



**About LLW Forum**

LLW Forum, established to facilitate state and compact implementation of the Low-Level Radioactive Waste Policy Amendments Act of 1985, promotes the objectives of the low-level radioactive waste regional compacts. LLW Forum provides opportunity for state and compact officials to share information with each other and to exchange views with officials of federal agencies and other interested parties.

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**Acronyms Used in LLW notes**

CFR	◆ Code of Federal Regulations
CRCPD	◆ Conference of Radiation Control Program Directors
DOE	◆ US Department of Energy
DOT	◆ US Department of Transportation
EPA	◆ US Environmental Protection Agency
IAEA	◆ International Atomic Energy Agency
ICRP	◆ International Commission on Radiation Protection
LLWF	◆ Low-Level Waste Forum, Inc.
NARM	◆ Naturally occurring and accelerator produced radioactive material
NCRP	◆ National Council on Radiation Protection and Measurements
NORM	◆ Naturally occurring radioactive material
NRC	◆ US Nuclear Regulatory Commission
OAS	◆ Organization of Agreement States
TENORM	◆ Technologically enhanced naturally occurring radioactive material

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## Transformation at the Forum ...

### Transformation Meeting

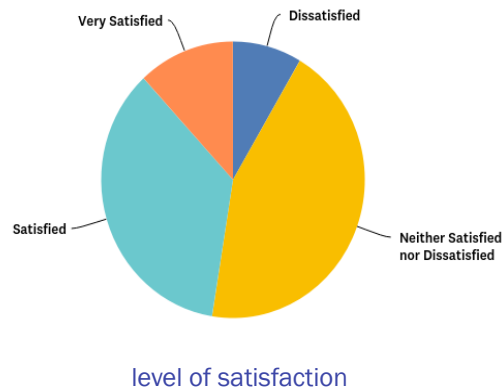
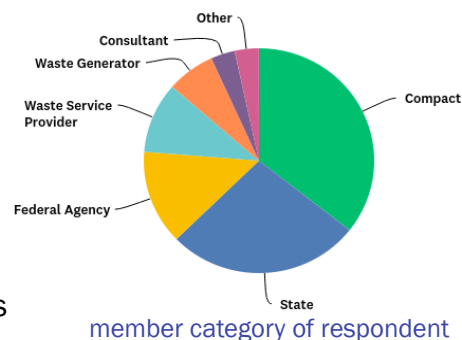
The Transformation Meeting was held October 30 in Chicago, Illinois, in conjunction with the Low-Level Radioactive Waste Forum Fall Meeting occurring the following two days. A total of 18 LLW Forum Board members and guests attended.

Highlights included an update of the past efforts of the Transformation Committee's work. Status of four subcommittees were presented:

1. Executive Director Search Subcommittee headed by Kathy Davis - Job description and recruitment/search accomplished and hiring should be completed soon
2. Future Meetings Subcommittee headed by Alyse Peterson - Selecting site and beginning planning for the Spring Meeting
3. Grants and Working Group Subcommittee headed by Alyse Peterson - Grant renewals soon due for Department of Energy (DOE), National Nuclear Security Administration (NNSA) and DOE Environmental Management grants
4. Mission and Operations Subcommittee headed by Ed Hammerberg and Rusty Lundberg - Kristen Schwab with the Northwest Compact and Radiation Control Program of Washington State presented results of a survey she and Commissioner Ed Hammerberg conducted in order to study the past, present and future directions for the Forum.

### SUMMARY OF FORUM SURVEY RESULTS

- Majority respondents from compacts and involved with LLWF greater than 8 years
- About 50% fees appropriate versus too high
- Members value the meetings, and prefer 2 meetings per year
- Renewing Membership: Yes 62 %; No 9%; Not Sure 38%
- Desire to have greater transparency, particularly in funding issues
- Fiscal management, costs/fees, funding
- Allow for more discussion opportunities during meetings
- Allow for more evening networking opportunities during meeting
- Modernize meetings/handouts/newsletters
- Develop new LLWF Mission
- Maintain/enhance relationships
- Incorporation of survey results
  - Maintained Fall Meeting, 1.5 days
  - Added transparency sessions to meeting agenda
  - Added discussion time to meeting agenda
  - Added networking opportunities to meeting
  - Post financial information on the LLWF website for public access
  - Modernize



## Executive Committee

The Executive Committee meeting was conducted by Earl Fordham.

The 2019 Financial Report by Ted Buckner, Treasurer, was presented. The 2020 Budget was presented for approval and adoption. The LLW Forum had been operating at a deficit since 2012. However, with the transformation efforts, in 2019 it operated with a slight deficit. Conservative assumptions for 2020 calendar year are that the LLW Forum will operate with a surplus of \$100,000.

The Forum approved hiring an experienced accountant and the current accounting firm will no longer provide services after the end of this year. Other services for information technology, administrative services and a publications editor were included in the budget for 2020. An update on the Executive Director search indicated that the Forum is very close to hiring.

Future 2020 meetings were set: Spring in March, Denver, CO Transformation Meeting on the 24th all day, Forum Meeting 25th all day and 26th until around noon. DSWG in the afternoon of the 26th and morning of the 27th.

Fall 2020 in San Antonio, Texas - Dates to be announced.

A resolution in honor of Todd Lovinger, retired Executive Director, was adopted and has not yet been presented to him.

## Fall Forum Summary

From the Executive/Business Meeting, highlights included the need to transform and to be more open for participant input. Details from the Executive Committee meeting were shared.

The Transformation Process Panel provided information from the Transformation Committee meeting detailed in this issue.

Overviews from the LLW Forum's Disused Sources Working Group (DSWG), by Michael Klebe, and the LLW Forum's Part 61 Working Group, by Rusty Lundberg, were provided. Both overviews presented important work that has been accomplished. See more on these Working Groups in this edition.

In an Open Session for participation and input, several attending expressed support for transformation of the Forum.

Presentations and panel discussion on decommissioning covered waste site operations, industry perspectives, decommissioning models, legislation and other key issues.

### Texas Low-Level Radioactive Waste Disposal Compact Commission

Commissioner Linda Morris gave an update on TLLRWDC, giving a brief history and current status.

