

LLW *notes*

Volume 35 Number 4 July/August 2020

A Message from Dan Shrum, Executive Director

THE SHOW MUST GO ON!

Due to the ongoing pandemic, the Fall 2020 Low-Level Forum Meeting will now be virtual. We will miss being able to meet in person to network and socialize, but we feel it important to meet virtually in order to share information and I am please to announce--

LLW Forum Fall Virtual Meeting October 13 - 15, 2020

The Low-Level Radioactive Waste Forum (LLRWF) will be hosting its Fall 2020 meeting virtually. Originally planned for San Antonio, TX, the Forum Board voted to hold the Fall meeting in a virtual format due to COVID concerns and travel restrictions. There will be three, two-hour meetings starting October 14 and concluding October 15, 2020. These meetings will be offered free of charge as a way to get re-acquainted with the Forum and our current activities. We will have speakers from the Nuclear Regulatory Commission, Department of Energy, Nuclear Energy Institute, Interstate Compacts, and Disposal Operators. A panel on Risk Informing 10 CFR Part 61 will also be featured. In addition, Forum members will be providing updates on the on-going Forum transformation.

A registration form is forthcoming. We hope you will be able to join us virtually this time, and look forward to when we can meet together in person again.

Take care and stay safe,

Daniel B. Shrum, Executive Director



Please submit comments, suggestions or articles for the LLW *notes* to margaret-llwf@gmail.com

In this Issue... Find news about LLWF Comments on NRC's VLLW Interpretive Rule, the Source Collection and Threat Reduction Program, and Webinars to Present Draft Environmental Findings on Proposed Spent Nuclear Fuel Storage Facility in New Mexico, 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.

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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
- 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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LLW Forum Membership

Voting membership in the Low-Level Radioactive Waste Forum is open to interstate compacts, states that are designated by a compact to host – or that currently host – a commercial low-level radioactive waste disposal facility, and unaffiliated states. Voting members representing interstate compacts are appointed by interstate compact commissions. Voting members representing host states and unaffiliated states are appointed by the Governors of those states. Non-voting membership is open to other states that have joined interstate compacts, as well as to corporations and other interested parties.

The Forum welcomes the return of the Rocky Mountain, Southwestern and Texas Compacts as members and notes that all Compacts are currently members of the LLWF.

The Forum is pleased to have all members in various categories, including:

- Host States
- Unaffiliated States
- Federal Affiliate Members
- Non-Government Affiliate Members
- Supporters and Contributors

To see membership information and contacts, visit <https://llwforum.org/membership/>

Please contact Dan Shrum, Executive Director, dshrum@llwforum.org, with any questions or comments about Forum membership.

Independent Audit Report of the LLWF 2018 Agreed Upon Procedures

Audit results by Diane W. Fulmer, CPA, PC, concluded there were no concerns. The purpose of the review was to determine compliance with and exceptions to accounting procedures of the LLWF.

Please contact Ted Buckner tedb@secompact.org with any questions. The report is available on the LLWF website, in the members only section.

Very Low-Level Radioactive Waste

**Forum's Letter of July 18, 2020 on the 20.2001 Interpretative Rule
Transfer of Very Low-Level Waste to Exempt Persons for Disposal- 85 FR 13076**

The LLRWF is supportive of identifying options to improve and strengthen the NRC's regulatory framework for the disposal of large volumes of very low-level radioactive waste (VLLW). However, the proposed interpretive rule does not sufficiently address the needs and concerns identified during the VLLW scoping study and in fact, the concept of an interpretative rule was never considered. In addition, the NRC did not reach out to the agreement states to properly discuss the concept of an interpretative rule.

Our comments are summarized in the attachment. The proposed interpretative rule provided very little detail on implementation and therefore it was challenging to provide meaningful comments. The LLRWF is not supportive of this proposed interpretative rule and instead favors a rulemaking that would define a new category of radioactive waste for VLLW to be included in 10 CFR Part 61. We have identified considerations that would be important in such a rulemaking. Our comments are provided in response to the questions posed in the Federal Register notice.

COMMENTS ON PROPOSED INTERPRETIVE RULE

Question 1. This interpretive rule would authorize the transfer of licensed material to persons who hold specific exemptions for disposal without a case-by-case review and approval of the transfers. Do you think that case-by-case review and approval of these transfers is necessary?

