuel and high-level waste.

The Nuclear Regulatory Commission (NRC) classifies LLRW into four categories. Class A is the least hazardous material with the most flexible disposal regulations. Classes B and C are more radioactive with longer decay time and have more stringent NRC restrictions on disposal facilities. Greater Than Class C (GTCC) is considered the most hazardous LLRW. NRC regulations state that Class A, B, and C can be disposed of in a near-surface disposal, while GTCC is not suitable for near-surface disposal. Of the amount of LLRW that is generated annually, a vast portion is categorized as Class A material. In 2014, 98.5 percent of the 1.13 million cubic feet of commercial LLRW that was disposed of was Class A waste.

In 1980, Congress passed the Low-Level Radioactive Waste Policy Act to establish a national LLRW disposal policy. The law left responsibility for management and disposal of Class A, B, and C LLRW generated within State borders to each State government, but made the Federal government responsible for GTCC. The Federal government also is responsible for the disposal of three types of Federal waste: Department of Energy (DOE) generated waste, decommissioning waste from the U.S. Navy, and waste from nuclear weapons program research, development, testing, and production.

The Act encouraged States to form regional compacts that would work together to site, license, and operate disposal facilities for LLRW generated

within compact States. In 1986, the Low-Level Radioactive Waste Policy Act Amendments of 1985 were enacted to provide greater authority to the existing host States by permitting host States to restrict waste from outside the compacts in which they were located. To date, ten compacts have formed and approved by Congress.

LLRW is disposed of at sites that meet NRC standards for low-level waste disposal facilities guided by 10 CFR Part 61 (Part 61 regulations). The facilities must be licensed either by the NRC or by the host State, if the State is part of the Agreement State Program with the NRC. Although thirty-four States do not have access to a compact disposal facility, currently, there are four sites that do accept LLRW, all of which are located in Agreement States:

- *EnergySolutions* Clive Operations, Clive, UT – The facility receives waste from all regions of the United States, but is limited to only Class A waste.
- Barnwell Low-Level Radioactive Waste Disposal Facility, Barnwell, SC – The facility accepts LLRW from the three States that are part of the Atlantic Compact, including South Carolina, New Jersey, and Connecticut. The facility receives Class A, B, and C LLRW. The State of South Carolina restricted access to the site in 2008 to just compact members.
- U.S. Ecology, Richland, WA – The facility accepts waste from the Northwest Compact (Washington, Oregon, Idaho, Montana, Wyoming, and Utah) and Rocky Mountain Compact (Nevada, Colorado, and New

Mexico). The facility can receive Class A, B, and C waste.

- Waste Control Specialists (WCS), LLC, Andrews County, TX – WCS accepts waste from the Texas Compact generators (Texas and Vermont) and from outside generators with approval from the Compact. The facility receives Class A, B, and C waste.

The NRC is currently revising Part 61 regulations, which govern low-level radioactive waste disposal facilities to include site-specific technical analysis and criteria, rather than existing generic standards. In March 2015, NRC Staff issued the Proposed Rule for Low-Level Radioactive Waste Disposal for public comment.

Section 631 of the Energy Policy Act of 2005 directed DOE to submit a recommendation to Congress for disposal of GTCC material. DOE has yet to make a recommendation, but has considered certain sites as part of the process to prepare an environmental impact statement. In addition to disposal of GTCC material, DOE manages, stores, and disposes of LLRW at DOE sites across the country as part of its environmental cleanup efforts, national laboratory system management, and nuclear stockpile programs.

*(Citations Omitted)*

*The Majority Memorandum, a witness list, and witness testimony are available at <http://energycommerce.house.gov/hearing/update-low-level-radioactive-waste-disposal-issues> as they are posted.*

*If you have any questions regarding this hearing, please contact Andy Zach or David McCarthy of the Committee staff at (202) 225-2927.*

### ***Nuclear Power Plants and Other NRC Licensees***

## **News Briefs for Nuclear Power Plants Across the Country**

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

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

### **Atlantic Compact/State of Connecticut**

**Millstone Nuclear Power Plant** On October 13, 2015, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency had begun a Special Inspection at the Millstone Unit 2 nuclear power plant to review issues associated with an “Unusual Event” that was declared at the facility on October 4, 2015. The declaration was based on reactor coolant system leakage of greater than 25 gallons per minute. The leakage came from a relief valve on the plant’s shutdown cooling system, which is used to provide cooling to the reactor when it is out of service. The Dominion-owned and operated plant—which is located in Waterford, Connecticut—was preparing to enter a refueling and maintenance outage at the time of the event. In response to the leakage, the shutdown cooling system was isolated from the reactor coolant system, allowing repairs to be made and the return of the system to operational status. The emergency declaration was terminated in less than two hours and all of the leakage was contained within other plant systems, as designed. After conducting a preliminary assessment of the event, the NRC determined that it meets the criteria for a Special Inspection. Among other things, the team will review operator response to the event, equipment performance and immediate corrective actions.

“Our initial review of the event has raised questions regarding operator performance,” said NRC Region I Administrator Dan Dorman. “We have determined that the use of a Special Inspection is appropriate in this case to help the NRC better understand Dominion’s response to the event.” A report documenting the team’s findings will be issued within 45 days after the conclusion of the inspection. *For additional information, please contact Diane Screnci at (610) 337-5330 or Neil Sheehan at (610) 337-5331.*

### **Central Compact/State of Louisiana**

**River Bend Nuclear Power Plant** On September 11, 2015, NRC announced that the agency had determined that an inspection finding related to an unplanned reactor shutdown at the River Bend nuclear power plant that occurred on December 25, 2014 is of low to moderate safety significance. The plant, operated by Entergy Operations, is located in St. Francisville, Louisiana. “Entergy officials failed to ensure that a control room simulator used to train reactor operators was capable of reproducing all of the challenges those operators might encounter during a specific unplanned reactor shutdown scenario,” said NRC Region IV Administrator Marc Dapas. “As a result of this training program deficiency, the operators took some actions that unnecessarily complicated the plant’s response to the unplanned shutdown on December 25, 2014.” River Bend was operating at 85 percent capacity Christmas morning when the shutdown occurred. Following the shutdown, some problems were experienced with the plant’s feedwater system, which supplies short-term cooling water to the reactor core. Several electrical circuit breakers also failed to operate properly. Operators took compensatory actions to ensure the plant would remain in a safe shutdown mode. The NRC conducted a special inspection to better understand the circumstances surrounding the event, determine if there were any generic implications and review the licensee’s corrective actions. The team identified an apparent violation of NRC requirements for

failing to maintain a training simulator that accurately reproduced the kinds of conditions that control room operators faced on that day, complicating the operators’ efforts to respond to the event. The finding is discussed in a July 7, 2015 inspection report. On July 30, 2015, Entergy officials notified the NRC that they agreed with the preliminary finding. The NRC evaluates regulatory performance at commercial nuclear plants with a color-coded process that classifies inspection findings as green, white, yellow or red in order of increasing safety significance. The NRC has determined that the inspection finding has low to moderate (white) safety significance that may require additional inspections, regulatory actions and oversight. *For additional information, please contact Victor Dricks at (817) 200-1128 or Lara Uselding at (817) 200-1519.*

