

# LLW *notes*

Volume 35 Number 5 September/October 2020

## A Message from Dan Shrum, Executive Director

The Forum Thanks everyone who participated in the Virtual Fall 2020 Forum meeting. Although the format was different, it was good to get together and receive updates on the safe management of LLRW. Hopefully we can meet together in Baltimore for April 2021. The highlights of the meeting are included in this issue of the *LLWnotes*. For agendas, attendees, and complete presentations, see the flip book at <https://online.fliphtml5.com/ltxgx/sque/>

Daniel B. Shrum, Executive Director

Please submit comments, suggestions or articles for the *LLW notes* to [margaret-llwf@gmail.com](mailto:margaret-llwf@gmail.com)

In this Issue...Find news about the Fall Forum Meeting, hearings and opportunities for comment on proposed spent fuel storage in Texas, NRC information releases on LLW statistics, and NRC grant awards, along with compact and regional news.

**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.

LLW notes, a copyrighted publication of the LLW Forum, is distributed bimonthly to the Board of Directors of the Low-Level Radioactive Waste Forum, an independent non-profit corporation. Anyone--including compacts, states, federal agencies, private associations, companies and others--may support and participate in the LLW Forum by purchasing memberships and/or by contribution grants or gifts. For information on LLWF memberships and/or subscriptions to the LLW notes, visit www.llwforum.org or contact Daniel Shrum, Executive Director, telephone (801) 580-3201, Dshrum@llwforum.org. For permission to reproduce or share information from LLW notes, see the Copyright Policy at the conclusion of this publication.

**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
- 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

**Contents**

A Message from Dan Shrum, Executive Director .....1

About LLW Forum .....2

Virtual Annual Fall Meeting .....3

Barnwell Update .....4

Clive, Utah Facility .....4

Utah Department of Environmental Quality (DEQ) Waste Management and Radiation Control, Utah Update .....4

News from the Texas Low-Level Radioactive Waste Disposal Compact Commission .....5

What makes Waste Control Specialists Unique? .....5

NRC's Waste and Decommissioning Programs .....6

Department of Energy's Waste Management .....6

Selected EPA Regulatory Updates & Specific Radiation Related Items .....7

NEI Governmental Affairs Perspective .....9

Overview of the LLW Forum's Disused Sources Working Group .....9

LWF Transformation and Business Meeting .....10

Atlantic Compact .....11

Central Midwest Compact .....11

Northwest Compact .....11

Southeast Compact .....12

Southwestern Compact .....12

Texas Compact .....13

NRC Panels Make Recommendations for Awarding Research and Development Grants .....14

Moisture/Density Gauges .....15

Miscellaneous Radioactive Materials .....16

Public Meeting on Transformation at the NRC: Risk-Informed Regulation .....17

NRC Meeting with the Organization of Agreement States (OAS) and the Conference of Radiation Control Program Directors (CPCPD) .....17

Specific Requests for Comments - Development of NRC's Strategic Plan for Fiscal Years 2022 Through 2026 .....17

Strategic Programmatic Overview of the Decommissioning and Low-Level Waste and Nuclear Materials Users Business Lines (Public Meeting) .....17

NRC Low-Level Waste Disposal Statistics .....18

Information Digest Now Available Online .....18

Low-Level Radioactive Waste Compact Membership .....19

Acknowledgment & Disclaimer .....20

Information Resources .....20

Copyright Policy .....20

## Virtual Annual Fall Meeting

**LLW FORUM VIRTUAL ANNUAL MEETING**

The LLWF met in its first virtual, annual meeting on October 14 and 15, involving up to 135 participants via WebEx. The agenda, filled with a list of broad topics about low-level radioactive waste management and disposal, and updates on evolving rules and concepts included topics of:

- Very low-level radioactive waste
  - Update on CFR 20.2002
- Part 61 and Greater Than Class C (GTCC) rulemaking status
  - Decommissioning
  - DOE waste management
- Texas Low-Level Radioactive Waste Compact Commission contingency plans and capacity study
  - Overview of LLWF's Disused Sources Working Group (DSWG)
    - Risk informing the disposal of LLRW
- Updates on States, Compact Sites, Industry and Federal Agencies

Forum business included transformation and board meetings with adoption of mission and objectives and consideration of development of a strategic plans.

In closing, Earl Fordham, Chair, noted 92 attendees were still participating at the close of the conference. He encouraged attendees to let the Forum know what they liked or did not like and send comments to the ED, Dan Shrum, [dshrum@llwforum.org](mailto:dshrum@llwforum.org). Dan Shrum thanked everyone who was attending the conference in a different kind of meeting this year. He asked for comments that would make the conference better and thanked participants.

**FALL MEETING HIGHLIGHTS COVERED IN THIS ISSUE**

States and Compact Sites

Utah, Texas, South Carolina

Federal Agencies News from DOE, EPA NRC

Risk Informing Disposal of Low-Level Radioactive Waste Panel

Forum Transformation and Business News

Full information available at flip book at <https://online.fliphtml5.com/ltxgx/sque/>

## Licensing and Activities Update *EnergySolutions' Clive, Utah Facility*

By Vern Rogers, Director of Regulatory Affairs

- Ideal location in area perpetually zoned for industry (no residential), without oil, mineral or groundwater resources
- Extreme arid environment ideal for waste isolation
- Near surface disposal allows low cost disposal savings to be passed to generators
- Over 30 years of proven experience treating and disposing of radioactive waste
- Safety awards, and low exposure of employees - 41 mrem average annual employee exposure
- Bulk waste (soil, resin, filters, operational waste, large components, decommissioning, real-time processing liquids); Containerized waste; Mixed Waste; 11e. (2); Depleted Uranium and other Federal Waste; Low Activity Radioactive Waste.
- Long-term stable embankment construction contrary to information on internet
- Disposal volume of 200,000 cubic yards per year
- Plans for ongoing LARW disposal at Clive, Utah

## Utah Department of Environmental Quality (DEQ) Waste Management and Radiation Control, Utah Update

Rusty Lundberg

Senate Bill 88 (Effective – 5/12/2020) passed as clean-up Legislation – Radiation Control Act. The legislation re-established the agency director's authority with respect to the radiation control program and re-established authority and duties of the Waste Management and Radiation Control Board for radiation control rules.