31 Texas Administrative Code 675.25 for "Small Quantity Generators" (SQG), became effective September 2019. A 2000 curie (total) set-aside for generators who generate small volumes with relatively low activities was adopted; this guarantees a pathway towards disposal for SQGs who usually use brokers.

Other issues are staffing, funding and Sunset Review in 2021 as well developing a contingency plan should the waste facility need to be closed, or otherwise be unable to accept additional waste.

### Waste Control Specialists (WCS)

An update was given by David Carlson, President & COO.

TX Compact Waste Disposal Facility Statistics:

- 9,000,000 cubic feet – licensed waste disposal capacity
- TCEQ has ownership of Texas Compact Landfill, and WCS operates it
- 475,000 cubic feet currently constructed (1st phase)
- 150,000 cubic feet used to date

License Term – through September 2024 with provision for 10-year renewals thereafter. Mr. Carlson said WCS is changing the market for management and disposal of low-level radioactive waste with new technical approaches, economic options and business approaches.

**NRC Update**

Bo Pham from the NRC covered topics including:

- 10 CFR Part 61 rulemaking, beginning with the proposed rulemaking in 2014
  - Adds requirement for site-specific analyses
  - Introduces a compliance period of 1,000 years for traditional low-level waste
  - Adds an analysis for long-lived low-level waste for a post-1,000-year performance period
  - Allows flexibility for Agreement States to analyze longer timeframes
  - Restores “grandfathering” provision
- Draft Regulatory Basis for Disposal of Greater-than-Class C (GTCC) and Transuranic Waste (TRU), draft published in July 2019
  - Evaluated GTCC waste described in DOE’s Final Environmental Impact Statement for GTCC Waste (published in 2016)
  - Presented three alternatives for implementation of GTCC disposal under 10 CFR Part 61 (i.e., no regulatory change, develop new guidance, and conduct a rulemaking)
  - Found the majority of GTCC waste is potentially suitable for near-surface disposal (approximately 80% by volume)
  - Found that most (approximately 95%) of the potentially suitable GTCC waste could be regulated by an Agreement State
- Very Low-Level Waste, issue updated guidance for comment in 2020 - important for compact sites regarding anticipated volumes
- NEIMA Section 108 Nuclear Energy Innovation and Modernization Act (NEIMA) Section 108 - Section 108 requires a report to Congress by July 14, 2020 identifying best practices for establishment and operation of local community advisory boards (CABs) for decommissioning nuclear power reactors, including lessons learned from such organizations
- Decommissioning rulemaking - next steps:
  - Upon Commission vote, staff will publish proposed rule for 75-day public comment period
  - Public meeting during comment period
  - Public meeting to discuss implementation of rule prior to delivering the draft final rule to the Commission
  - Submit the draft final rule to the Commission

**EnergySolutions Disposal Sites Update**

by Vern Rogers

- The presentation discussed Clive Waste Acceptance Capability, Operations and Capacities.
- Class A LLRW and NORM
  - Soil, resin, filters, operational waste, large components, decommissioning
  - Radioactive Liquids
  - Two 10,000 gallon tanks to process real-time
  - Processing up to 20,00 gallons per week
  - Mixed Waste (Radioactive and RCRA Hazardous)
  - Mixed Waste Treatment
  - Stabilization, Amalgamation, Thermal Desorption, Macroencapsulation, Solidification
    - Lead shielding, lead acid batteries, solvent contaminated waste
    - PCB/Radiactive Waste
    - Large Component Logistics
    - UCNI and Export Controlled Waste
    - Other hazardous substances (e.g., asbestos, beryllium)

**SAFSTOR Decommissioning**

by Tony Orawiec, Exelon

- Experience with decommissioning included discussion of approaches and management model. Experiences included:
- Peach Bottom Station – York County, PA
  - Exelon Experience – Dresden Station – Morris, IL
  - Exelon Experience – Zion Station – Zion, IL
  - Exelon Experience – Oyster Creek – Forked River, NJ

**NORM IX Summary**

by Phil Egidi, EPA

NORM IX was held in Denver Colorado, September 22 – 27, 2019.

More than 360 attended from 48 countries. The meeting consisted of Plenary Session, Topical Sessions, Special Workshops, Training Sessions, Poster Sessions, Field Trips, and Closing Ceremony.

Topical sessions included:

- Regulations and Recommendations for NORM
- Aspects of Protection of Workers, the Public and the Environment
- Decommissioning and Remediation
- NORM Measurements

- Phosphate and Phosphogypsum
- Oil and Gas
- Waste Management
- Miscellaneous Topics and Stakeholder Communication
- Environment Special Session
- IAEA Workshop
- CRCPD Workshop

### Washington State Contamination Event

Earl Fordham

Mr. Fordham discussed the incident in Washington involving a large Cs-137 sealed source rupture.

### DOE/NNSA Office of Radiological Security (ORS)

David Martin, NNSA-ORS/Energetics, Inc.

The program enhances global security by preventing high activity radioactive materials from use in acts of terrorism. Strategies are:

- Protect sources of radioactive material
- Remove and properly dispose of sources
- Reduce global reliance on such sources by promoting development of alternative technologies

Programs are:

- ORS/Off-Site Source Recovery Project (OSRP)
- CRCPD Source Collection and Threat Reduction (SCATR) Program

Remaining challenges are:

- Greater-than-Class C (GTCC) commercial disposal not yet available
- NRC draft regulatory basis review underway
- Impact of the 2015 NRC Branch Technical Position (BTP) sealed source provisions remains uncertain:
  - Limited use to date of the "Alternative Approaches" for disposal of high-activity Class B/C sources
  - Alternative approach pilots
  - Commercial disposal of sources is a significant expense for generators relative to storage
  - Disposal of foreign origin transuranic sources remains problematic

### Utah Update

by Rusty Lundberg, Deputy Director, Utah Division of Waste Management and Radiation Control

Highlights included discussion of legislation and Clive facilities operations.