Answer 1. Regulations found at 10 CFR 20.2001 are minimalistic in nature and only provide "General Requirements" for the disposal of licensed radioactive material. From 10 CFR 20.2001, the licensee is given a general roadmap for proper disposal, i.e., decay in storage, disposal in a licensed landfill, etc. Unless the licensee plans to decay in storage (10 CFR 20.2001.a(2)) or release by effluents (10 CFR 20.2001.a(3)), all options require a license to license transfer.

The Proposed Interpretative Rule will by-pass regulations developed for the safe disposal of licensed radioactive material, specifically, 10 CFR 61. The regulatory process of siting and licensing a Part 61 disposal facility should be followed in order to completely remove the requirement for case-by-case reviews. This is the only way case-by-case reviews can be removed and continue to protect human health and the environment. There is significantly more to licensing a Part 61 disposal facility than just meeting the proposed cumulative dose of 25 mrem/year. Similarly, there is more to the waste acceptance process at a permitted RCRA disposal facility than is acknowledged by an assumed generic waste acceptance process.

Instead of evaluating individual disposal actions or using an interpretive rule, the NRC should determine the suitability of and license sites that provide the necessary level of protection. The regulations for the land disposal of LLRW waste should be entirely encompassed in a revised 10 CFR 61. Part 61 is well suited for incorporating this new waste classification because it already is written to apply varying levels of protection depending upon the hazard (graded approach). For example, §61.7(b)(2) imposes more restrictive stability requirements on Class B and C wastes than on Class A wastes. Similarly, some aspects of Part 61 would not need to apply to the disposal of very low-level radioactive waste (VLLW).

The proposed interpretative rule recognizes that there is no definition of VLLW waste. As such, the NRC should first define a category of very low-level radioactive waste (VLLW) that is lower than the existing Class A, but which still requires disposal in a manner that provides isolation from the biosphere. This would provide the advantage of leveraging the existing mature regulations regarding LLRW disposal while at the same time reducing the regulatory burden that currently exists for the disposal of waste at the very low end of the classification spectrum.

Forum's Letter - continued

The proposed cumulative dose performance objective is not sufficient to fully evaluate the disposal of VLLW at a given site. For example, the current regulatory framework for licensed LLW disposal contemplates long term stability and long-term stewardship for many years (actually an undefined time period) – considerably longer than time frames contemplated for Subtitle C and D landfills. We are not suggesting that Subtitle C or D landfills are not designed and operated using best practices for hazardous waste, but the performance objectives for radioactive wastes are different and must be fully evaluated. For example, Part 61 facilities are designed to prevent the “bath tubbing” effect – Subtitle C and D landfills typically have synthetic liners that may encourage water collection.

In addition, defining VLLW and providing performance objectives in Part 61 should allow for a site-specific approach as is contemplated under the ongoing Part 61 rulemaking. The development of site-specific waste acceptance criteria (WAC) derived from a performance assessment (PA) should be an acceptable method for demonstrating compliance with the performance objectives. Because a site-specific approach is superior to a generic approach, using a site-specific PA to determine how much VLLW (by isotope, volume, etc.) could be disposed of at a site should be an acceptable approach.

Question 2. Transboundary transfer of VLLW associated with the approved disposal actions is an important consideration. What issues associated with transboundary transfer of VLLW should be considered with this interpretive rule?

Answer 2. The proposed NRC interpretive rule has the potential to cause confusion and undermine the Low-Level Radioactive Waste Policy Act (LLRWPA) of 1980 and 1985. The NRC should clearly state that this interpretive rule does not change the authority granted to the compacts by Congress. LLW, including VLLW, would continue to fall under the authority granted to the compacts to control the management and disposal of LLW.

Another transboundary consideration is the

continued viability of the existing Part 61 disposal facilities. Based on presentations given by the current operators of the four Part 61 disposal facilities, there is currently sufficient capacity to dispose of waste generated from decommissioning all US power plants (except for spent fuel and Greater than Class C). The diversion of formerly licensed material may impact the continued viability of the compact disposal facilities. These licensed facilities may no longer be viable and this rule may jeopardize the continued operation of critical Class B & C waste disposal. Additional study of how the interpretive rule would impact the current facilities is suggested.