With respect to *EnergySolutions - Clive*, DEQ has ongoing oversight / activities, regarding topics such as:

- Incoming shipments
- Containerized waste – waste classification verifications
- Waste management operations & site monitoring program
- Final cover construction for a portion of LLRW Cell – Phase 3
- Rehabilitating clay borrow pits
- New construction (rotary dump)
- Rail car operations
- CLSM fill of large component area
- Sitewide financial assurance
- 5-yr update
- License renewal – in progress

License Amendment 25 completed

# STATES AND COMPACT SITES

## *EnergySolutions Barnwell* Update

Benjamin Smith

The Barnwell site has been existence since 1971. It received waste from across the US until 2008, and transitioned into the Atlantic Compact in 2008, with New Jersey, Connecticut and South Carolina as members. Facts and figures:

- 235 acres licensed for disposal
- 123 acres in closed condition

112 acres remaining for dis-

posal, buffer, and other uses

- 28.3 million cubic feet and 14.3 million curies buried
- >90% of facility in closed condition and under institutional monitoring and maintenance

Regulatory agencies include:

- SC Office of Regulatory Staff (ORS) - Detailed audits of actual costs; Sets prices for waste disposal
- SC Public Service Commission (PSC) - Determines allowable costs; Annual hearing process
- SC Dept. of Health & Environmen-

tal Control - Licenses radioactive materials - disposal

SC Health Dept has regulatory oversight as an Agreement State. The department required a comprehensive license renewal application in September 2019 and the operator has submitted the application in the form of seven binders of four inches each. The site operator has endeavored to work with all parties to assure the viability of the facility into the future.

## News from the Texas Low-Level Radioactive Waste Disposal Compact Commission

Brandon T. Hurley, Chair

TLLRWDC has hired a new Executive Director, Stephen Raines, who begins work in October.

### Contingency Plan

TLLRWDC's enabling statute requires the Commission to:

"Sec. 3.04(7) Prepare, adopt, and implement contingency plans for the disposal and management of low-level radioactive waste in the event that the compact facility should be closed. Any plan which requires the host state to store or otherwise manage the low-level radioactive waste from all the party states must be approved by at least four host state members of the commission."

A committee was formed to expand on previous drafts of a Plan. The conclusions of the committee is that long-term options are limited and depend on funding and operational decisions we do not control.

At a minimum, the Commission, in the event of a contingency, will:

- (1) notify generators with open contracts for the import of low-level waste to the Andrews County Facility to cease all shipments;
- (2) cease consideration of any pending requests for agreements to import waste;
- (3) issue export authorizations for waste generated by in-compact generators that can be accepted at other facilities (currently only Class "A"); and
- (4) work with in-compact generators to find alternates to disposal at the Andrews County Facility.

The decision on whether the Compact Waste Facility would continue operations with a new operator or be run by the State of Texas is a decision the Commission cannot make. The unknown financial circumstances at the time of any contingency event will have a large impact on whether continued operations are a viable alternative. The site is clearly a national asset that serves an important need in our country.

## TLLRWDC Capacity Study

One of the primary missions of the Commission is preservation of capacity for in-compact generators. Stemming from this is also providing information to all interested stake-holders about the available capacity at the site. There are many ways to report and measure capacity. A committee has been formed to study capacity and develop a uniform manner in which capacity can be reported to the public.

---



---

# STATES AND COMPACT SITES

---



---

## What makes Waste Control Specialists Unique?

David Carlson, President and COO

The only facility established under the LLRW Policy Act of 1980 Compact System

- Established for the Texas Compact, per Federal, Texas, and Vermont Statutes
- Opened for LLRW disposal in 2012
- Open to all US States (with export and import approval)

### Key Statistics

- 9,000,000 cubic feet of disposal capacity
- TCEQ owns the privately developed CWF, operated by WCS
- Adequate capacity for D&D of all US NPP License Term – through September 2024 with provision for 10-year renewals thereafter

## NRC's Waste and Decommissioning Programs

Patricia K. Holahan,  
Ph.D. Director, Division of Decommissioning, Uranium Recovery, and Waste Programs

### TOPICS

- Draft Regulatory Basis (RB) for Disposal of Greater-than Class C (GTCC) and Transuranic Waste (TRU)
- GTCC, TRU, and Part 61 Rulemakings Next Steps
- Alternative Disposal Requests (ADR) Guidance
- Revised Interpretation of "Authorized Recipient" Under 10 CFR 20.2001
- Uniform Waste Manifest
- Power Reactor Decommissioning and Complex Materials Sites Status

## HIGHLIGHTS Draft RB

Majority of GTCC and TRU waste potentially suitable for near-surface disposal and most of the potentially suitable waste could be regulated by an Agreement State.

- Received approximately 70 individual letters and over 7,000 form letters
- Some supported near surface disposal of GTCC waste and removal of TRU in 10 CFR Part 61 definition of what is excluded from being considered as low-level waste (LLW)
- Others supported disposal in deep geological repository
- One stated the draft regulatory basis provides sufficient detail on actions an applicant must take to ensure public and worker safety without need for rulemaking
- Based on comments received on the draft RB, staff considered several options for proceeding with a GTCC/TRU rulemaking

- Staff is considering option with respect to the ongoing Part 61 rulemaking -- including combining these efforts to address overlapping technical requirements, streamlined stakeholder outreach, and efficiency in proceeding as one rulemaking.