### **Central Midwest Compact/State of Illinois**

**Dresden Nuclear Power Plant** On September 23, 2015, NRC announced that agency staff had issued a white finding of low-to-moderate safety significance to the Dresden Nuclear Power Station, Unit 2, for the failure to establish measures to ensure the reliable operation of certain safety-related valves. The finding will result in increased oversight by the NRC. On February 7, 2015, one of four valves in the reactor vessel depressurization and overpressure protection safety system failed a required maintenance test. This system controls pressure in the reactor in certain accident conditions. A subsequent review showed that the valve failed because of improper reassembly during the last required test and maintenance in 2013 and increased vibration of plant components resulting from an extended power uprate. The valve failure occurred when the plant was shut down and had no impact on public health and safety. The plant began operating at extended power in 2009, which is known to increase vibration levels on certain plant components, including the valves in the reactor depressurization and overpressure protection system. NRC inspectors determined

that the facility failed to develop effective installation and maintenance procedures and guidance to prevent valve damage in light of these new conditions. “Even though this issue did not have actual consequences, the inadequate valve design and inadequate procedures could have compromised the availability of an important safety system,” said NRC Region III Administrator Cynthia Pederson. “Our follow-up inspection will carefully review the plant’s actions to address this issue and independently assess their effectiveness.” Earlier this year, the company replaced all four valves with a more robust design successfully used at other plants to prevent damage from increased vibration following a power uprate. The NRC will conduct an inspection to verify that the plant staff understands the cause of the problem and has taken sufficient action to make sure it does not recur. As a result of this finding, the plant will move from Column 1 to Column 2 of the NRC’s Action Matrix, as of the second quarter of 2015. The company was given 30 days to contest the finding. The plant, operated Exelon Generation LLC, is located in Morris, Illinois—approximately 25 miles southwest of Joliet. *For additional information, please contact Viktoria Mitlyng at (630) 829-9662 or Prema Chandrathil at (630) 829-9663.*

### **Midwest Compact/State of Missouri**

**Callaway Nuclear Power Plant** On September 21, 2015, NRC announced that the agency had begun a special inspection at the Callaway nuclear plant to review circumstances following a reactor shutdown involving the failure of three of four control valves that regulate water flow to the steam generators. The plant, operated by Ameren Missouri, is located near Fulton, Missouri. Following a reactor trip on August 11, 2015, all systems performed as expected, including the automatic start of a system that controls water flow to the steam generators. However, when operators tried to switch to the motor-driven water pumps, a control valve failed to operate. Internal circuitry in the control valve system had been

previously modified in late 2014, apparently introducing a flaw in the design that resulted in the failure. The NRC learned that another control valve in the system had been similarly modified and also experienced a failure in December 2014. The affected valves were repaired and tested prior to the plant being restarted on August 12, 2015. Additionally, the NRC is aware of a third unrelated control valve failure in the same system earlier this year that had already been corrected. “The purpose of this special inspection is to better understand the circumstances surrounding the valve failures, determine if the licensee’s extent of condition review was sufficiently comprehensive, and review the licensee’s corrective actions to ensure that the causes of the failures have been effectively addressed,” said NRC Region IV Administrator Marc Dapas. The NRC staff determined that a special inspection is warranted because the valves provide an important function in the mitigation of selected plant events. NRC inspectors will spend about a week on site looking into outstanding questions with respect to the licensee’s testing, maintenance, design change, and corrective action processes specific to these valves and the associated system. They will also evaluate the licensee’s root cause analysis and extent of condition review, and the adequacy of corrective actions. An inspection report documenting the team’s findings will be publicly available within 45 days of the end of the inspection. *For additional information, please contact Victor Dricks at (817) 200-1128 or Lara Uselding at (817) 200-1519.*

### **District of Columbia**

**DC Cook Nuclear Power Plant** On August 31, 2015, NRC officials held an open house to discuss the agency’s assessment of the DC Cook Nuclear Power Plant’s performance during 2014. The two-unit plant is operated by Indiana Michigan Power Co. It is located in Bridgman, Michigan—approximately 13 miles south of Benton Harbor. During the open house, NRC staff were available for discussions about the performance of the DC Cook plant and other topics related to the NRC’s

regulatory activities. “We host open houses, which are informal meetings between the NRC staff and the public, to have an open dialogue with local residents about the plant and other NRC-related issues of interest to the public,” said NRC Region III Administrator Cynthia Pederson. “It is a great opportunity for people to meet our resident inspectors and other staff; and a great opportunity for us to speak with people who live near the plant.” The NRC concluded that, overall, DC Cook Units 1 and 2 operated safely in 2014. All performance indicators and inspection findings for DC Cook were “green” and both units remained in Column 1 of the action matrix. As a result, both units will continue to receive the NRC’s normal level of oversight during 2015. The NRC’s 2014 assessment letter and current performance information for Unit 1 and Unit 2 is available on the NRC website. *For additional information, please contact Viktoria Mitlyng at (630) 829-9662 or Prema Chandrathil at (630) 829-9663.*

### **Commonwealth of Massachusetts**

**Pilgrim Nuclear Power Plant** On September 2, 2015, NRC announced that the agency had finalized an inspection finding of low-to-moderate safety significance and an associated violation for the Pilgrim nuclear power plant. The decision will result in increased NRC oversight at the facility in Plymouth, Massachusetts. Specifically, the enforcement action will move the plant into the Repetitive Degraded Cornerstone Column, or Column 4, of the NRC’s Action Matrix. The plant transitioned into the Degraded Cornerstone Column, or Column 3, in late 2013 as a result of unplanned shutdowns and unplanned shutdowns with complications that year. During an inspection in December 2014, the NRC found that Entergy, the plant’s owner and operator, had not adequately evaluated the causes of those shutdowns and that some corrective actions had not been completed as intended or were closed out prematurely. Although the NRC found during a subsequent inspection in early May of this year that the issues had been satisfactorily addressed,

the latest finding was identified during a Special Inspection at the plant following a storm-induced unplanned shutdown in January 2015. The more recent finding, which involved the performance of the plant’s safety relief valves, occurred while the plant was in Column 3. This will now result in the plant shifting to Column 4. “The most recent finding highlights the continuing weaknesses in the implementation of Entergy’s program for identifying, evaluating and resolving problems at Pilgrim,” said NRC Region I Administrator Dan Dorman. “Our increased oversight will focus on understanding the reasons for those weaknesses and the actions needed to achieve sustained improvements.” Dorman said the NRC would also determine the need for additional regulatory action and examine the extent of equipment, human performance and procedure quality issues that have contributed to or complicated the unplanned shutdowns in 2013 and 2015. The latest inspection finding stems from a determination that Entergy could have prevented a January 27, 2015 problem involving safety relief valves at the plant if it had properly identified, evaluated and corrected a condition that caused one of the valves to fail to operate correctly after a plant shutdown on February 9, 2013. This failure to identify and correct the valve condition also constituted a violation of NRC requirements. All of the safety relief valves were replaced with valves of a different design during a refueling and maintenance outage at the plant this spring. Prior to making a final enforcement decision, the NRC offered the company the opportunity to accept the finding without any formal response or to provide additional information in a Regulatory Conference or in writing. The company opted for a Regulatory Conference, which took place on July 8, 2015. During that session, Entergy stated that, among other things, two of the safety relief valves remained fully operable during the event while two others would have functioned at high-pressure levels. The company also noted the availability of redundant safety equipment that provides alternative means of achieving the function of the valves. As such, the finding should have been classified as very low safety

significance, the company asserted. After considering all of the available information, the NRC has concluded the finding is appropriately characterized as low-to-moderate safety significance. This is based, in part, on the determination that the as-found and historical degradation of the valves indicated there was an increased likelihood that the valves would not properly function when needed. *For additional information, please contact Diane Screnci at (610) 337-5330 or Neil Sheehan at (610) 337-5331.*