Legislation passed in 2019 as House Bill 220 (Effective – 5/14/2019), modifies provisions relating to the acceptance and disposal of radioactive waste:

- Continues – Class B and Class C prohibition, but clarifies waste classification is determined at the time of acceptance
- New Option – Director can authorize alternate requirements for waste classification and characteristics, based on:
  - Waste characteristics
  - Disposal site
  - Site-specific disposal method
  - Alternate waste classifications patterned after 10 CFR 61.58
- Requires notice to a legislative committee within five business days of authorizing an alternate waste classification
- Directs the director to require certain actions related to concentrated depleted uranium, such as:
  - Require an approved performance assessment for more than one metric ton of concentrated depleted uranium
  - Require designation of a federal cell
  - Require, under an acceptable agreement, the Department of Energy to:
    - Accept perpetual management of a federal cell (if approved) for disposal of concentrated depleted uranium
    - Take title to the land on which the federal cell is located
    - Take title to the waste in the federal cell
    - Accept financial stewardship for the federal cell and waste in the federal cell

## Accelerated Decommissioning Panel

### Accelerated Decommissioning Panel, lead by Discussion Leader Gary Robertson, featured Industry Overview, Lessons Learned, Waste Volumes Projected vs. Realized, and State and Local Community Involvement

Discussion gave ranges of perspectives including industry experience, visual description through a video of decommission of a facility outside of Chicago, NRC's role and challenges, and upcoming decommissioning in California at San Onofre Nuclear Generating Station (SONGS).

### Innovation in Decommissioning Business Models

Bruce Montgomery, Nuclear Energy Institute (NEI)

"Ours is the only major industry that must have a plan for and means to fund end-of-life before a license to operate is even granted."

Drivers that are changing the D&D market:

- Little upside for owners if project underruns NDT
- Transfer downside risk of cost overruns
- Focus on the core business of operations
- NDT balances have grown, facilitating asset transfers
- More D&D experience equals more cost predictability
- More Joint Ventures willing to assume and manage D&D risks

### EnergySolutions Overview of Zion Decommissioning

Jerry Houff, Zion General Manager

Waste Totals for Zion Project

- Total estimated weight shipped in Gondola railcars and trucks is 696 million pounds of waste for entire project to date
- Total estimated volume of waste shipped in gondola railcars and trucks is 8.4 million cubic feet to date
- Approximate Density of waste is 83 lbs. per cubic foot
- Project is approximately 95% complete
- Waste Shipped To:
  - EnergySolutions Clive Utah Bulk Waste Facility
  - EnergySolutions Clive Utah Containerized Waste Facility
  - EnergySolutions Gallaher Rd, Facility- Asbestos disposal
  - Studsvick Processing Facility Class B Waste
  - Waste Control Specialists (WCS) in Andrews TX (Class B&C Waste)

### Decommissioning Reactor Oversight Zion

Rhex A. Edwards, Senior Health Physicist, U.S. NRC Region III

Inspection Lessons Learned

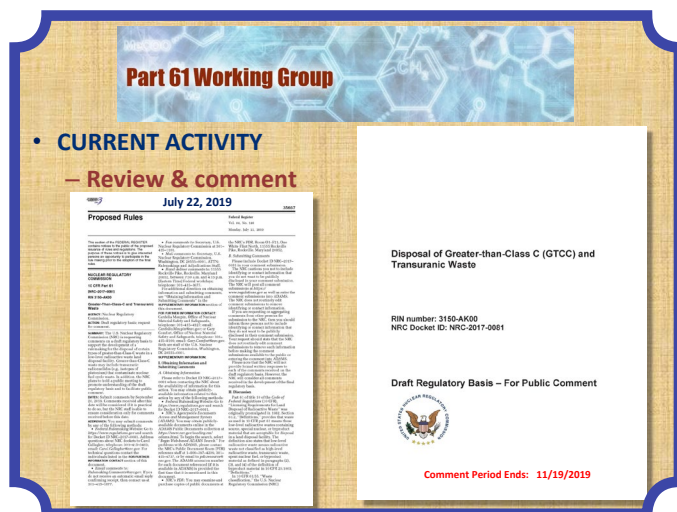
- Clarity of regulatory requirements
- Communications
- Strong project management skills needed for success
- Remediation and Final Status Surveys are performed at risk until approval of the License Termination Plan

### San Onofre Nuclear Generating Station (SONGS)

Stevie Vaughn, Accelerated Mgr. SONGS Decommissioning to begin.

## Part 61 Working Group

A comment on NRC's Draft Regulatory Basis for GTCC and Transuranic Waste Disposal has been prepared in conjunction with a teleconference on the topic. The Forum's comment will be submitted to NRC by the November 19, 2019 deadline as Rusty Lundberg indicated at the Forum meeting.



Part 61 Working Group was organized in 2012 to provide input to the NRC's Part 61 rulemaking initiative

[www.part-61.org](http://www.part-61.org)  
 --access available for public and through members only section--

## Disused Sources Working Group

## DSWG Summary of Recommendations from Fall Meeting Presentation

by Michael Klebe

- Consider alternative technologies for higher activity sources.
- Improve education and awareness of the life-cycle costs of using sources.
- Develop programs to increase reuse and recycling of sources in storage.
- Impose time limits on storage of disused sources.
- Place restrictions on large inventories held by manufacturers and suppliers.
- Modify licensing and inspection processes to encourage licensees to take advantage of disposal options.
- Encourage licensees to expand and increase funding for disposal of sources.
- Update financial assurance requirements to reflect actual costs.
- Increase availability and reduce cost of Type-B shipping containers.
- Enhance tracking of disused sources deemed to pose a security threat.
- Begin planning for future transition of programs that provide unintended disincentives for disposal.
- Develop more consistent policies restricting import of foreign sources.

There is more work to be done!

- Sealed source/device exchange pilot study.
- Develop awareness campaign (workshops) on source disposition.
- Re-evaluate and update recommendations.

If the LLW Forum values the mission and work of the DSWG and wants it to continue, then additional members are required.



**Atlantic Compact**

Connecticut •  
New Jersey • South Carolina

The Atlantic Compact met on October 22, 2019, in Columbia, South Carolina. Presentations and updates were provided by:

- the site operator (Chem-Nuclear/EnergySolutions);
- representatives of the 13 nuclear power plants in the compact;
- South Carolina Department of Health and Environmental Control (SCDHEC) staff;
- Office of Regulatory (ORS) staff; and
- Atlantic Compact Commission management staff.