### ADR Guidance

- Each ADR contains two approvals for offsite LLW disposals
- Recently updated the ADR guidance to address both approvals
- Revised ADR Guidance was issued in April 2020 (ML19295F109)

### Uniform Waste Manifest

- In July 2020, issuance of NUREG/BR-0204, Rev 3
- Use of the forms associated with Rev 2 should be discontinued on or before September 30, 2020, and replaced with those included in Rev 3
- On September 30, the staff

issued a FRN delaying implementation of Rev 3 (85 FR 61576), following providing a similar message during a September 14, public meeting.

- Staff plans to hold future meetings to discuss implementation of Rev 3.

### Decommissioning

- Proposed rule submitted to Commission on May 7, 2018
- Goal: provide an efficient decommissioning process; reduce the need for exemptions from existing regulations; and support the principles of good regulation.
- Upon Commission vote and incorporating any changes, 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

## Department of Energy's Waste Management

Doug Tonkay & Theresa Kliczewski, Office of Waste & Materials Management

### Tonkay: Topics

Status of Department of Energy (DOE) Office of Environmental Management

(EM) Cleanup Initiatives  
DOE Radioactive Waste Overview

Update on DOE Low-Level Radioactive Waste (LLW) Disposal  
Disposal of Depleted Uranium  
Manifest Information Management System (MIMS)

LLW Look Ahead

### Kliczewski: Topics

Greater-than-Class C (GTCC)

LLW

Update on the High-Level Radioactive Waste (HLW) Interpretation

Public Website: <https://mims.doe.gov>

"Since 1989, DOE has completed its cleanup mission at 91 of the 107 major nuclear weapons and nuclear research sites. This progress has only been possible due to a robust waste management system." (Presentation)

---



---

# FEDERAL AGENCIES' NEWS

---



---

## Selected EPA Regulatory Updates & Specific Radiation Related Items

Tom Peake, Center for Waste Management & Regulations, Radiation Protection Division

## Guidance Executive Order 13891 on Promoting the Rule of Law Through Improved Agency Guidance Documents

The document concerns emphasizing transparency and use of consistent cost benefit analyses. The proposed rule received 400,000 comments, with many criticizing it as lessening the use of science in rulemaking. Concerns related to cost/benefit analyses have been raised about separate reporting of a rule's direct benefits and its co-benefits. Publication of the final rule is expected in late fall or early winter.

## Selected EPA Comments on NRC Interpretive Rule: Transfer of VLLW for Disposal

There may be site-specific circumstances for some radioactive wastes to be disposed of at a non-NRC licensed facility if:

- the levels of the radioactive materials are sufficiently low;
- the receiving facility is sufficiently designed with management controls in place;
- the public is supportive of the waste disposal.

It is important that sufficient controls be in place to ensure that the waste can be managed in a protective manner in perpetuity, that is, the disposal unit should be designed to ensure long-term protective management.

Disposal decision should have an analysis to demonstrate protectiveness.

Recommend limiting consideration to RCRA Subtitle C hazardous waste facilities.

Perspective: EPA has only approved off-site disposal of radioactive waste in RCRA Subtitle C Hazardous Waste facilities.

## NCRP Commentary #29: NORM and TENORM From the Oil and Gas Industry (April 2020)

Worker hazards and potential environmental damage recognized.

Recommends that a full report be developed that is scientifically based, comprehensive and focused on unconventional operations.

Include dose assessments, institutional controls, practices, risk management, and communications with workers and other stakeholders.

NORM2020 – October 19 – 30, 2020 - First virtual conference for IAEA - Free stream.

Industry focused – Sessions on Residual and Waste Management.

Numerous workshops.  
<https://www.iaea.org/events/norm-2020>

## NESHAP

The Fertilizer Institute (TFI) wants to use phosphogypsum in road construction, previously not allowed due to reclaimer use. Consideration is that now radon can be mitigated.

October 14, 2020, approved TFI request, but TFI needs to address some issues before can be done such as requirements about amount that could be used in the pavement and prohibitions regarding non-road use.

## WIPP Future

- DOE plans to put up to ~40-48 MT Pu in WIPP beyond the original certified amount as part of the "dilute and dispose" program.
- National Academy of Sciences report has multiple recommendations to DOE.
- Expectation that DOE make requests that may double the repository footprint.
- DOE would need to do some additional characterization.
- This may require an EPA rulemaking as a significant change to the repository.

# FEDERAL AGENCIES' NEWS

# RISK INFORMING THE DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE

A panel presentation by speakers Paul Black, Patricia Holahan, Joe Weismann, and Janet Schlueter

## What is Risk-Informed Decision Making?

Paul Black, PhD, Neptune and Company

Is the meaning clear?

“Risk-Informed Decision Making”

- What are we trying to do/say here?
- What does “risk-informed” mean?
- What does “risk-informed” refer to?
- Human health risk?
- Decision risk?

Basic Principles - Decisions are made by evaluating decision risk.