### **State of Nebraska**

**Crowe Butte Uranium Recovery Facility** On October 23, 2015, an NRC Atomic Safety and Licensing Board (ASLB) held a supplemental hearing in Rockville, Maryland on challenges to the license renewal for Crow Butte Energy Resources Inc.'s uranium recovery facility near Crawford, Nebraska. Testimony focused on specific topics related to groundwater flow and hydrogeological formations at the site. The ASLB is the independent body within the NRC that conducts adjudicatory hearings and renders decisions on legal challenges to licensing actions. The NRC renewed the facility license in 2014, with an expiration date of November 5, 2024. During the initial hearing, held on August 24-28, 2015 in Crawford, the board asked the parties for additional exhibits and testimony on groundwater flow and hydrogeological formations. Board members questioned the parties on these topics at the supplemental hearing. This proceeding has nine active contentions challenging the adequacy of the protection and evaluation of historical resources, and the NRC's analysis of the facility's impacts on surface water, groundwater, and the ecosystem. Several local residents and the Western Nebraska Resources Council (known as consolidated intervenors) and the Oglala Sioux Tribe filed these contentions. Documents related to the Crow Butte license renewal application are available on the NRC website at [www.nrc.gov](http://www.nrc.gov). Documents regarding this ASLB proceeding are available on the NRC's Electronic Hearing

Docket by clicking on the folder entitled "Crow\_Butte\_Rsrcs\_40-8943-OLA" on the left side of the page. *For additional information, please contact Maureen Conley of the NRC at (301) 415-8200.*

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## **Mid-Cycle Assessments Issued for Nation's Nuclear Plants**

On August 3, 2015, the U.S. Nuclear Regulatory Commission announced that the agency has issued mid-cycle assessment letters to the nation's 99 operating commercial nuclear power plants regarding their performance through the first half of 2015. The mid-cycle assessment period concluded on June 30, 2015 with 96 plants in the two highest performance categories.

"NRC senior management and staff perform a systematic review of all current performance indicators, recent inspection findings and other pertinent information for each domestic power reactor facility," said Scott Morris, Director of the Division of Inspection and Regional Support in the Office of Nuclear Reactor Regulation. "One key outcome from this semi-annual process is to ensure that all of our stakeholders clearly understand the basis for our assessments of plant performance and the actions we are taking to address any identified performance deficiencies."

### **Overview**

Of the 96 highest-performing reactors, 75 fully met all safety and security performance objectives and were inspected by the NRC using the normal "baseline" inspection program. The other 21 reactors were assessed as needing to resolve one or two items of low safety significance. For this performance level, regulatory oversight includes additional inspection and follow-up of corrective actions. Plants in this level include:



## Industry *continued*

- ◆ Clinton (Illinois);
- ◆ Comanche Peak 1 and 2 (Texas);
- ◆ Davis-Besse (Ohio);
- ◆ Diablo Canyon 1 and 2 (California);
- ◆ Dresden 2 and 3 (Illinois);
- ◆ Duane Arnold (Iowa);
- ◆ Fitzpatrick (New York);
- ◆ Millstone 3 (Connecticut);
- ◆ Monticello (Minnesota);
- ◆ Oyster Creek (New Jersey);
- ◆ Palisades (Michigan);
- ◆ River Bend (Louisiana);
- ◆ St. Lucie 1 (Florida);
- ◆ Salem 1 (New Jersey);
- ◆ Susquehanna 1 and 2 (Pennsylvania); and,
- ◆ Vogtle 1 and 2 (Georgia).

Davis-Besse and St. Lucie 1 have resolved their issues since the reporting period ended and have transitioned to the highest performing level.

There were no reactors in the third performance category with a degraded level of performance. For this category, regulatory oversight includes more NRC inspections, senior management attention and oversight focused on the cause(s) of the degraded performance.

Three reactors were in the fourth performance category as of the end of the mid-cycle assessment period and require the highest level of regulatory oversight including:

- ◆ Arkansas Nuclear One 1 and 2 (Arkansas); and,
- ◆ Pilgrim (Massachusetts).

Arkansas Nuclear One 1 and 2 were in this category because of two safety findings of substantial significance. Pilgrim was placed in this category because of long-standing performance issues of low-to-moderate safety significance.

### **Background**

The NRC routinely updates information on each plant's current performance and posts the latest information as it becomes available to the action matrix summary. The mid-cycle assessment letters sent to each operating reactor are also available through the NRC's web page on the Reactor Oversight Process clicking on the reactor name and then 2Q/2015 under Assessment Reports/Inspection Plans.

Annual construction oversight assessments for new reactors at the Vogtle and Summer sites and at Watts Bar 2 are also on the NRC website.

Every six months each plant receives either a mid-cycle or annual assessment letter along with an NRC inspection plan.

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

*Federal Energy Regulatory Commission / U.S. Nuclear Regulatory Commission*

### **NRC and FERC Commissioners Discuss Grid Reliability and Reactor Issues**

On October 21, 2015, the Federal Energy Regulatory Commission (FERC) and the U.S. Nuclear Regulatory Commission (NRC) held a joint meeting at FERC headquarters in Washington, D.C. A closed meeting followed the public meeting, which began at 9:00 a.m. and ended at approximately 11:30 a.m.

During the meeting, staff members from both agencies and the North American Electric Reliability Corporation were briefed by NRC and FERC Commissioners on topics including grid reliability, electricity markets, new nuclear power plants, reactor decommissioning and cyber-security.

FERC's webcast of the meeting can be viewed at <http://ferc.capitolconnection.org>.

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

*National Academy of Sciences / U.S. Nuclear Regulatory Commission*

### **NRC Ends Work on National Academy of Sciences Cancer Risk Pilot Study**

On September 8, 2015, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency is ceasing work on a National Academy of Sciences (NAS) pilot study (Phase 1 and Phase 2) of cancer risks in populations near U.S. nuclear power facilities. The NRC determined that continuing the work was impractical, given the significant amount of time and resources needed and the agency's current budget constraints.

According to its press release, the NRC continues to find U.S. nuclear power plants comply with strict requirements that limit radiation releases from routine operations. The NRC and state agencies regularly analyze environmental samples from near the plants. These analyses show the releases, when they occur, are too small to cause observable increases in cancer risk near the facilities.