Question 3. 10 CFR 20.2006 states that “[a]ny licensee shipping radioactive waste intended for ultimate disposal at a licensed land disposal facility must document the information required on NRC’s Uniform Low-Level Radioactive Waste Manifest and transfer this recorded manifest information to the intended consignee in accordance with appendix G to 10 CFR part 20.” Should the exempt persons authorized to dispose of certain VLLW that would be considered § 20.2001 “authorized recipients” under this proposed interpretive rule be required to use Uniform Waste Manifests (consistent with § 20.2006) for waste transferred to the exempted disposal facility?

Answer 3. As discussed earlier, the proper way to deal with VLLW is to include it in Part 61 with gradual disposal performance objectives. The current regulatory system assumes disposal at licensed facilities with proper documentation and controls. The proposed interpretation short circuits much of the existing framework and becomes complicated because of issues identified in Question 3. Removing the requirement for manifests will impede compact operations, make tracking of LLW more difficult (non-manifested waste would not go into the MIMS system), and generally undermine the existing regulatory structure. In addition, current forms used in tracking shipments to a permitted RCRA Subtitle C or D disposal facility would fail to provide the necessary radiological information that otherwise is necessary to ensure proper acceptance and compliance of disposal objectives for

Forum's Letter - continued

disposal at a RCRA facility.

Although the Proposed Interpretive Rule would apparently allow disposal of VLLW at an exempt facility in the absence of a case-by-case review and approval for each waste shipment, each shipment could only be received at an exempt disposal facility if the waste met the waste acceptance criteria (WAC) and waste acceptance plan (WAP) for that facility, especially for non-municipal waste. The WAC and WAP would need to account for the additional radiological information associated with a specific VLLW shipment. Fingerprint verification of an incoming VLLW shipment at a RCRA disposal facility is tantamount to a case-by-case review and approval. Consequently, the Proposed Interpretive Rule seems to overlook or at least discount the robust nature of the typical waste acceptance process at a permitted RCRA disposal facility receiving non-municipal waste (i.e., RCRA Subtitle D industrial solid wastes and/or RCRA Subtitle C hazardous wastes).

Question 4: Are there any other criteria that the NRC should consider when it reviews a request for a sp

ecific exemption for the purpose of disposal?

Answer 4: The performance criteria found in 10 CFR Part 61 and associated guidance documents should be followed when reviewing a request for the disposal of licensed LLW. We support finalizing Part 61 to include a VLLW category. Part 61 already follows a gradational approach for safe disposal based on hazard – we recommend updating the system already in place. The current system isn't broken, it just needs to be updated.

Should the NRC continue with the interpretative rule approach, then the performance objectives found in Part 61 should be considered when granting an exemption request. There is more to the performance of a facility than just a yearly exposure metric. The review process should include an evaluation of environmental monitoring at the proposed disposal facility (including employees, groundwater, and soil). RCRA facilities typically do not monitor for radiological constituents (other

than portal monitors) and this type of long term monitoring will need to be evaluated to demonstrate compliance.

An unintended consequence of the proposed interpretative rule is that the NRC will be deferring to state regulatory agencies having permitting authority over RCRA Subtitle C and D disposal facilities to approve such unlicensed facilities for the disposal of radioactive materials. It is not clear how the NRC can grant this authority. RCRA rules for the design and construction of disposal facilities are prescriptive, i.e., two liners with a 3-foot compacted clay base. Rules governing the disposal of LLW are more performance based. State agencies may or may not have the expertise to evaluate performance objectives for the disposal of LLW. The NRC has a formal process to approve state agencies to oversee the LLW management. It is unclear how the NRC will defer to state agencies to evaluate disposal facilities that are not under the jurisdiction of the NRC and have not been approved under the agreement state process for purposes of disposing VLLW.

Question 5: The regulation in § 20.2001 is currently identified as a compatibility C regulation for purposes of Agreement State compatibility. In light of this proposed interpretive rule, does the compatibility designation raise issues that the NRC should consider?