## A “Smarter” LLW Regulatory Program

Janet R. Schlueter, NEI

Examples of LLW Program Areas Ripe for Risk Informing

- Measuring & Documenting Hard-to-Detect Radionuclides, e.g., Technetium-99 and Iodine-129 – Allow for Use of Scaling Factors
- Risk Informing New and Renewed Shipping Casks’ Certificates of Compliance, e.g., Burdensome Leak Test Standards
- Reducing Redundancies and Inconsistencies with Reporting to NRC and DOE’s MIMS for Waste Shipments and Disposals, e.g., Solid Radioactive Waste Reporting
- Allow Concept of Dose Averaging on Radwaste Packages, e.g., NUREG-1608
- Codify Current Safe Practice of Disposal of Very Low-Level Waste in Certain Regulated Facilities
- More Timely & Efficient License Termination Process
- Using Latest Science to Update NRC Regulations and Guidance, e.g., Part 61 Through Open and Transparent Public Process with Numerous Opportunities for Industry and Stakeholder Engagement

## Risk-Informed Approaches for Low-Level Waste - Reasonable Assurance & riskSMART

Patricia K. Holahan, Ph.D., Director, Division of Decommissioning, Uranium Recovery, and Waste Programs, NRC

Risk Assessment Supports Integrated Risk-Informed Decision Making

Risk Triplet: “What can go wrong?,” “How likely it is?,” and “What its consequences might be?”

The conceptual models used to assess risk and inputs describing the source, its release and transport, and receptor’ exposure pathways are uncertain.

Probabilistic analysis is used as a process to explicitly represent this uncertainty by describing models and associated inputs as probability distributions.

## Proposed Interpretive Rule for VLLW

Joseph J. Weismann, CHP, VP, Radiological Programs, US Ecology

USE is pleased that NRC is considering innovative approaches to improve access to appropriate disposal of VLLW.

- Current approach (§20.2002) has helped provide safe and secure non-licensed disposal capacity for large quantities of VLLW at RCRA Sub-C facilities.
- However, §20.2002 approvals are time-intensive and unnecessarily redundant.
- VLLW solution via the §20.2001 IR could improve access and availability to appropriate alternate disposal facilities.
- There is much confusion within the public about the intent of the IR, how it would work, and where the waste could/should go.



## NEI Governmental Affairs Perspective

Sean Finnerty, Director, Federal Programs,  
Governmental Affairs

America's National Nuclear Energy Strategy: Preserve, sustain, innovate, and thrive

In this year's Congress much talk centered on making sure nuclear is continued in the Green New Deal discussions.

Give thoughts about where nuclear fits in that. Environmental justice may be a more thoughtful way of looking at issues under that if Democrats win.

"Position the nuclear energy industry to capitalize on opportunities and mitigate challenges no matter who wins the election."

117th Congress Policy Issues

- COVID/Stimulus/Infrastructure
- Appropriations
- Advanced Technology
- Clean Energy/Climate Change
- Decommissioning
- Environmental Justice – under development
- International Trade
- Nuclear Security, Non-Proliferation – under development
- NRC, DOE – Budget, Oversight
- Used Fuel Program Reform
- Workforce

## Overview of the LLW Forum's Disused Sources Working Group

Michael Klebe

DSWG formed in 2011 at the request of the NNSA/GTRI to address the problem of disused radioactive sealed sources

- Approximately 2 million sealed sources in use
- Tens of thousands disused sources with no exact knowledge of number, activity, and storage security

### DSWG Report

Report published – March 2014

24 recommendations for improving the security of sealed sources

Several recommendations have been completed; currently revising the priority of the remaining recommendations

### Source Exchange Pilot Study

The CRCPD has conducted an informal source exchange program based on staff knowledge and contacts. The DSWG evaluated the merit of establishing a formal computer-based exchange where sources not in use could be matched with users who need a source. Based on a questionnaire there was licensee interest in such a program. However, when attempts were made to identify willing participants to pilot a program, interest waned. DSWG has suspended further activities related to a source exchange.

US NRC BTP on Concentration Averaging and Encapsulation

Revised BTP does not appear to have increased the disposal of sealed sources.

### DSWG Plans

- Study the original and revised BTP as it relates to sealed sources
- Identify methods to identify BTP related obstacles for sealed source disposal
- Consider developing implementation guidance specific to the disposal of sealed sources

# NEI AND DSWG PLANS

## LLWF Transformation and Business Meeting

The Board worked on the Mission Statement and Objectives during the Transformation meeting and approved the statement during the Board meeting held on Thursday.

### Mission Statement

To facilitate the implementation of the Low-Level Radioactive Waste Policy Act by serving as the consolidated voice and face for the compacts and states. As the consolidated voice, we promote the safe and efficient disposal of Low-Level Radioactive Waste by working with a broad spectrum of key stakeholders including regulators, policy makers, the public, and industry to develop national policy that anticipates and resolves problems.

### Objectives

To fulfill this mission, The Low-Level Radioactive Waste Forum objectives include:

- bringing together a diverse group of stakeholders on a regular basis to promote sharing of ideas, concepts, and solutions;
- educating and informing policy makers and the public about the management and disposal of low-level radioactive waste and about the aims of the federal legislation;
- fostering innovative information sharing among state and interstate compact officials;
- providing opportunities for state and interstate compact officials to exchange views with federal officials and other interested parties; and,
- supporting the mission of interstate compacts and working to ensure continued access to licensed low-level radioactive waste disposal capacity.

---

---

# LLWF MISSION STATEMENT AND OBJECTIVES

---

---

**Atlantic Compact**  
Connecticut  
New Jersey•South Carolina

**Meeting**

October 28 2020 at 10:00 AM

For more information please contact max@atlantic-compact.org

Agenda items include Updates by Ben Smith, P.E., Director, Barnwell Disposal Operations; and James-Shissias -Nuclear Utilities Group. Also included are the Executive Director's Report on Final Revenue/Expense Report for FY 19-20 (July 1, 2019-June 30, 2020), and Radioactive Waste Disposal Update by Brandon Bickley and DHEC Update by Lynn Garner.

Next Regular Meeting: April 2021

**Central Midwest Compact**  
Illinois•Kentucky

**Meeting**

Annual Meeting on September 22, 2020

The Election of Officers were held. Gary McCandless will continue to serve as Chairman; Commissioner Henry will serve as Secretary/Treasurer.