"We're balancing the desire to provide updated answers on cancer risk with our responsibility to use Congressionally-provided funds as wisely as possible," said Brian Sheron, Director of the NRC's Office of Nuclear Regulatory Research. "The NAS estimates it would be at least the end of the decade before they would possibly have answers for us, and the costs of completing the study were prohibitively high."

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

*U.S. Nuclear Regulatory Commission*

## NRC Seeks Stakeholder Input re Financial Planning and Management of Byproduct Material

On October 7, 2015, the U.S. Nuclear Regulatory Commission (NRC) held a public scoping meeting and webinar on financial planning for the management of radioactive byproduct material from 1:00 - 4:00 p.m. in the Commissioner's hearing room at the agency's headquarters (NRC One White Flint North) located at 11555 Rockville Pike in Rockville, Maryland.

The meeting and webinar were held in an effort to obtain stakeholder input on the NRC staff's scoping study to determine if financial planning requirements for decommissioning and end-of-life management for some radioactive byproduct material are necessary.

The development and implementation of financial planning requirements for disused sources was a key recommendation contained in the March 2014 report from the Disused Sources Working Group (DSWG) of the Low-Level Radioactive Waste Forum (LLW Forum). Presentations on the NRC's byproduct material financial scoping study, as well as an extended brokers and processors panel on disused source management and disposition, were presented at the fall 2015 LLW Forum meeting—which was held in Chicago, Illinois on October 22-23, 2015. (See related story, this issue.)

*The March 2014 DSWG report, as well as other resource documents and information, can be found on the DSWG web site at [www.disusedsources.org](http://www.disusedsources.org).*

*Additional details regarding the NRC public scoping meeting and webinar can be found at <http://meetings.nrc.gov/pmns/mtg?do=details&Code=20151315>.*

### **Federal Register Notice**

In a *Federal Register* notice published on August 3, 2015, NRC announced that the agency plans to conduct a financial scoping study to determine if financial planning requirements for decommissioning and end-of-life management for some radioactive byproduct material are necessary. (See 80 *Federal Register* 46,057 dated August 2, 2015.)

The NRC is seeking stakeholder input and perspective on this issue. Commenters were asked to consider recommendations from recent studies addressing this topic, national and international activities, and specific questions posed by the NRC staff in the *Federal Register* notice when preparing their responses. (See *LLW Notes*, July/August 2015, pp. 1, 29 – 36.)

The deadline for submitting comments was October 19, 2015. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received on or before this date.

*The Federal Register notice announcing the staff's financial scoping study can be found at ADAMS accession number: ML15120A342 or at <http://www.federalregister.gov/a/2015-18891>.*

### **Overview and Questions for Respondents**

The NRC is conducting this financial scoping study to determine if financial planning requirements for decommissioning and end-of-life management for some radioactive byproduct material are necessary. The NRC is seeking stakeholder input and perspective on this action. Respondents are asked to consider the background material discussed in the *Federal Register* notice when preparing their comments and insights. In

## Federal Agencies and Committees *continued*

addition, the NRC staff requests that respondents consider the following topical areas, and specifically the eight listed questions, that an NRC staff internal working group has identified.

**Consideration of Feasible Disposition Paths Other Than Disposal** According to NRC, disposition pathways other than disposal may be available and appropriate for sources, including reuse and recycling. Factors important for financial planning for these disposition pathways may be significantly different from those associated with disposal.

Question 1: What disposition pathways are available to various licensee types beyond the traditional disposal pathway and should be considered in any potential new financial planning requirements?

**Establishing Funding Requirements for Dispositioning** NRC believes that establishing appropriate and equitable funding requirements sufficient for the disposition of certain individual sources is a challenge. Funding requirements must account for interim storage, conditioning, and packaging for transportation and disposal, as well as the transportation and disposal costs. NRC states that, in many cases, it is difficult to establish accurate values for each of these elements even with current information. Furthermore, NRC contends that there will be uncertainty regarding the adequacy of financial surety requirements in the future. Some sealed sources may have a service life of decades; therefore, a financial surety established today may not be adequate 20 to 30 years from now. NRC states that, at present, it may be easier to articulate an appropriate decommissioning funding plan or fixed dollar amount for Category 3 and 4 sources than for Category 1 and 2 sources because disposal access is more readily available for smaller sources.

Question 2: What should be the primary considerations in establishing and imposing

appropriate and equitable financial planning requirements on radioactive sealed sources?

### **Timeliness in Declaring Disused Sources**

Currently there is no NRC requirement for licensees to declare licensed sources as disused, although they are encouraged to do so. Financial planning requirements may establish an appropriate time (i.e., two years) for applying requirements to sources considered disused by the licensee.

Question 3: Should licensees be required to specifically declare disused sources? If so, how long after a source is disused must a licensee declare it as disused?

**Source Characteristics** According to NRC, financial planning must also account for source characteristics such as type of radioactive material, half-life, physical form, and remaining useful life. For relatively short half-life byproduct material, there is a need to evaluate the equitable application (and removal) of financial planning requirements for sources that may decay below the quantities of concern.

Question 4: How should source characteristics be factored into establishing equitable financial planning requirements for end-of-life management?

### **Compatibility With Agreement State**

**Requirements** NRC acknowledges that any agency rulemaking must involve Agreement State regulators in determining the compatibility category assigned to a potential rule.

Question 5: If NRC rulemaking is initiated as a result of this scoping study, how should NRC engage with and consider the impact on Agreement States? What would be the primary considerations in establishing compatibility levels for rule requirements?

**Applicability to General Licensees** NRC states that the applicability of financial planning

## Federal Agencies and Committees *continued*

requirements to licensees possessing generally licensed sealed sources should be considered. According to the 2014 Disused Sources Working Group report, there are at least a few licensees who possess generally licensed sources in quantities of concern.

**Question 6:** When necessary, what mechanism should be used to administer financial planning requirements on general licensees?

**Characteristics and Qualifications of the Fund Custodian** Another consideration in establishing financial planning requirements, as identified by NRC, is how to determine the proper custodian for the fund that is to be earmarked for disposition.

**Question 7:** What are the ideal characteristics and qualifications for an entity that will act as the custodian for any funds earmarked for long-term management of disused sealed sources? For instance, what characteristics and qualifications should be taken into consideration regarding the custodian's relationship to the licensee (*e.g.*, the ability of the custodian to access the funds, or the custodian's independent financial viability)? In the event that there is a residual amount remaining in the fund following payment of disposition cost, what should be the fate of the residual funds?

**Tracking** NRC states that, for licensees possessing Category 1 or 2 radioactive sealed sources, regulators can access the National Source Tracking System (NSTS) to determine the number and type of licensees that would be potentially impacted by end-of-life financial assurance requirements. For new sources, source manufacturers or suppliers could be contacted to determine how they would be impacted by any new requirements. However, it may be more difficult to implement requirements and ensure accountability regarding sources that are not tracked in the NSTS (*e.g.*, Category 3 and lower).

**Question 8:** What are the key characteristics of a tracking system for byproduct material (sealed sources) subject to financial planning requirements? Which of these characteristics are not available as part of the NSTS?