Answer 5: As stated previously, 20.2001 is general in nature and not the proper place to make this change. Since many states have adopted Part 61 and all states that host a licensed LLW disposal facility have adopted Part 61, updating Part 61 to include VLLW is a more rounded way to deal with this issue. The NRC should finalize Part 61 with compatibility Category C for LLW classifications and performance objectives.

These comments may be found at <http://llwforum.org/wp-content/uploads/2020/07/LLRW-Forum-comments-on-20.2001-Interpretative-Rule.pdf>

For background information, also see "Forum Update on VLLW" (Nov/Dec 2019 LLWnotes) and "Public Meetings" (July/Aug 2019 LLWnotes).

Very Low-Level Radioactive Waste - continued

NRC's Second Public Meeting on Proposed Interpretation of the LLRW Regulations in 10 CFR 20.2001

This a second meeting to solicit stakeholder feedback on a proposed interpretation of the low-level radioactive waste disposal regulations in 10 CFR 20.2001 would permit licensees to dispose of waste by transfer to persons who hold specific exemptions for the purpose of disposal, rather than needing the individual disposal requests approved on a case-by-case basis. The NRC would consider approval of requests for specific exemptions for the purpose of disposal if they are for disposal of VLLW by land burial.

The majority of commenters, which included nuclear industry representatives, environmental and other public interest group representatives, and individuals, opposed the NRC's proposed interpretive rule.

- Some commenters expressed concerns about the dangers of low-level radiation.
- Some were concerned that the proposed 25 mrem/year cumulative dose limit was too high.
- Some commenters were concerned about the absence of public notification requirements regarding the possible use of disposal sites near them.
- Some were concerned about radioactive wastes contaminating ground water at these unlicensed disposal facilities.
- Other commenters asked clarifying questions on portions of the rule including concerns about defining VLLW; tracking and inspecting these disposals; evaluating the environmental impact of the disposal, especially the impact on low-income and minority populations; calculating cumulative doses, including radioactive material from previous disposals; and potential impacts on LowLevel Waste Compacts and Agreement States.
- Some commenters stated that the process used to effectuate the change in the VLLW disposal program — a proposed interpretive rule — is contrary to law.

For a summary of the meeting, see <https://www.nrc.gov/docs/ML2019/ML20195A123.pdf>.

For the transcript, see <https://www.nrc.gov/docs/ML2019/ML20195A122.pdf>.

Appalachian Compact

Delaware • Maryland •
Pennsylvania • West Virginia

NRC Approves Changes to Three Mile Island Nuclear Generating Station Emergency Planning Requirements

The Nuclear Regulatory Commission has granted a request to alter the emergency preparedness plan for the Three Mile Island Nuclear Generating Station in Londonderry Township, Pa., to reflect the plant's decommissioning status. Exelon Generation Co. LLC requested the change.

The change comes in the form of exemptions from NRC requirements no longer appropriate for a plant that has permanently ceased operations. These exemptions are consistent with NRC actions for other decommissioning plants. Once Exelon implements the exemptions, state and local governments may rely on their comprehensive emergency management ("all hazard") planning for off-site emergency response should events occur at TMI, rather than having a dedicated offsite radiological emergency response plan. As a result, there will not be a 10-mile emergency planning zone as currently identified in TMI's license. The plant will maintain an onsite emergency plan and response capabilities, including the continued notification of state government officials in the event of an emergency declaration. Under the exemptions, Exelon may not implement the change to its emergency preparedness plans until Jan. 20, 2021.

Exelon holds the operating license for TMI Unit 1, a single pressurized-water reactor that began operations in 1974. TMI Unit 1 ceased operations Sept. 20, 2019. All spent fuel has been permanently moved from the reactor vessel to the spent fuel pool for storage. The exemptions from certain emergency preparedness requirements are part of several changes to the plant's licensing basis and technical specifications the licensee requested to reflect TMI's decommissioning status. TMI Unit 2 has been in a non-operating status since the accident in 1979. General Public Utilities Nuclear Inc. retains the license for TMI-2 and is owned by

FirstEnergy Corp. The TMI-2 defueling was completed in April 1990, and all spent fuel has been removed from the site. The U.S. Department of Energy took title and possession of the TMI-2 spent fuel and stores it at Idaho National Laboratory.