Chairman McCandless gave an update on CMCC activities. The CMCC had recently commented on a questionnaire from Oak Ridge Laboratory regarding Category 1 & 2 sources.

Commissioner Joe Klinger (Illinois) gave an update on recent CRCPD E-34 Committee activities which has been very active. Commissioner Klinger is stepping down from this role and the CRCPD is seeking a new Chairman for this Committee.

Lori Beagles, the Executive Assistant to the CMCC, gave an update on FY20 financials, provided copies of the annual audit and presented the budget for FY21.

The CMCC continues to keep expenses to a minimum and operate in the black.

Kelly Horn and Cheryl Head from the Illinois Emergency Management Agency provided updates on Illinois programs including their LLW Tracking and Storage system, an update on TENORM rules, and LLRW shipments throughout the state of Illinois. They also gave updates on Illinois generators.

Dr. Hugh Henry was fortunate to travel from Kentucky. Dr. AJ Bhattacharyya was able to attend the meeting as well. Dr. Bhattacharyya serves the State of Kentucky in their Radiation Control Program.

Dr. Bhattacharyya provided a update for the State of Kentucky.

The CMCC Annual Report (July 1, 2019 – June 30, 2020) was reviewed for accuracy. The report is due to Illinois and Kentucky legislators within 30 days of the Annual Meeting. The report needs a few more edits and it will be ready for publication meeting the deadline. The report is available on the CMCC website.

Dan Shrum, Executive Director of the LLW Forum attended the meeting. He gave an update on the LLW Forum Fall Meeting, which will be held virtually for the first time, on October 14-15, 2020. Registration is free.

The CMCC Spring Meeting is tentatively scheduled for April 20, 2021. Location and method TBD.

**Northwest Compact**

Alaska•Hawaii•Idaho  
Montana•Oregon•Utah•Washington•Wyoming

**Meeting**

Waste Management and Radiation Control Board  
September 10, 2020 at 1:30 p.m.

The Agenda and Board packet information for the Waste Management and Radiation Control Board Meeting has also been posted on the Utah Public Notice website at: <https://www.utah.gov/pmnn/index.html>

### Southeast Compact

Alabama•Florida•Georgia•  
Mississippi•Tennessee•Virginia

## NRC Approves Power Uprate for Farley Nuclear Plant, Units 1 And 2

The Nuclear Regulatory Commission has approved a request by Southern Nuclear Operating Co. Inc. to increase the reactor capacity of the Joseph M. Farley Nuclear Plant, Units 1 and 2, by approximately 1.7 percent. The NRC staff determined that Southern Nuclear could safely increase both reactors' heat output, primarily through more accurate means of measuring feedwater flow. Southern Nuclear is also improving some plant systems not regulated by the NRC to more efficiently convert the increased reactor output to electricity. The power uprate for Farley, located approximately 18 miles east of Dothan, Ala., will increase Unit 1's generating capacity from approximately 910 to 944 megawatts electric and Unit 2's generating capacity from approximately 910 to 953 MWe. Southern Nuclear intends to implement Unit 1's uprate within 180 days of completing the unit's spring 2021 refueling outage and Unit 2's uprate within 180 days of completing that unit's fall outage this year. The NRC's safety evaluation of the plant's proposed power uprate focused on several areas, including the nuclear steam supply systems, instrumentation and control systems, electrical systems, accident evaluations, radiological consequences, fire protection, operations and training, testing, and technical specification changes.

Source: NRC News Release No: 20-051

October 21, 2020

Contact: Scott Burnell, 301-415-8200

## NRC To Review North Anna's Subsequent License Renewal Application

The Nuclear Regulatory Commission has received a subsequent license renewal application from Virginia

Electric and Power Company (Dominion), which requests an additional 20 years for the already-renewed operating licenses of North Anna Power Station Units 1 and 2. The application is now available on the NRC website.

Dominion filed the application on Aug. 25, seeking to renew the licenses for a second time. The North Anna units are pressurized-water reactors in Louisa, Va., approximately 40 miles northwest of Richmond, Va. The NRC approved the initial license renewal in March 2003, with Unit 1 currently licensed to operate through April 1, 2038, and Unit 2 through Aug. 21, 2040.

The NRC staff is reviewing the application to determine if it has sufficient information to complete the agency's extensive safety and environmental reviews. If the application is determined to be complete, the staff will docket it and publish a notice of opportunity to request an adjudicatory hearing before the NRC's Atomic Safety and Licensing Board.

Information regarding the license renewal process is available on the NRC website. Once conditions related to the COVID-19 public health emergency have improved, a copy of the North Anna subsequent license renewal application will be available at the Louisa County Library, 881 Davis Hwy in Mineral, Va.

### Southwestern Compact

Arizona•California•South Dakota•North Dakota

## Meeting

84th Commission Annual Meeting by Virtual WebEx Service Tuesday, October 27, 2020 beginning at 0930 PDT as a WebEx Virtual Meeting

Items include discussion of Executive Director replacement and discussion and approval of the LLW Forum membership. Exportation actions are included in the agenda. Other items are the Financial Audit Report-Miers and Miers, staff performance evaluation, renewal Counsel Contract, Update and Approve

Insurance Requirements, Annual Governor's Report-Review and Approve, Amend Fiscal Year 2020-2021 budget, Approve Fiscal Year 2021-2022 budget, Adopt fee schedule, and Annual Report of Licensees for each State.