### Path Forward and Next Steps

In the *Federal Register* notice, NRC states that the topical areas and questions that agency staff has identified are consequential, but not exhaustive. "Varied perspectives from a broad range of stakeholders will be beneficial," states NRC. "Further, NRC staff anticipates that stakeholders will identify and provide their perspectives on additional issues they identify that are relevant to financial planning for management of disused or unwanted radioactive byproduct material."

Based on the results of the expanded byproduct material financial scoping study, NRC staff will compile a report with study results and recommendations for next steps to be provided to the Commission in the spring of 2016. NRC staff recommendations could include options such as limited rulemaking, broad scope rulemaking, advance notice of proposed rulemaking, development of guidance, issuance of a generic communication, or no action.

### Obtaining Information

Please refer to Docket ID NRC-2015-0182 when contacting the NRC about the availability of information for this action. Interested stakeholders may obtain publicly available information related to this action by any of the following methods:

- ◆ **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2015-0182.
- ◆ **NRC's Agency-wide Documents Access and Management System (ADAMS):** Interested stakeholders may obtain publicly available

documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select “ADAMS Public Documents” and then select “Begin Web-based ADAMS Search.” For problems with ADAMS, please contact the NRC’s Public Document Room (PDR) reference staff via phone at (800) 397-4209 or (301) 415-4737 or via email at [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov).

### Background

The issue of adequacy of financial mechanisms for end-of-life management of disused Category 1 and 2 sealed sources was raised in the 2006 report by the Radiation Source Protection and Security Task Force (Task Force), which can be found at <http://www.nrc.gov/security/byproduct/task-force.html>. The Energy Policy Act of 2005 created the Task Force, which is comprised of 14 federal agencies and the Organization of Agreement States (OAS), to evaluate the status of various factors affecting the security of Category 1 and 2 sealed sources. In Recommendation 9–2 of the 2006 report, the Task Force recommended that the NRC “evaluate the financial assurance required for possession of Category 1 and 2 radioactive sources to assure that funding is available for final disposition of the sources.”

Similarly, in the NRC staff’s 2007 “Strategic Assessment of the U.S. Nuclear Regulatory Commission’s Low-Level Radioactive Waste Regulatory Program” (Strategic Assessment), financial assurance scoping for byproduct material was identified as one of seven high priorities. (See ADAMS Accession No. ML071350291.) The Strategic Assessment identified the issue more broadly than the Task Force, whose charter was to focus on security related to Category 1 and 2 sources. In fact, the NRC staff proposed to also review the “adequacy of financial assurance requirements to anticipate the ultimate costs of disposal of or dispositioning radioactive sources not addressed by the Task Force.”

Two recent drivers that prompted the NRC staff to initiate this financial scoping study were specific recommendations related to financial planning in the 2014 Task Force report (ADAMS Accession No. ML14219A642) and recommendations related to financial assurance in a March 2014 report issued by the LLW Forum’s DSWG (ADAMS Accession No. ML14084A394).

During a September 18, 2014, Commission briefing on management of low-level radioactive waste, high-level radioactive waste and spent nuclear fuel, the Director of the Division of Waste Management and Environmental Protection (now the Division of Decommissioning, Uranium Recovery, and Waste Programs) stressed the timeliness of a scoping study related to financial requirements for end-of-life management of byproduct material, in particular disused radioactive sealed sources (ADAMS Accession No. ML14265A396), stating as follows:

The 2007 programmatic assessment [i.e., the Strategic Assessment of the U.S. Nuclear Regulatory Commission’s Low-Level Radioactive Waste Regulatory Program] included an activity to perform a scoping study of the need to revise or expand byproduct material financial assurance. Resource constraints unfortunately delayed that initiative. However, it has become more important and timely based upon the recommendation of the 2014 Radiation Source Protection and Security Task Force report as well as a report prepared by the Low-Level Waste Forum Task Group on disused cell [sealed] sources. And the staff now intends to focus on this important and emerging issue.

In a Staff Requirements Memorandum (SRM) dated September 24, 2014, in response to the briefing, the Commission stated that “[t]he staff should provide the Commission with the results of the byproduct financial scoping study and provide recommendations on next steps.” (See ADAMS

## Federal Agencies and Committees *continued*

Accession No. ML14267A365.) The staff received subsequent administrative instructions to report the results of the scoping study and recommendations by April 13, 2015. In preparing a response to the Commission in compliance with the first directive in the SRM, the staff determined that the byproduct material financial scoping study would benefit from much broader stakeholder involvement than was originally envisioned. NRC staff identifies the four primary reasons for the expanded involvement as follows:

1. Recent reports (the 2014 Task Force report and the 2014 DSWG report) addressing this topic have been generated by a limited group of federal and state stakeholders. The views and perspectives of important external stakeholders such as industry, users groups, and current licensees are needed to fully inform the scoping study and any subsequent NRC staff's recommendations.
2. Currently, there are a number of ongoing national initiatives and activities that could add perspective to the staff's consideration of options and recommendations to address byproduct material financial planning.
3. Financial planning associated with end-of-life management of byproduct material has also garnered the attention of the international community. The financial scoping study would benefit from consideration of international experience and perspectives.
4. An NRC internal working group has identified a number of topical areas that are relevant to financial planning. Broader stakeholder input would assist the NRC staff in analyzing these topical areas and potentially identifying other financial planning issues.

### **Recommendations Warranting Broader Review**

The NRC staff believes that the following recommendations warrant broader review in the scoping study and asks that respondents consider them when developing their comments.

- ♦ Summary recommendations from the report by the Interagency Working Group (IWG) on Financial Assurance for Disposition of Category 1, 2, and 3 Radioactive Sealed Sources (ADAMS Accession No. ML100050105): To address the financial assurance concerns raised in the 2006 Task Force Report, an Interagency Working Group (IWG) on Financial Assurance for Disposition of Category 1, 2, and 3 Radioactive Sealed Sources was established in December 2008. The IWG was tasked with proposing a comprehensive list of viable financial assurance solutions to increase the likelihood that Category 1, 2, and 3 radioactive sealed sources will be disposed of in a safe, appropriate and timely manner. The IWG identified three main areas of concern including: (1) lack of disposal capacity for sources, (2) an inadequate supply of containers for transportation of these sources for final disposition/disposal, and (3) storage of these sources by licensees for extended periods of time.

The IWG recognized that certain financial assurance options might mitigate, but not resolve, these concerns. Possible options considered in the evaluation included:

1. Develop risk-based financial assurance requirements and lower financial assurance thresholds in § 30.35 of Title 10 of the *Code of Federal Regulations* to capture all Category 1, 2, and 3 radioactive sealed sources.
2. Assess a universal surcharge on all licensees to cover the cost of disposal.
3. Assess an up-front surcharge on all new Category 1, 2, and 3 sources to cover the entire anticipated cost of packaging and disposal.

## Federal Agencies and Committees *continued*

The IWG report has recently been made publicly available. The recommendations from the IWG report were also articulated in the 2010 Radiation Source Protection and Security Task Force report. (See ADAMS Accession No. ML102230141).