For more information, contact Max Batavia at telephone 803-240-2774 or max@atlanticcompact.org

The next meeting will be in April 2020.

**Appalachian Compact**

Delaware • Maryland •  
Pennsylvania • West Virginia

**Annual Meeting**

10:00 AM – 12:30 PM

November 8, 2019

The agenda includes reports from the Chair, Executive Director and Treasurer regarding the financials and audit report (FY 2018-2019); Status and Recent Developments regarding Commercial Low-Level Radioactive Waste Disposal Facilities; LLRW Generation in the Appalachian Compact; Correspondence to DOE re: Surcharge Funds; Update on LLW Forum Activities; Nuclear Reactor Decommissioning; Election of Officers; Adoption of Proposed Budget for FY 2020-21; and Schedule 2020 Annual Meeting.

For more materials for the meeting visit:

<https://www.dep.pa.gov/Business/RadiationProtection/Appalachian/Pages/Meetings-and-Bylaws.aspx> information and [http://files.dep.state.pa.us/Radiation-Protection/BureauOfRadiationProtection/BRPPortalFiles/ASLLRWC-2019/1\\_Commission\\_Mtg-Agenda-2019.pdf](http://files.dep.state.pa.us/Radiation-Protection/BureauOfRadiationProtection/BRPPortalFiles/ASLLRWC-2019/1_Commission_Mtg-Agenda-2019.pdf)

Contact person: Rich Janati, Phone: 717.787.2163 | [www.depweb.state.pa.us](http://www.depweb.state.pa.us)

**Central Midwest Compact**

Illinois • Kentucky

The next meeting will be April 7, 2020. Frankfort, Kentucky, was tentatively selected for the Spring Meeting.

**Southeast Compact**

Alabama • Florida • Georgia •  
Mississippi • Tennessee • Virginia

**Florida**

### **NRC Proposes \$232,000 Civil Penalty for Florida Power & Light, Bans Former Executive for Discrimination at St. Lucie Nuclear Plant**

The Nuclear Regulatory Commission has proposed a \$232,000 fine against Florida Power & Light and has barred a former FP&L executive from NRC-licensed activities for five years, for retaliating against a contract employee who raised a safety concern while working at the St. Lucie Nuclear Power Plant near Fort Pierce, Florida. The NRC concluded FP&L and its contractor, Framatome, cancelled the employee's work assignment after the individual filed a concern in St. Lucie's corrective action program during a refueling outage in 2017. The NRC concluded the former executive deliberately submitted incomplete and inaccurate information while the agency investigated the cancelled work assignment.

NRC News Release No: 19-045

September 12, 2019

Contact: Scott Burnell, 301-415-8200

### **NRC Issues Final Environmental Impact Statement for Turkey Point Subsequent License Renewal**

The Nuclear Regulatory Commission staff has issued the agency's Final Supplemental Environmental Impact Statement regarding the Florida Power &

## Southeast Compact - continued

Light application to operate the Turkey Point Nuclear Generating Station Units 3 and 4 for an additional 20 years. The units are located approximately 20 miles south of Miami.

The EIS documents the NRC staff's evaluation and conclusion that the environmental impacts of renewing the Turkey Point licenses are so limited that preserving the renewal option for energy-planning decisionmakers would not be unreasonable.

The final statement was developed in cooperation with the U.S. National Park Service, Southeast Region, and is available on the NRC website.

NRC News Release No: 19-054

October 28, 2019

Contact: Scott Burnell, 301-415-8200

## Virginia

### NRC Seeks Public Comment on Draft Environmental Impact Statement for Surry Subsequent License Renewal

Nuclear Regulatory Commission staff would like to hear the public's views on the agency's Draft Environmental Impact Statement regarding Dominion Energy Virginia's application for an additional 20 years of operation for Surry Power Station Units 1 and 2. The NRC is interested in comments regarding the statement's draft conclusion: environmental impacts are not great enough to prevent the agency from issuing the renewed licenses.

NRC staff will continue to consider written comments concerning the draft EIS until Dec. 10, following the publication of a notice in the *Federal Register*. Include Docket ID NRC-2018-0280 with the comment, via the regulations.gov website. The staff will hold a webinar on the draft EIS in November, including a presentation on the preliminary findings and a transcribed public comment session. The webinar details will be announced soon.

NRC News Release No: 19-053

October 28, 2019

CONTACT: Scott Burnell, 301-415-8200

## Southwestern Compact

Arizona • California • South Dakota • North Dakota

### 83rd Meeting Announcement

The annual meeting will be held on Wednesday, 6th of November beginning at 0900 hrs PST at the Embassy Suites, 150 Anza Blvd, Burlingame, CA 90410.

Exportation actions to be considered are:

- Ratification of approved petitions E19-058-141 & WCS19-022-060
  - Amend "Policy of the Southwestern Low-Level Radioactive Waste Commission Regarding Exportation of Various Low-Level Radioactive Waste Streams" - extend effective date
  - Amend "Requirements for Exportation Petitions for Low-Level Radioactive Waste Disposal" - extend effective date
  - Approve update Petition forms
- Other action items include:

- Financial Audit Report
- staff performance evaluations
- Executive Director's one year extension on current contract
- renewal of Legal Counsel's one year contract
- Annual Governor's Report
- Amend Fiscal Year 2019-2020 budget
- Approve new Fiscal Year 2020-2021 budget
- Adopt fee schedule
- Election of officers

Contact: Kathy A. Davis, Executive Director

Phone: 916 448 2390

kathydavis@swllrwcc.org

## Texas Compact

Texas • Vermont

### TLLRWDA Meeting, October 10, 2019 in Mount Pelier, VT

The Commission met to hear reports from the site operator and other individuals.