## Texas Compact

Texas•Vermont

### Meetings

October 2, 2020

Thursday, October 29, 2020

Thursday, December 17, 2020

October 29, 2020 meeting agenda included introduction of the New Executive Director Stephen Raines, consideration of and possible action on applications for importation of low-level radioactive waste, report from Mr. Dave Carlson of Waste Control Specialists, consideration and possible action to amend the Commission's budget for FY2021-2023, consideration and possible action to evaluate executive director position duties and adjust compensation for executive director for FY2021. Chairman's report on Compact Commission activities included Report on Communications with other Compacts and the Low-Level Forum. The meeting included fiscal and budget updates and personnel updates, Executive Director's report, discussion and possible action regarding the contingency plan described in Section 3.04 of the Texas Low-Level Radioactive Waste Disposal Compact, and Capacity Committee Report.

Note: In the States and Compact Section, NRC news releases may be abbreviated. Access the complete news release at the NRC website [www.nrc.gov/reading-rm/doc-collections/news/](https://www.nrc.gov/reading-rm/doc-collections/news/)

## Spent Fuel Storage Issues in Texas

### NRC Schedules Webinars to Present Environmental Findings on Proposed Spent Nuclear Fuel Storage Facility in Texas

The Nuclear Regulatory Commission will hold four webinars in October to present its draft environmental findings and receive comments on Interim Storage Partners' proposed consolidated spent nuclear fuel storage facility in Andrews County, Texas. They will be held at different times of the day to maximize opportunities for the public to participate. The webinars are tentatively scheduled for Oct. 1 from 6-9 p.m.; Oct. 6 from 2-5 p.m.; Oct. 8 from 6-9 p.m.; and Oct. 15 from 11 a.m.-2 p.m. All times are Eastern. Comments will be accepted through November 3.

Source: NRC News Release

No: 20-046 September 16, 2020

Contact: David McIntyre, 301-415-8200

### Environmental Impact Statement for Interim Storage Partners LLC's License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas – Draft Report for Comment (NUREG-2239)

<https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2239/>

The U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment a draft Environmental Impact Statement (EIS) for Interim Storage Partners' (ISP's) license application to construct and operate a consolidated interim storage facility (CISF) for spent nuclear fuel (SNF) and Greater-Than Class C (GTCC) waste, along with a small quantity of mixed oxide fuel. Comment period extended until November 11, 2020.

## Research Grants

### NRC Panels Make Recommendations for Awarding Research and Development Grants

As part of the \$16 million appropriated by Congress in fiscal year 2020 under the Integrated University Program authorization, Nuclear Regulatory Commission panels peer-reviewed 141 research and development grant proposals. Based upon the panels' recommendations, the NRC anticipates that 15 research and development proposals will receive award funding totaling more than \$7 million. The final determination will be made by the NRC's Office of Nuclear Regulatory Research. This is the first year the NRC has offered a research component under the IUP, which provides funding to support research and development for nuclear science, engineering, technology and related disciplines. The intent of the grants is to develop a workforce capable of supporting the design, construction, operation, and regulation of nuclear facilities, and the safe handling of nuclear materials. The NRC panels have recommended the following awards:

- Georgia Institute of Technology - Georgia Thermal Hydraulics Analysis \$ 499,927.00
- Kansas State University - Kansas Structural and Geotechnical Evaluations \$ 418,161.00
- North Carolina State University - North Carolina Thermal-Hydraulic Verification and Validation \$ 500,000.00
- Oregon State University- Oregon Cybersecurity Research \$ 500,000.00
- Rensselaer Polytechnic Institute - New York Fuels and Neutronics Analysis \$ 500,000.00
- Texas A&M University- Texas Thermal-Hydraulic Analysis \$ 500,000.00
- Texas A&M University Texas - TRACE Code Development and Maintenance \$ 450,000.00

- University of Illinois - Illinois Materials Degradation, Analysis and Mitigation Techniques \$ 500,000.00
  - University of Maryland - Maryland Risk Analysis Research \$ 383,061.00
  - University of Maryland - Maryland Human Reliability Analysis Methods \$ 500,000.00
  - University of Michigan - Michigan Thermal-Hydraulic Verification and Validation \$ 500,000.00
  - University of Nevada - Reno Nevada Storage (Dry Cask, Transportation) \$ 499,912.00
  - University of Southern California - California Storage (Dry Cask, Transportation) \$ 500,000.00
  - University of Wisconsin - Wisconsin Accident Tolerant Fuels (ATF) \$ 500,000.00
  - Virginia Polytechnic Institute Virginia Thermal-Hydraulic Analysis \$ 499,517.00
- Total Awards \$7,250,578.00

The NRC announces grant opportunities on [www.grants.gov](http://www.grants.gov), which enables the public to find and apply for federal funding opportunities. Panels of reviewers, from academia and the NRC, evaluate the grant proposals. The composition of the panels are diverse, with most panelists having experience reviewing proposals for government agencies and advanced credentials in nuclear engineering, health physics, radiochemistry or related disciplines. All panelists must certify no conflict of interest for the proposals they evaluate. The remainder of the FY2020 IUP funds will be allotted for scholarships, fellowships, trade schools/ community colleges and faculty development and awarded by the end of April 2021. The final research and development grant awards will be posted later this year on the NRC website.

Source: NRC News Release  
 No: 20-047 September 21, 2020  
 Contact: Ivonne Couret, 301-415-8200

## Nuclear Security

## Moisture/Density Gauges

The Department (Nebraska Department of Health and Human Services, Office of Radiological Health) was notified around 0815 CDT on October 9, 2020, by the Nebraska State Patrol, of a lost, and subsequently recovered, nuclear gauge containing a 9 mCi Cs-137 source and a 44 mCi Am-241/Be source. During the afternoon of October 8, 2020, the gauge was on the tailgate of a pickup truck. The gauge user entered the vehicle before securing the gauge package. The user was distracted and began driving away. The gauge fell out of the back of the vehicle. An employee from the Nebraska Department of Transportation (NDOT) found the lost gauge near Norfolk, NE.