- ◆ Recommendation 2 of the 2014 Task Force Report: According to NRC, the 2014 Task Force report highlighted that significant progress has been made to address the commercial sealed source management and disposal challenges identified in the 2006 and 2010 Task Force reports. 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, including the 36 states which had been without such an option when the 2010 Task Force report was published. The 2014 Task Force report also found that progress has also been made in addressing ongoing challenges regarding both the transportation and disposal of the highest activity sealed sources. The Task Force noted that although disposal options for many sealed sources are now available, there are currently few incentives for generators to dispose of their disused sealed sources in a timely fashion. In addition, commercial disposal options are still unavailable for many Category 1 and 2 sources, and challenges remain regarding the availability of certified Type B shipping containers required for transport of these sources. Consequently, the 2014 Task Force report contains a specific recommendation, Recommendation 2, related to financial planning that states as follows:

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 quantities of 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.

- ◆ Recommendations from the 2014 DSWG Report: The 2014 report from the LLW Forum's DSWG contained a recommendation that the NRC develop financial assurance requirements for sealed source radionuclides of concern for all categories. The report suggested that the requirement apply to general licensees as well as specific licensees. The vast majority of licensees possessing Category 1 and 2 sources are specific licensees. However, some sources in the lower categories (Category 3–5) are possessed under a general license. The DSWG offered several recommendations directly related to financial assurance including:
  1. To encourage timely disposal, the NRC should develop robust financial assurance requirements for all licensees with sources that pose a threat to national security (Categories 1 through 3). The financial assurance requirements should be adequate to cover the entire cost of packaging, transport, and disposal.
  2. The existing NRC-Conference of Radiation Control Program Directors (CRCPD) program should be adequately funded to address orphaned and abandoned sources throughout the United States. Individual states should retain the ability to operate their own orphaned and abandoned source programs, such as is currently done in Texas.
  3. Federal research agencies should require applicants to budget for the full life-cycle cost of use and disposition in grant applications.

**Relevant National Activities Related to Byproduct Material Financial Planning** In recent years, several important activities have



## Federal Agencies and Committees *continued*

ensued related to byproduct material financial assurance. The NRC invites public comment and perspective as to the impact that these activities, individually or in combination, may have on financial planning related to end-of-life management of radioactive sealed sources (or other byproduct material) including:

1. The NRC staff published a revised Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP), which increased the recommended activity limit for Cs-137 disposal from 30 curies to 130 curies allowing disposal of more Cs-137 sources. (See ADAMS Accession No. ML14169A380).
2. The Waste Control Specialists disposal facility in Texas was authorized to collect and dispose of sealed sources on April 25, 2012.
3. The Office of Radiological Security (ORS), formerly Global Threat Reduction Initiative (GTRI), of the U.S. Department of Energy/National Nuclear Security Administration (DOE/NNSA) continued to offer federally funded security upgrades based on best practices. (See <http://nnsa.energy.gov/mediaroom/factsheets/reducingthreats>.) When requested by a licensee, the ORS works to assess existing security conditions, provide recommendations on security enhancements, and (when warranted) fund the procurement and installation of jointly agreed-upon security best practices. These voluntary security enhancements complement and do not replace the NRC's current requirements. Also, some sealed sources are recovered through ORS' Offsite Source Recovery Project (OSRP).
4. The Source Collection and Threat Reduction Program (SCATR), administered by the CRCPD, was created in early 2007 to provide sealed source licensees in states which do not have access to a low-level radioactive waste disposal facility an opportunity to dispose of

certain unwanted radioactive sealed sources. (See <http://www.crcpd.org/StateServices/SCATR.aspx>). SCATR is funded through a grant provided by the DOE/NNSA.

5. New Type B packages were available for use beginning in 2014. The DOE/NNSA's ORS procured vendor services for the design, development, testing, and certification of two Type B packages to support the recovery and transportation of Category 1 and Category 2 sources commonly used in irradiators and cancer treatment devices. The new containers will enable shipment of nearly 100 percent of all commercially used devices containing Cs-137 and cobalt-60 (Co-60).
6. The CRCPD is currently convening a working group to consider revising Agreement State financial planning requirements, to include restructuring the criteria used to determine what radioactive material requires financial surety to ensure proper end-of-life management, particularly (but not exclusively) Category 1 and 2 sealed sources.

### **Recent International Activities Related to Byproduct Financial Planning**

There are also recent activities in the international community related to byproduct material financial planning. In November 2014, IAEA Nuclear Energy Series No. NW-T-1.3 was released, which summarizes the reviewed information distributed in previous IAEA publications. It also provides an up-to-date, overall picture of the management of disused sealed radioactive sources based upon the current status and trends in this field. Section 5.5 of the publication addresses aspects of financing including cost distribution, cost uncertainty, and financial implications of the lack of availability of an ownership transfer path.

In addition, the Joint Convention on the Safety of Spent Nuclear Fuel and on the Safety of Radioactive Waste Management requires that contracting parties address aspects of end-of-life source management.

## Federal Agencies and Committees *continued*

NRC invites respondents with insight into relevant international initiatives to provide their perspectives regarding international best practices or other experiences that the NRC staff should consider.

*For additional information, please contact Ryan Whited at (301) 415-1154 or at [Ryan.Whited@nrc.gov](mailto:Ryan.Whited@nrc.gov) or James Shaffner at (301) 415-5496 or at [James.Shaffner@nrc.gov](mailto:James.Shaffner@nrc.gov), both of whom are staff in the NRC's Office of Nuclear Material Safety and Safeguards.*

initiates a rulemaking to address a petitioner's concerns. The changes are intended to enhance the consistency, timeliness and transparency of the process and improve its efficiency.

More information about the petition-for-rulemaking process can be found on the NRC's web site at <http://www.nrc.gov/about-nrc/regulatory/rulemaking/petition-rule.html>.

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

### NRC Approves Changes to Petition-for-Rulemaking Process

On August 13, 2015, the U.S. Nuclear Regulatory Commission approved a final rule that will streamline and clarify its process for addressing petitions for rulemaking. The new rule was subsequently published in the *Federal Register*.

Any member of the public can petition the NRC to issue a new regulation or amend an existing one. The final rule marks the first comprehensive update to the NRC's process for considering rulemaking petitions since the process was established in 1979. The NRC published proposed changes for comment in May 2013, and considered the comments received in finalizing the rule.

The revisions will clarify the NRC's policies and practices at each stage of the petition-for-rulemaking process, including how the staff evaluates petitions and how it communicates information about both the status of petitions and rulemaking activities that address them. It also improves the process for resolving a rulemaking petition and for closing the petition docket, which would occur after the NRC denies a petition or

### NRC Holds Public Meeting re Potential Regulatory Changes for Research and Test Reactors

On October 7, 2015, the U.S. Nuclear Regulatory Commission held a public meeting in Brewster, Massachusetts to discuss potential changes to regulations for research and test reactors.

The meeting was held concurrently with the 2015 annual conference of the National Organization of Test, Research, and Training Reactors. It provided a forum for the public to ask questions and provide informal comments about proposed changes aimed at enhancing the effectiveness and efficiency of NRC regulations on research and test reactors.