Source: NRC News Release No: 20-039 July 27, 2020

Contact: David McIntyre, 301-415-8200

Atlantic Compact

Connecticut •
New Jersey • South Carolina

Meeting

The next meeting of the Atlantic Compact Commission will be held sometime in late October 2020.

Rate Schedule

Alternative Rate Schedule, effective July 1, 2020 is available at

http://www.atlanticcompact.org/pdf_file_drs/7c3be-feedd869072aaf9b37e5a2fb953.ES_CNS%20Rate%20Schedules%20FY%202020-2021.pdf

Central Midwest Compact

Illinois • Kentucky

Meeting

The Central Midwest Compact Commission (CMCC) will hold its Annual Meeting on September 22, 2020, in Springfield, IL, 10:00 am CDT (IL) – 11:00 am EDT (KY). This meeting will be in person, but arrangements have also been made to participate via Web-Ex. Contact Gary McCandless if you would like to be included in the Web-Ex. (cmidwestcompact@yahoo.com)

The agenda includes:

- Election of Officers

- Adoption of Minutes
- Executive Session
- Reports from Chair and Host State, Kentucky Commissioner, Executive Assistant, and Auditor
- KY LLRW Management Update
- IL LLRW Management Update
- Review of FY20 CMCC Annual Report
- Review of CMCC Bylaws

NRC to Hold Virtual Meeting to Discuss 2019 Performance of Clinton and LaSalle Nuclear Power Plants

Nuclear Regulatory Commission staff will discuss the 2019 safety performance of two nuclear power plants operated by Exelon Generation Company, LLC, during a virtual meeting scheduled for Aug. 4.

The Clinton Power Station is located in Clinton, Ill., and LaSalle County Station 1 and 2 nuclear power plants are located in Marseilles, Ill.

Clinton and LaSalle operated safely during 2019.

Source: NRC News Release No: III-20-011 July 30, 2020

Contact: Viktoria Mitlyng, 630-829-9662 Prema Chandrathil, 630-829-9663

NRC to Hold Virtual Meeting to Discuss 2019 Performance of Braidwood and Byron Nuclear Power Plants

Nuclear Regulatory Commission staff will discuss the 2019 safety performance of two nuclear power plants in northeastern Illinois during a virtual meeting scheduled for July 14.

Braidwood 1 and 2 nuclear power plants are located in Braceville, Ill., and Byron 1 and 2 nuclear power plants are located in Byron, Ill. All units are operated by Exelon Generation Company, LLC.

Braidwood and Byron operated safely during 2019.

Source: NRC News Release No: III-20-005 July 6, 2020

Contact: Viktoria Mitlyng, 630-829-9662 Prema Chandrathil, 630-829-9663

NRC to Hold Virtual Meeting to Discuss 2019 Performance of Dresden and Quad Cities Nuclear Power Plants

Nuclear Regulatory Commission staff will discuss the 2019 safety performance of two nuclear power plants in Illinois during a virtual meeting scheduled for July 29.

The Dresden nuclear power plant is located in Morris, Ill., and the Quad Cities nuclear power plant is in Byron, Ill. All the units are operated by Exelon Generation Company, LLC.

The annual assessment letters for Dresden and Quad Cities, as well as the meeting notice, are available on the NRC website.

Source: NRC News Release No: III-20-009 July 23, 2020

Contact: Viktoria Mitlyng, 630-829-9662 Prema Chandrathil, 630-829-9663

Midwest Compact

Indiana • Iowa • Minnesota • Missouri • Ohio • Wisconsin

Meeting

Contributed by Jim Chiles

As of the June annual meeting we have a new set of officers for two-year terms, Paul Schmidt of Wisconsin (chair) and Michael Snee of Ohio (vice-chair); and in July we submitted a comment letter to the NRC on the VLLW interpretive rule proposal.

NRC to Hold Virtual Meeting to Discuss 2019 Performance of Monticello and Prairie Island Nuclear Power Plants

Nuclear Regulatory Commission staff will discuss the 2019 safety performance of two nuclear power plants in Minnesota during a virtual meeting scheduled for July 16.

The Monticello nuclear power plant is in Monticello, Minn., and the Prairie Island 1 and 2 nuclear power plant is in Welch, Minn. All the units are operated by Northern States Power Company.