On October 12, 2020, the licensee notified the Texas Department of State Health Services that on October 10, 2020, one of its technicians completed a job at a temporary job site in Dallas, Texas, and drove to another temporary job site in Venus, Texas. Upon arriving, the technician found he did not have the Humboldt 5001 EZ moisture/density gauge in his truck. The gauge contained an 8 milliCurie cesium-137 and a 40 milliCurie americium-241/beryllium source.

The licensee notified the Texas Program at approximately 1315 CDT that one of its company pickups had been stolen and a Troxler model 3440 moisture/density gauge (SN: 37337) was secured in the bed of the truck. The gauge contains 40 milliCurie americium-241 and 8 milliCurie cesium-137 sources. The technician had a late testing and then went to his residence. He last saw the vehicle/gauge at approximately 0100. At approximately 0900, he discovered the vehicle, with the gauge, had been stolen.

The Radiation Safety Officer (RSO) of the Kentucky Radioactive Materials Licensee Geotechnology Inc. (RML #201-189-51), reported the theft of a single CPN MC-1 Elite Series Moisture Density gauge (Serial No: 31113 with sealed source models HEG137, 10 mCi Cs-137, sealed source serial number Q785, and AM1.NO2, 50 mCi AM-241:Be, sealed source serial Number K039/18) from an authorized user's vehicle while parked overnight at the user's residence located in Lexington KY. The gauge was secured by 2 chains within the cab of the vehicle, but was stolen from the vehicle along with several other items.

On October 1, 2020, the Agency was notified by the licensee's radiation safety officer (RSO) that a Troxler model 3430 moisture/density gauge containing a 40 milliCurie americium-241 source and an 8 milliCurie cesium-137 source was stolen from an employee's truck. The truck was parked at the employee's residence and when they came out to go to the job site they found both chains securing the gauge in the truck were cut and the gauge was missing.

On September 15, 2020, at 1700 CDT, the Agency was notified by the licensee's radiation safety officer (RSO) that one of their technicians had left a Troxler model 4640B density gauges at a job site overnight. The technician had completed their work on September 14, 2020, and left the job site after completing their paperwork, but failed to store the device into their truck. The RSO stated the gauge handle was locked and did not believe any individual would receive an exposure. The RSO stated the device contains two cesium-137 sources, but did not know the activities.

**NOTE: Sources for Nuclear Security articles are from <https://www.nrc.gov/site-help/search.html?q=events&site=allSites#gsc.tab=0&gsc.q=events&gsc.page=1>**

## Nuclear Security

## Miscellaneous Radioactive Materials

The Pennsylvania Bureau of Radiation Protection Department was notified of radioactive material found in a private residence being cleaned-out for an auction sale. BRP staff responded and found several sealed radium-226 sources and small quantities of uranium ore. The initial investigation revealed an additional nearby property also had radioactive material present. Staff inspected that property as well and discovered several more items. Owners of the houses were related and have passed away. Ambient dose rates were in the microrem to few millirem per hour range around the sources. The houses were secured and have been collected. Note, some items contain multiple exempt sources, pieces of rock, or bottles of circa 1920 quack medical tablets with radium-226. These items include: old quack radium consumer products, exempt check sources, vacuum tubes, a military compass, luminous tubes and deck markers, cans of thorium oxide, and various other items containing radium-226, thorium-232, strontium-90, carbon-14, and natural uranium in quantities ranging from less than a microCurie to a few milliCuries (in the case of two radium-226 sources). An empty 5 gallon pail with 'US Radium, Bloomsburg PA' stenciled on the side was found. It is believed this old manufacturer of radium products, and now an EPA Superfund site, is where these items originated from. No exposure to members of the public above the public dose limit of 100 mrem per year are believed to have occurred during discovery and recovery, as the higher activity sources were within lead containers when found. A complete inventory and activity calculations are underway for proper disposal.

On September 9, 2020, the licensee reported a missing 7.5 Ci Mo-99/Tc-99m generator, which was subsequently found, to the Wisconsin Department of Health Services. The facility receives a generator every Sunday evening. On September 8,

the licensee became aware that this week's generator was missing and initiated search efforts. The licensee confirmed with the generator supplier that a generator was delivered on September 6. The licensee reviewed security footage and determined that the generator was delivered at 2115 CDT on September 6. The licensee reviewed additional camera footage and determined that a different courier service requested access to the nuclear medicine hot lab about an hour later and took the package that had been delivered at 2115 CDT. The licensee contacted the second courier service and determined that the missing generator was found in the courier's warehouse on September 9. The generator has been returned to the licensee.

The licensee notified the New Jersey Department of Environmental Protection of two lost sealed sources. The sources had been sent from the licensee's Austin, Texas facility to their Fair Lawn, New Jersey facility, and are reported as missing by the shipper. The two sources were Ni-63 foil sources with an activity of 10 mCi each (S/N: AO-2484 and AO-5478). Each source was in a Life Technology Holdings, model Trace 1300, electron capture detector (S/N: 719420216 and 719420261).

On September 9, 2020, the Texas Department of Health Services was notified by the licensee's radiation safety officer (RSO) that on September 8, 2020, one of his crews lost a QSA 880D exposure device containing a 38.1 Curie iridium-192 source. The radiography crew had placed the exposure device on the tailgate of their truck at the licensee's location. The crew drove away from the site with the exposure device still on the tailgate. The device fell off the truck a short distance from the licensee's location. A second crew left the licensee's location a short time (10 minutes) later and found the device on the pavement.



## Risk-Informed Regulation and Regulatory Meetings

### Public Meeting on Transformation at the NRC: Risk-Informed Regulation

Transcript at <https://www.nrc.gov/docs/ML2026/ML20266G329.pdf>

Ms. Doane presented.... accomplishments on our transformation....saying:

“Since we last met about a year ago, we've made significant strides in our transformation journey one decision at a time, while remaining steadily focused on fully realizing our vision of becoming a more modern risk-informed regulator.