Interested stakeholders can see the webcast of the NRC meeting by going to the meeting notice on the NRC's Public Meetings webpage.

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

## NRC to Hold Conference on Spent Fuel Management

On November 18-19, 2015, the U.S. Nuclear Regulatory Commission will host a regulatory conference on issues related to the management of spent nuclear fuel at the agency's headquarters in Rockville, Maryland. The Division of Spent Fuel Management Regulatory Conference 2015 will allow NRC staff, industry representatives and stakeholders to discuss regulatory and technical issues related to spent fuel storage and the transportation of radioactive material.

### Overview

On November 18, 2015, NRC Chair Stephen Burns will give the keynote address for the conference. Catherine Haney, Director of the NRC's Office of Nuclear Material Safety and Safeguards, is scheduled to give remarks. Mark Lombard and Anthony Hsia, Director and Deputy Director of the Division of Spent Fuel Management, are also listed on the conference program.

The conference will include discussions and presentations on storage licensing, minor design changes that can be made without prior NRC approval, research activities, inspections and operating experience, technical issues, transportation package certification, and consolidated storage.

### Logistics

Stakeholders who wish to participate by giving a formal presentation or sitting on a panel should e-mail Haile Lindsay at DSFM-REG-CON.Resource@nrc.gov or call him at (301) 415-0616 as soon as possible before October 31, 2015. These requests will be considered in development of the final agenda.

Online registration will be open until November 10, 2015. In order to register, please send your name, job title, and organization to DSFM-REG-CON.Resource@nrc.gov. Onsite registration will also be available at the conference. Additional information, including the preliminary agenda, is available on the conference website at <http://www.nrc.gov/public-involve/conference-symposia/dsfm.html>.

The conference is scheduled to run from 8:15 a.m. to 5:00 p.m. on Wednesday and from 7:45 a.m. to 4:15 p.m. on Thursday in the NRC's Three White Flint North, Rooms 1C3 and 1C5, as located at 11601 Landsdown Road in North Bethesda, Maryland. A telephone bridge line has been set up for those who cannot attend in person. An operator will moderate the bridge line, allowing participants to ask questions at designated times. Anyone wishing to phone in should call (888) 318-4510 and use passcode 7594791.

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

## NRC Announces Management Changes and Streamlining

By press release dated September 28, 2015, the U.S. Nuclear Regulatory Commission announced senior personnel changes that help streamline agency management and broaden the scope and diversity of its leadership at the top as the agency works to reduce its size in the coming years.

### Overview of Changes

The most senior personnel changes—which required Commission approval and will occur in early November 2015—include:

- ◆ Deputy Executive Director for Material, Waste, Research, State, Tribal and Compliance Programs Mike Weber will

## Federal Agencies and Committees *continued*

become Director of the Office of Nuclear Regulatory Research;

- ◆ Jennifer Uhle, currently Deputy Director for Engineering in the Office of Nuclear Reactor Regulation, will become Director of the Office of New Reactors; and,
- ◆ Director of Nuclear Materials Safety and Safeguards Catherine Haney will become the Region II Regional Administrator in January 2016, succeeding Victor McCree, who just assumed the agency's most senior career position as Executive Director for Operations (EDO).

In addition, the position vacated by Weber will absorb new corporate management responsibilities and be known as the Deputy EDO for Materials, Waste, Research, State, Tribal, Compliance Administration and Human Capital (DEDM). This will effectively reduce one Deputy EDO position and move the Office of Administration and the Office of the Chief Human Capital Officer under the newly titled post. Darren Ash, the current Deputy EDO for Corporate Management, will remain as the agency's Chief Information Officer and the Office of Information Services will be renamed the Office of the Chief Information Officer.

Future announcements will focus on additional steps to fill vacancies created by personnel movements and enhance succession planning.

"Our agency faces the challenge of reducing our size, becoming more efficient and delivering more value for the money," said NRC Chair Stephen Burns. "The steps announced today will put in place a management structure well suited to ensuring we accomplish our mission of protecting people and the environment even as we reduce our size and budget."

"In my discussion with the Chairman and Commissioners, I recommended changes to a number of senior executive positions as well as a

change in the organizational structure of the Office of the EDO," said McCree. "The recommendations were inspired by a desire to support agency streamlining efforts, nurture fresh perspectives and innovation, enhance learning and collaboration both across business lines and between headquarters and our regions; increase the breadth and diversity of leadership experience among the senior leadership team; and finally, support healthy executive succession planning."

### **Background**

Weber started his current position in May 2010, having previously been the Director of the Office of Nuclear Material Safety and Safeguards. He joined the NRC in 1982 as a hydrogeologist in NMSS, where he held a number of progressively more responsible positions. In 2002, following the terrorist attacks on September 11, 2001, Weber was appointed as the Deputy Director of the newly established Office of Nuclear Security and Incident Response (NSIR). In 2006, he was appointed as the Deputy Director of the Office of Nuclear Reactor Regulation (NRR). He also served as an Assistant to former Chair Kenneth Carr and as the Executive Assistant and Director for former Chair Shirley Ann Jackson. Weber holds a Bachelor of Science degree in geosciences from Pennsylvania State University, is a graduate of the NRC's Senior Executive Service Candidate Development Program and has received a number of prestigious awards for public servants.

Uhle, who has an undergraduate degree and doctorate in nuclear engineering from MIT, joined the NRC as part of the agency's Graduate Fellowship Program. From 1996 to 2005, she held a number of progressively responsible positions in the Office of Nuclear Regulatory Research (RES), NRR, and the office of former Chair Richard Meserve. In 2005, she was selected for the Senior Executive Service (SES) position of Deputy Director for Materials Engineering, RES, and subsequently held additional senior positions in that office. From 2012 to mid-2015, she served as the Deputy

## Federal Agencies and Committees *continued*

Director for Reactor Safety Programs in NRR until obtaining her current position. She is a graduate of the SES Candidate Development Program.

Haney joined the NRC in 1981 as a health physicist intern in the former Office of Inspection and Enforcement. In 1983, she left government service for private industry and worked as a consultant at Health Physics Services Inc., supporting the medical and industrial community. In 1989, Haney returned to the NRC's NMSS organization as a Quality Assurance Specialist and later as a Senior Health Physicist. She entered the SES Candidate Development Program in 2001, and upon completion began serving in more senior positions in NMSS, NSIR, NRR and in the office of former Chair Nils Diaz. In 2008, Haney was appointed Deputy Director of NMSS, and became the office director in May 2010. She holds a Bachelor of Science degree in radiological technology from the University of Maryland and a master's degree in radiological science from Emory University.

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

health physics and related fields to meet expected future workforce needs.

During this fiscal year, the NRC awarded grants to more than 30 higher education institutions, including Minority Serving Institutions.

The NRC announces grant opportunities on [www.grants.gov](http://www.grants.gov), which helps the public find and apply for federal funding opportunities. A panel of expert reviewers evaluates all the grant proposals. The panel composition is diverse, with most reviewers having both experience reviewing proposals for government agencies and advanced credentials in nuclear engineering, health physics, radiochemistry or related disciplines. Each panelist has to certify that they do not have any conflict of interest for the proposals they evaluate.