Monticello and Prairie Island operated safely during 2019. The annual assessment letters for Monticello and Prairie Island, as well as the meeting notice, are available on the NRC website. Current performance information for

Source: NRC News Release No: III-20-006 July 8, 2020

Contact: Viktoria Mitlyng, 630-829-9662 Prema Chandrathil, 630-829-9663

NRC to Hold Virtual Meeting to Discuss 2019 Performance of Davis-Besse and Perry Nuclear Power Plants

Nuclear Regulatory Commission staff will discuss the 2019 safety performance of two nuclear power plants in Ohio during a virtual meeting scheduled for July 23.

The Davis-Besse nuclear power plant is in Oak Harbor, Ohio., and the Perry nuclear power plant is in Perry, Ohio. All the units are operated by Energy Harbor Nuclear Corp. Davis-Besse and Perry operated safely during 2019.

Source: NRC News Release No: III-20-007 July 14, 2020

Contact: Viktoria Mitlyng, 630-829-9662 Prema Chandrathil, 630-829-9663

NRC to Hold Virtual Meeting to Discuss 2019 Performance of Duane Arnold and Point Beach Nuclear Power Plants

Nuclear Regulatory Commission staff will discuss the 2019 safety performance of two nuclear power plants operated by NextEra Energy, Inc., during a virtual meeting scheduled for July 30.

Duane Arnold Energy Center is located in Palo, Iowa, and Point Beach 1 and 2 nuclear power plants are located in Two Rivers, Wisc.

Duane Arnold and Point Beach operated safely during 2019.

Source NRC News Release No: III-20-010 July 24, 2020

Contact: Viktoria Mitlyng, 630-829-9662 Prema Chandrathil, 630-829-9663

Northwest Compact

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

Meeting

Contributed by Earl Fordham

The NWIC has postponed its annual meeting in hope of having a face-to-face meeting later this year. With current COVID events, our meeting in Wyoming will be in 2021. We are looking at a virtual meeting sometime in late 2020.

State of Utah Meeting

The State of Utah Waste Management and Radiation Control Board has scheduled a meeting for August 13, 2020 at 1:30 pm MDT. This is an electronic/telephonic meeting. No Anchor Location. All Board members and any interested persons will participate electronically/telephonically. The Agenda and Board packet information for the Waste Management and Radiation Control Board Meeting is available for your review at:

<https://deq.utah.gov/boards/waste-management-and-radiation-control-board-meetings>

The Agenda and Board packet information has also been posted on the Utah Public Notice website at:

<https://www.utah.gov/pmn/index.html>

NRC Offers Hearing Opportunity on Oklo Combined License Application

The Nuclear Regulatory Commission has published in the Federal Register a notice of opportunity to intervene in an adjudicatory hearing for a Combined License application from Oklo Power, LLC, to build and operate the company's Aurora compact fast reactor in Idaho.

Petitions to intervene in the hearing must be filed by Aug. 31, by anyone whose interest may be affected by the proposed license and who wants to participate as a party in the proceeding. More information on the hearing process is available on the NRC website.

On March 11, Oklo submitted an application for an

NRC license to build and operate an advanced reactor at the Idaho National Laboratory site. The proposed reactor would use heat pipes to transport heat from its core to a power conversion system, which would use the heat to generate electricity.

The NRC staff accepted the application on June 5. Accepting the application for review, or “docketing” the application, does not indicate whether the Commission will approve or reject the requested license. The NRC is focused on aligning key design and safety aspects early in the process to provide a predictable and efficient licensing schedule.

Source: NRC News Release No: 20-037 June 30, 2020

Contact: Scott Burnell, 301-415-8200

Rocky Mountain Compact

Colorado • Nevada • New Mexico

Meeting

Contributed by Leonard Slosky

Jennifer Opila, CO, was elected Chair and Stephanie Stringer, NM, was elected Vice Chair.