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### Texas Compact - continued

Import applications were considered:

- NextEra Energy Point Beach, LLC – Import Application – TLLRWDC 1-1236-00
- Indiana Michigan Power – DC Cook
- Plant Import Application – TLLRWDC 1-0237-00
- Southern Nuclear Operating Company/Farley Nuclear Plant – Import Application – 1-0238-00
- Qal-Tek Associates – Import Application – TLLRWDC 1-0239-00
- Southern Nuclear Co. – Vogtle – Import Application – TLLRWDC 1-0240-00

Exportation applications were considered:

- Cardinal Health NPS export application 3-0036-00
- Bionomics export application 3-0037-00

A presentation was made on Vermont's decommissioning status by NorthStar VTY Decommissioning and is available at <http://www.tllrwcc.org/wp-content/uploads/2019/10/VTY-TLLRWDC-10-10-19-mp.pdf>

The meeting agenda is available at <http://www.tllrwcc.org/wp-content/uploads/2019/10/Agenda-October-10-2019-FINAL-r1.pdf>

Link to the webcast is available at <http://www.tllrwcc.org/wp-content/uploads/2019/10/VTY-TLLRWDC-10-10-19-mp.pdf>

Next meeting tentatively: Thursday, November 21, 2019 in Austin, TX

### Vermont Becomes 39th NRC Agreement State

Nuclear Regulatory Commission Chairman Kristine L. Svinicki and Vermont Gov. Philip B. Scott have signed an agreement to give Vermont regulatory authority over certain radioactive materials in the state. Vermont is the 39<sup>th</sup> state to sign such an agreement with the NRC.

Under the agreement, effective today, Vermont assumes responsibility for licensing, rulemaking, inspection and enforcement activities related to the industrial, medical and academic uses of radioactive material. The NRC is transferring 36 academic, commercial and medical licenses for radioactive material to Vermont's jurisdiction.

NRC retains jurisdiction over the Vermont Yankee nuclear power plant, which is currently decommissioning, as well as federal agencies using certain nuclear material in the state.

Before entering into the agreement, the NRC determined that Vermont's radiation control program is adequate to protect public health and safety and is compatible with the NRC's regulations. The proposed agreement was published in the *Federal Register* for four consecutive weeks for public comment. More information about the Agreement State Program, including a list of Agreement States, is available on the NRC's website. <https://www.nrc.gov/docs/ML1927/ML19276D372.pdf>

NRC News Release No: 19-048

September 30, 2019

Contact: David McIntyre

Telephone: 301-415-8200

Note: In the States and Compact Section, NRC news releases are abbreviated. Access the complete news release at the NRC website [www.nrc.gov/reading-rm/doc-collections/news/](http://www.nrc.gov/reading-rm/doc-collections/news/) or by clicking on links provided as the "News Release No."

## Transformations to Risk-Informed Regulation

### NRC Commission Public Meeting Webcast on “Transformation at the NRC – Becoming a Modern, Risk-Informed Regulator”

NRC held a webcast meeting on October 29, 2019. For an archived copy after the broadcast, visit <https://video.nrc.gov/#searcharchivedwebcasts>. Materials from the meeting may be found at <https://www.nrc.gov/reading-rm/doc-collections/commission/tr/2019/>.

Transformation and innovation are detailed in NRC: AN INDEPENDENT REGULATORY AGENCY, September 15, 2019. For the publication, see <https://www.nrc.gov/docs/ML1924/ML19242D329.pdf> The publication states:

“Transformation and Innovation - key aspects of the NRC’s transformation include modernizing its decisionmaking to be more risk informed and performance based. In making decisions, the NRC will also increase participation and collaboration, seek alternative views earlier in the process, embrace new ideas and innovative approaches, and improve trust and commitment to final decisions once all views have been considered.”

Two major activities for NRC as noted in the publication are:

- establishing national policy and standards for the safe disposal of low-level radioactive waste
- transforming the agency one decision at a time into a modern, risk-informed regulator that promotes and embraces innovative approaches to achieve the agency mission

NRC defines Risk-informed Decisionmaking as: “An approach to regulatory decisionmaking, in which insights from probabilistic risk assessment are considered with other engineering insights.” For additional detail, see Risk Assessment in Regulation and the Fact Sheet on Nuclear Reactor Risk.

### CRCPD Workshop on Oil/Gas NORM - Risk-Informed Decision Mak- ing

The NORM IX International Symposium, held in Denver, Colorado in September 2019, included an afternoon session on “Continuing Efforts for NORM Regulatory Development and Risk-Informed Decision Making” provided by CRCPD and the Centers for Disease Control and Prevention. Stephane Pipin, with the Federal Agency for Nuclear Control, Belgium, spoke about “IAEA Establishment of a Regulatory Framework for NORM Activities: the Need for a Graded Approach (TECDOC Presentation).” He explained the concept of graded approach for regulations, why that is relevant to NORM and the basic elements of regulations appropriate to NORM. Andrew Lombardo, speaking about “Risk Assessment and Effective Risk Communications, Dose Assessment Training, and NORM Regulatory Development and Risk-Informed Decision Making,” presented a review of dose assessment modeling, its sensitivities, the need to be pragmatic, and the need for effective communication. Gary Forsee, CRCPD, discussed the “Domestic Suggested State Regulations for Regulation & Licensing of TENORM (SR-N)” and expressed the need for a proper and uniform regulatory posture regarding the cleanup, use, and disposal of “tailings” and other process residues containing NORM. Presentation topics included overview of the domestic regulatory picture, basis for reviewing Part N, and the logic employed in drafting revisions. He explained that the work is underway, but the CRCPD Board has not approved the work thus far. Presentations and discussion highlighted the origin of the 5 pCi/g limits and the need for dose-based limits and need for harmonizing regulations to the extent possible.

## NRC Extends Comment Period on the Draft Regulatory Basis for GTCC and Transuranic Waste Disposal

In response to requests from interested parties, including Rusty Lundberg, Chair of the LLW Forum's Part 61 Working Group, NRC has decided to extend the comment period on the Draft Regulatory Basis for GTCC and TRU disposal by an additional 60 days to allow more time for members of the public to develop and submit their comments. Comments on this important draft regulatory basis should now be filed no later than **November 19, 2019**.