With the award of the FY15 grants, the NRC has awarded more than \$138 million since the program began in 2007. The complete list of grants awarded and general information about the grant program are posted on the NRC's website at [www.nrc.gov](http://www.nrc.gov).

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

## NRC Awards Fiscal Year 2015 Grants

On September 30, 2015, the U.S. Nuclear Regulatory Commission announced that the agency had awarded \$16.6 million in grants to academic institutions in fiscal year 2015. The grants are used for scholarships, fellowships, trade school and community college scholarships and faculty development.

Congress authorized the NRC to provide federal funding opportunities to qualified academic institutions to encourage careers and research in nuclear, mechanical and electrical engineering,

## Obtaining Publications

# To Obtain Federal Government Information

### by telephone

- DOE Public Affairs/Press Office ..... (202) 586-5806
- DOE Distribution Center ..... (202) 586-9642
- EPA Information Resources Center ..... (202) 260-5922
- GAO Document Room ..... (202) 512-6000
- Government Printing Office (to order entire *Federal Register* notices) ..... (202) 512-1800
- NRC Public Document Room ..... (202) 634-3273
- Legislative Resource Center (to order U.S. House of Representatives documents) ..... (202) 226-5200
- U.S. Senate Document Room ..... (202) 224-7860

### by internet

- NRC Reference Library (NRC regulations, technical reports, information digests, and regulatory guides)..... [www.nrc.gov](http://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)..... [listserv@unixmail.rtpnc.epa.gov](mailto:listserv@unixmail.rtpnc.epa.gov)
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- U.S. Government Printing Office (GPO) (for the Congressional Record, *Federal Register*, congressional bills and other documents, and access to more than 70 government databases)..... [www.access.gpo.gov](http://www.access.gpo.gov)
- GAO homepage (access to reports and testimony) ..... [www.gao.gov](http://www.gao.gov)

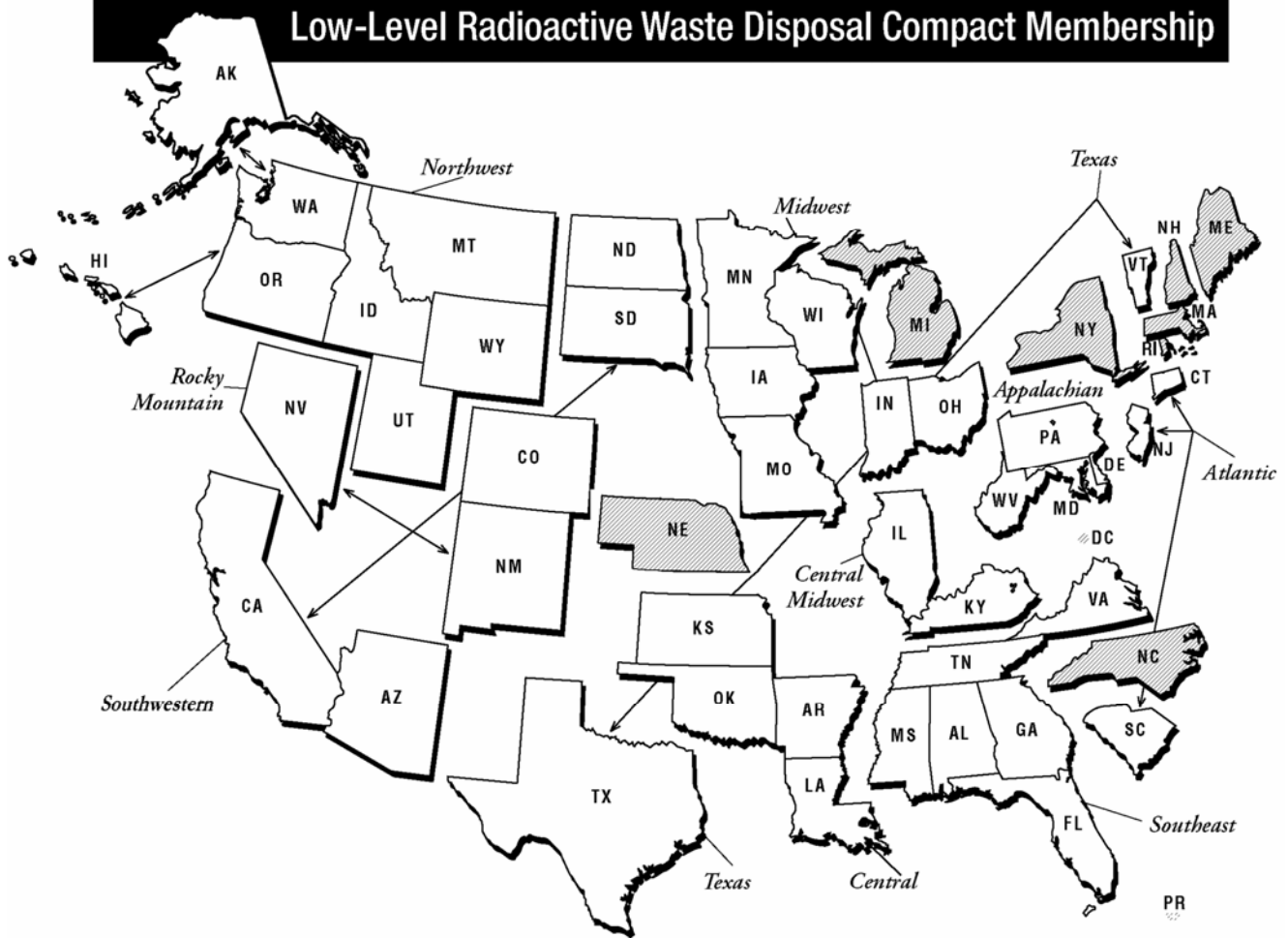
**To access a variety of documents through numerous links, visit the website for the LLW Forum, Inc. at [www.llwforum.org](http://www.llwforum.org)**

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# Low-Level Radioactive Waste Disposal Compact Membership



## Appalachian Compact

Delaware  
Maryland  
Pennsylvania  
West Virginia

## Atlantic Compact

Connecticut  
New Jersey  
South Carolina

## Central Compact

Arkansas  
Kansas  
Louisiana  
Oklahoma

## Central Midwest Compact

Illinois  
Kentucky

## Northwest Compact

Alaska  
Hawaii  
Idaho  
Montana  
Oregon  
Utah  
Washington  
Wyoming

## Midwest Compact

Indiana  
Iowa  
Minnesota  
Missouri  
Ohio  
Wisconsin

## Rocky Mountain Compact

Colorado  
Nevada  
New Mexico

*Northwest accepts Rocky Mountain waste as agreed between compacts*

## Southeast Compact

Alabama  
Florida  
Georgia  
Mississippi  
Tennessee  
Virginia

## Southwestern Compact

Arizona  
California  
North Dakota  
South Dakota

## Texas Compact

Texas  
Vermont

## Unaffiliated States

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Michigan  
Nebraska  
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Puerto Rico  
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