The Be riskSMART initiative team developed a framework to give Staff confidence in accepting well-managed risks and decision making without compromising the NRC's mission. This framework can be used in the legal, corporate, and technical areas.

To date, the Be riskSMART framework has been applied in numerous contexts, including areas of

fee billing, summer hire recruiting, information technology deployment, risk-informed licensing actions, and emergent safety and security issues.”

Slide presentation at <https://www.nrc.gov/docs/ML2025/ML20255A113.pdf>

### NRC Meeting with the Organization of Agreement States (OAS) and the Conference of Radiation Control Program Directors (CRCPD)

Thursday, October 8, 2020

Transcript at

<https://www.nrc.gov/docs/ML2028/ML20288A334.pdf>

Waste disposal related issues included a discussion of Part 61 changes, draft regulatory basis, proposed interpretive rule for the transfer of very low-level waste to sites for disposal.

## Public Meetings and Opportunities for Comment

### Specific Requests for Comments - Development of NRC's Strategic Plan for Fiscal Years 2022 Through 2026

NRC is requesting comments on its update of the NRC's Fiscal Years (FYs) 2022-2026 Strategic Plan. Specifically, the NRC would like input on the agency's strategic goals, actions to realize those goals, and how to address key challenges and external factors as described in the current agency's Strategic Plan, NUREG 1614, Volume 7, "Strategic Plan Fiscal Years 2018-2022." The information will be used to inform the development of the NRC's FYs 2022-2026 Strategic Plan framework and evidence building and evaluation activities. Comments - Federal Rulemaking Website: Go to <https://www.regulations.gov> and search for Docket ID NRC-2020-0194. Address questions about NRC Docket IDs in Regulations.gov to Jennifer Borges; telephone: 301-287-9127; email: [Jennifer.Borges@nrc.gov](mailto:Jennifer.Borges@nrc.gov). Due November 13, 2020 - period extended.

### Strategic Programmatic Overview of the Decommissioning and Low-Level Waste and Nuclear Materials Users Business Lines (Public Meeting)

Thursday, November 5, 2020 - 9:00 a.m.

(Contact: Celimar Valentin-Rodriguez: 301-415-7124)

Additional Information: The public is invited to attend the Commission's meeting live by webcast at the Web address – <https://www.nrc.gov/>.

## Radioactive Waste Disposal

**NRC Low-Level Waste Disposal Statistics**

Approximately 4.25 million cubic feet and 135 thousand curies of low-level radioactive waste were disposed of in 2019. The volume and radioactivity of waste vary from year to year based on the types and quantities of waste shipped. Totals may not add up due to rounding.

**2019 Volume and Activity by Disposal Facility**

Disposal Facility	Volume (Cubic Feet)	Activity (Curies)
Andrews County, TX	32,151	93,992
Barnwell, SC	10,770	30,553
Clive, UT	4,185,374	9,554
Richland, WA	20,918	670
TOTAL	4,249,212	134,768

<https://www.nrc.gov/waste/llw-disposal/licensing/statistics.html>

**Information Digest Now Available Online**

The Nuclear Regulatory Commission has published the 2020-2021 edition of its Information Digest, which describes, in plain language and with visual aids, the agency's mission, responsibilities, accomplishments and activities related to the civilian use of radioactive materials. The NRC Information Digest is published annually and, beginning this year, will be available only electronically on the NRC website. This new online-edition, NUREG-1350, Volume 32, is a quick reference guide to the agency and industry in an easy-to-use format.

The Digest has embedded hyperlinks for ready access to additional information on major topics. The NRC graphics, figures, maps, and data sets also will be available online. <https://www.nrc.gov/reading-rm/doc-collections/news/2020/20-050.pdf>

For the radioactive waste section see <https://www.nrc.gov/docs/ML2028/ML20282A660.pdf>

Source: NRC News Release No: 20-050 October 15, 2020

Contact: Office of Public Affairs, 301-415-8200  
NRC 2020-2021

Low-Level Radioactive Waste Disposal Compact Membership

Northwest Compact

- Alaska
- Hawaii
- Idaho
- Montana
- Oregon
- Utah
- Washington
- Wyoming

Midwest Compact

- Indiana
- Iowa
- Minnesota
- Missouri
- Ohio
- Wisconsin

Appalachian Compact

- Delaware
- Maryland
- Pennsylvania
- West Virginia

Rocky Mountain Compact

- Colorado
- Nevada
- New Mexico

Northwest accepts Rocky Mountain waste as agreed between Compacts

Central Midwest Compact

- Illinois
- Kentucky

Atlantic Compact

- Connecticut
- New Jersey
- South Carolina

Southwestern Compact

- Arizona
- California
- South Dakota
- North Dakota

Texas Compact

- Texas
- Vermont

Central Compact

- Arkansas
- Kansas
- Louisiana
- Oklahoma

Southeast Compact

- Alabama
- Florida
- Georgia
- Mississippi
- Tennessee
- Virginia

Unaffiliated States

- District of Columbia
- Maine
- Massachusetts
- Michigan
- Nebraska
- New Hampshire

- New York
- North Carolina
- Puerto Rico
- Rhode Island

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 government databases) <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)

### Acknowledgment & Disclaimer

Acknowledgment: This material is based upon work supported in part by the U.S. Department of Energy under Award Numbers DE-EM0001364 and DE-em0003153.

Disclaimer: Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.



### Copyright Policy

All LLWF materials are copyrighted and for permission to use or reproduce, please send your request to the  
Daniel B. Shrum  
Executive Director,  
[Dshrum@llwforum.org](mailto:Dshrum@llwforum.org)