Source: *48509 Federal Register / Vol. 84, No. 178 / Friday, September 13, 2019 / Proposed Rules*

**To View Documents:** NRC ADAMS online database under accession number ML19059A403 [www.nrc.gov/docs/ML1905/ML19059A403.pdf](http://www.nrc.gov/docs/ML1905/ML19059A403.pdf). *Federal Register 35037 Vol. 84, No. 140 Monday, July 22, 2019, www.govinfo.gov/content/pkg/FR-2019-07-22/pdf/2019-15434.pdf*

Comments may be submitted via the federal government's rulemaking website, [www.regulations.gov](http://www.regulations.gov) <https://www.regulations.gov/> using Docket ID NRC- 2017-0081.

## NRC Issues Eighth U.S. National Report for Convention on Nuclear Safety

The Nuclear Regulatory Commission has published the Eighth National Report for the Convention on Nuclear Safety, describing the U.S. government's actions under the convention to achieve and maintain a high level of safety for its country's nuclear power plants. The convention was adopted in 1996 and ratified by the U.S. Senate in 1999. It establishes legally binding obligations for signatory states regarding national regulation and safety at commercial nuclear power facilities. The report demonstrates how the United States implements a high level of nuclear safety by enhancing national measures and international cooperation, and by meeting the obligations of all the articles established by the convention. Countries that are parties to the convention meet every three years to discuss their reports. The NRC has submitted the U.S. report for peer review by other countries. NRC officials will discuss the report and respond to peer review questions at the eighth review meeting of the CNS at the International Atomic Energy Agency headquarters in Vienna, Austria, in March 2020.

NRC News Release No: 19-055

October 30, 2019

Contact: Scott Burnell, 301-415-8200

## NRC and FERC Commissioners to Discuss Grid Reliability, Reactor Issues

The Nuclear Regulatory Commission and the Federal Energy Regulatory Commission will hold a joint meeting Sept. 25 at NRC headquarters in Rockville, MD. The meeting, which will begin at 9 a.m. and end at approximately 11:15 a.m., will be held in the NRC's Commission Hearing Room at 11555 Rockville Pike in Rockville. Staff members from both agencies and the North American Electric Reliability Corporation will brief NRC and FERC Commissioners on topics that include grid reliability, energy storage, operating reactor issues, new reactor construction oversight, reactor decommissioning, small modular and advanced reactor activities, and cybersecurity.

NRC News Release No: 19-047

September 18, 2019

Contact: Scott Burnell, 301-415-8200

## Workforce Development and Education

**NRC Awards Fiscal Year 2019 Academic Grants**

An important initiative to help address the future needs of the aging health physics workforce is the NRC Academic Grants program. NRC has recently announced the awards for FY2019. The Nuclear Regulatory Commission has awarded 45 grants to 33 academic institutions in 19 states and Puerto Rico, totaling \$15 million in fiscal year 2019. Recipients include four-year universities and colleges, two-year trade school and community colleges, and minority serving institutions, which are a federally recognized category of educational establishments. Specifics of each may be found at: FY 2019 Faculty Development Grant Awards <https://www.nrc.gov/docs/ML1924/ML19240B184.pdf>

For details on awards, see:

- Fellowship Grant Awards at <https://www.nrc.gov/docs/ML1924/ML19240B186.pdf>
- Scholarship Grant Awards at <https://www.nrc.gov/docs/ML1924/ML19240B187.pdf>
- Trade School and Community College Scholarship Grant Awards at <https://www.nrc.gov/docs/ML1924/ML19240B188.pdf>

NRC News Release No: 19-043

September 10, 2019

Contact: Ivonne Couret, 301-415-8200

**IAEA Call for Papers on Workforce Issues**

Call for Papers:

International Conference on Nuclear Knowledge Management and Human Resources Development

<https://www.iaea.org/newscenter/news/call-for-papers-international-conference-on-nuclear-knowledge-management-and-human-resources-development>

Interested contributors have until 15 December 2019 to submit abstracts for the IAEA International Conference on Nuclear Knowledge Management and Human Resources Development: Challenges and Opportunities, to be held in Moscow from 15 to 19 June 2020.

“It will be the first IAEA conference which addresses jointly topics on both nuclear knowledge management and human resources development.”

“Development and management of human resources in the nuclear field are crucial factors for its safety and sustainability. The IAEA supports Member States in improving their capabilities to develop and maintain a competent workforce and in ensuring that critical knowledge and skills are transferred in all phases of the life cycle of nuclear facilities.” Source: IAEA

## Workforce Development and Education

## Office of Inspector General, Audit of NRC's Grants Administration

*Office of Inspector General, Audit of NRC's Grants Administration and Closeout OIG-19-A-21* September 30, 2019, discusses the history of the program in auditing FY2008 – FY2018, with a total of 488 grants for a combined total of \$171.2 million. The report may be accessed at <https://www.nrc.gov/docs/ML1927/ML19273A032.pdf>

The audit objectives were to determine whether (1) NRC's grant administration program complies with Federal regulations and agency guidance, employs sufficient internal control, and provides accountability over Federal funds through its policies and procedures, and (2) NRC's grant closeout program has employed policies and procedures to close out grants in a proper and timely manner.

Some of the findings related to the academic grants were that:

"Specifically, NRC is not adequately fulfilling its grant oversight responsibilities regarding grant monitoring and records maintenance in the following areas: • Reviewing performance and financial reports. • Monitoring training completion. • Processing ASAP refunds. • Tracking student service agreement requirements. This happened because of outdated policies and procedures, and the need for knowledge management. Without assurance of adequate oversight of the grant program, the stewardship of Federal funds could be adversely affected in the areas of fund use, decision-making, and accountability."

The audit notes the importance of these findings: The stewardship of Federal funds could be adversely affected in the areas of fund use, decision-making, and accountability. For example, when students withdraw from nuclear science programs and the funds are not recaptured by NRC, the funds are not used for their intended purpose. Further, decision makers cannot make fully informed decisions about managing grants.

Moreover, grants staff are not held accountable for the work they perform.

One area of inadequacy was identified as "Inadequate Student Service Agreement Tracking." The report notes that NRC staff informally track the student service agreement requirements using an Excel spreadsheet. Program officers gather information from the Audit of NRC's Grant Administration and Closeout performance progress reports, such as the number of students who received NRC's Federal grant funds, their respective graduation dates, and whether grant recipients obtained employment in a nuclear related field after graduation. As of January 2019, the spreadsheet record shows 167 students who have indicators that they may be obligated to repay funds to NRC.

Potential unfulfilled service obligations have not been verified by NRC. Specifically, 36 students are identified as withdrawn from school which would trigger a total refund of \$213,932 to NRC; however, RES project officers did not contact each student to determine if the information provided by the grantee in their PPR is correct. In addition, NRC does not ensure that students, school officials, and NRC officials sign the student service agreement before funds are disbursed.

An exit conference was held with the agency on September 16, 2019. Prior to this meeting, agency management reviewed a discussion draft and provided comments that have been incorporated into this report, as appropriate. Agency management stated their general agreement with the findings and recommendations and opted not to provide formal comments for inclusion in this report.

An internal NRC memo requests "Please provide information on actions taken or planned on each of the recommendations within 30 calendar days of the date of this memorandum."

## Disposal and Decommissioning

### E-learning on Spent Fuel and Radioactive Waste Management, Decommissioning and Environmental Remediation

The IAEA offers 12 online learning courses on spent fuel and radioactive waste management, and decommissioning and environmental remediation. These courses consist of 50 modules and almost 100 lectures. They are free of charge and intended for anyone looking to understand the fundamentals of these topics, including young professionals and new entrants to the respective areas.

<https://www.iaea.org/services/education-and-training/online-learning/spent-fuel-and-radioactive-waste-management-decommissioning-and-environmental-remediation>

Available topical courses are:

- Fundamentals of spent fuel management
  - Disused sealed radioactive sources
- Fundamentals of radioactive waste disposal
  - Near surface disposal
    - Borehole disposal
    - Geological disposal
  - Preparation for decommissioning
  - Decommissioning implementation
- Fundamentals of environmental remediation
  - Planning for environmental remediation

### NRC Updated Data Sets of Interest

- Dry Spent Fuel Storage Designs: NRC-Approved for Use by General Licensees
- Dry Cask Spent Fuel Storage Licensees
- Low-Level Radioactive Waste Disposal Compact Membership
- Nuclear Research and Test Reactors under Decommissioning Regulated by the NRC

All updated , September 12, 2019.

See <https://www.nrc.gov/reading-rm/doc-collections/datasets/>

### Very Low-Level Radioactive Waste Scoping Study

The Commission continues to receive comments on the Very Low-Level Radioactive Waste Scoping Study:

Docket: NRC-2018-0026

Document: NRC-2018-0026-DRAFT-0005

Recent comments are available at:

<https://www.nrc.gov/docs/ML1813/ML18138A260.pdf>

<https://www.nrc.gov/docs/ML1814/ML18141A419.pdf>

<https://www.nrc.gov/docs/ML1813/ML18138A270.pdf>

<https://www.nrc.gov/docs/ML1814/ML18144A772.pdf>

<https://www.nrc.gov/docs/ML1814/ML18144A771.pdf>

<https://www.nrc.gov/docs/ML1814/ML18145A097.pdf>

<https://www.nrc.gov/docs/ML1814/ML18141A417.pdf>



### **NRC Schedules Conference on Spent Nuclear Fuel Management**

An NRC conference on spent nuclear fuel management topics will be held September 17-18 in King of Prussia, Pennsylvania. The conference will be open to the public. More than 200 participants are expected to attend the gathering and NRC will also hold an open house for attendees. It is the division's annual engagement with the public and industry to share the latest developments in the area of spent nuclear fuel and to hear from stakeholders regarding the future of spent fuel management. Topics will include spent fuel licensing, aging management, extended storage and transportation, stakeholder perspectives, inspections, and operating experiences.

NRC News Release No: I-19-023

September 5, 2019

Contact: Diane Screnci <<mailto:diane.screnci@nrc.gov>>

Telephone: 610-337-5330

### **Exelon Generation Company, LLC; Three Mile Island Nuclear Station Unit 1 - Spent Fuel Management Activities**

The NRC has issued exemptions in response to an April 12, 2019, request from Exelon Generation Company, LLC (Exelon, the licensee). One exemption permits the use of the Three Mile Island Nuclear Station, Unit 1 (TMI-1) Decommissioning Trust Fund (DTF) for spent fuel management activities based on the TMI-1 post-shutdown decommissioning activities report (PSDAR) and site-specific decommissioning cost estimate (DCE). The other exemption permits the licensee to make withdrawals from the DTF for spent fuel management activities without prior notification of the NRC. Issued October 16, 2019, A Notice by the Nuclear Regulatory Commission on 10/23/2019 <https://www.federalregister.gov/documents/2019/10/23/2019-23029/exelon-generation-company-llc-three-mile-island-nuclear-station-unit-1>

### **NRC: Strategic Programmatic Overview of the Fuel Facilities and the Spent Fuel Storage and Transportation Business Lines (Public Meeting)**

Wednesday, December 4, 2019, 9:00 a.m. This meeting will be web-cast live at the Web address – <http://www.nrc.gov/>.

Contact: Damaris Marcano  
Telephone: 301-415-7328

## Industrial Security and Waste Management

### **NRC Imposes \$43,500 Civil Penalty on California Firm for Unlicensed Importation and Distribution of Radioactive Material**

The NRC has imposed a \$43,500 civil penalty on Solis Tek Inc. of Carson, California, for importing and distributing radioactive material without a proper license.

From 2014 through 2018, Solis Tek imported light bulbs containing krypton-85 and distributed them for sale in the United States. Certain halide bulbs contain small quantities of krypton-85 gas as a starting aid in high-intensity lamps. While consumers do not need a license to possess or use such bulbs, a company that distributes them is required to have an "exempt distribution license" from the NRC. This license authorizes distribution to unlicensed wholesalers or retailers.

Solis Tek did not have an exempt distribution license when it began importing and distributing the bulbs through its facilities in New Jersey and California. Despite several notifications from the NRC and New Jersey regulators regarding the need to obtain a license or cease distribution of the krypton-85 bulbs, the company continued its activities. Solis Tek eventually received an NRC exempt distribution license in July 2017, which the NRC has now terminated at the company's request. Solis Tek is no longer distributing krypton-85 bulbs.

NRC News Release No: 19-050

October 21, 2019

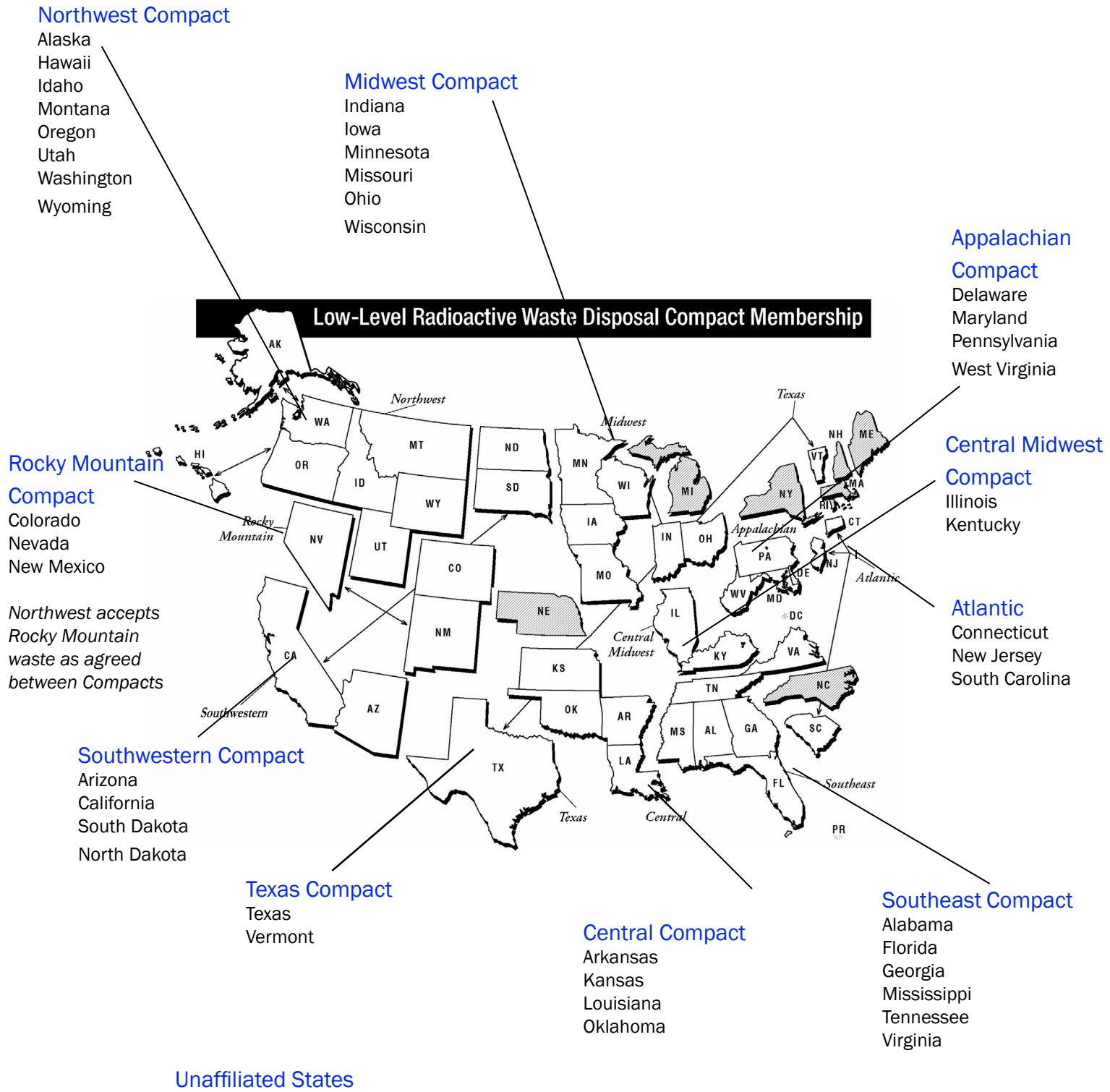
Contact: Dave McIntyre, 301-415-8200

### **Potential Over-Pressurization of High Specific-Activity Alpha-Emitting Radioactivity Sources (ML19240A320)**

A 5 mL flame-sealed borosilicate glass ampoule was used to store an aqueous radioactive reference source containing 1.5 mCi (55.5 MBq) of Am-241. The source was stored sealed for 12 years. During that time, sufficient hydrogen gas was generated from radiolysis to overpressurize the glass ampoule and cause it to fail. Contamination and potential for personnel radiation exposure resulted from the source failure.

Source: NRC INFORMATION NOTICE 2019-05

**Low-Level Radioactive Waste Disposal Compact Membership**



Membership details available at [llwforum.org/membership/](http://llwforum.org/membership/)

### Information Resources

- DOE Public Affairs/Press Office - 202/586-5806
- DOE Distribution Center - 202/586-9642
- EPA (for program information, publications, laws and regulations) [www.epa.gov](http://www.epa.gov)
- EPA Information Resources Center - 202/260-5922
- 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) [list-server@unixmail.rtpnc.epa.gov](mailto:list-server@unixmail.rtpnc.epa.gov)
- Government Accounting Office (GAO) Document Room - 202/512-6000
- Government Printing Office (to order entire *Federal Register* notices) - 202/ 512-1800
- Legislative Resource Center (to order U.S. House of Representatives documents)- 202/226-5200
- NRC Public Document Room - 202/ 634-3273
- NRC Reference Library (NRC regulations, technical reports, information digests, and regulatory guides) [www.nrc.gov](http://www.nrc.gov)
- U.S. Government Printing Office (GPO) (for the Congressional Record, Federal Register, congressional bills and other documents, and access to more than 70 governmentdatabases) <http://www.access.gpo.gov>
- U.S. Senate Document Room - 202/224-7860
- Variety of documents through numerous links at LLW Forum, Inc. at [www.llwforum.org](http://www.llwforum.org)

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

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

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