Southeast Compact

Alabama • Florida • Georgia •
Mississippi • Tennessee • Virginia

2021 Richard S. Hodes, M.D. Honor Lecture Award Nominations Sought - Deadline is August 31, 2020

As a reminder, the Southeast Compact Commission for Low-Level Radioactive Waste Management is accepting nominations for the 2021 Richard S. Hodes, M.D. Honor Lecture Award — a program that recognizes an individual, company, or organization that contributed in a significant way to improving the technology, policy, or practices of low-level radioactive waste management in the United States. The award

recipient will present the innovation being recognized at a lecture during the Waste Management '21 Symposium in Phoenix, Arizona. The award recipient will receive a \$5,000 honorarium and all travel expenses will be paid. For details, see <https://secompact.org/>

Texas Compact

Texas • Vermont

Meetings

July 9, 2020

Agenda <https://www.tllrwdcc.org/wp-content/uploads/2020/07/TLLRWDC-AGENDA-July-9-FINAL.pdf>

Link to the webinar <https://www.youtube.com/watch?v=AjaqvqIIAU&feature=youtu.be>

August 27, 2020

Texas Low-Level Radioactive Waste Disposal Compact Commission is Thursday August 27, 2020 at 9:00 CDT via Webinar at https://us02web.zoom.us/webinar/register/WN_pfQemeWoRhW1sR20GNA27A

See the agenda <http://www.tllrwdcc.org/wp-content/uploads/2020/08/TLLRWDC-AGENDA-Aug-27-Final.pdf>

October 15, 2020

To be determined – Austin, TX or via Webinar

December 10, 2020

To be determined – Austin, TX or via Webinar

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/

Spent Fuel Storage

NRC Schedules Webinars to Present Draft Environmental Findings on Proposed Spent Nuclear Fuel Storage Facility in New Mexico

The Nuclear Regulatory Commission will hold four webinars in late August and early September to present its draft environmental findings and receive comments on Holtec International's proposed consolidated spent nuclear fuel storage facility in New Mexico. Webinars were previously held on June 23 and July 9.

The series of additional webinars will allow the NRC staff to continue its public outreach under the current circumstances, and to make a well-informed and timely regulatory decision. The public also will be able to submit comments through U.S. mail, email or online.

Information for the additional webinars will be posted on the NRC's Public Meetings webpage. They will be held at different times of the day to maximize opportunities for the public to participate. The webinars are tentatively scheduled for Aug. 20 from 6–9 p.m., Aug. 25 from 2–5 p.m., Aug. 26 from 6–9

p.m., and Sept. 2 from 11 a.m.–2 p.m. All times are Eastern. Holtec submitted its application for a consolidated interim storage facility for commercial spent nuclear fuel on March 30, 2017. The draft EIS was published in March for a 60-day public comment period, which has been extended twice because of the COVID-19 public health emergency, for a total comment period of 180 days.

Comments will be accepted through Sept. 22, including by mail to the Office of Administration, Mail Stop: TWFN-7-A60M, ATTN: Program Management, Announcements and Editing Staff, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; email at Holtec-CISFEIS@nrc.gov; and online at the federal government's rulemaking website, www.regulations.gov, using Docket ID NRC-2018-0052.

Information about the NRC's review of the Holtec application is available on the NRC website, including the draft EIS, reader's guides in English and Spanish, and a detailed explanation of how to submit comments.

Source: NRC News Release No: 20-041 August 10, 2020

Contact: David McIntyre, 301-415-8200

Radioactive Waste Disposal

IAEA Post-Closure Radiological Assessment of Solid Radioactive Waste Disposal Report

"Development of a Common Framework for Addressing Climate and Environmental Change in Post-closure Radiological Assessment of Solid Radioactive Waste Disposal" is the published Report of Working Group 6 Common Framework for Addressing Environmental Change in Long Term Safety Assessments of Radioactive Waste Disposal Facilities MODARIA Topical Heading Uncertainties and Variability.

Modelling and Data for Radiological Impact

Assessments (MODARIA) Programme Working Group was to develop a common framework for addressing climate and environmental change in post-closure radiological assessments of solid radioactive waste disposal. The intention was to include a wide range of disposal facility types.

IAEA TECDOC No. 1904

English IAEA-TECDOC-1904 978-92-0-105020-5
190 65 18.00 2020

Nuclear Security

SCATR Update Source Collection and Threat Reduction Program

by Russ Meyer, CRCPD

Since the NRC's adoption of the *2015 Branch Technical Position on Concentration Averaging and Encapsulation*, the Conference of Radiation Control Program Directors (CRCPD) has conducted two pilot disposals of Class C quantities of ^{137}Cs in order to establish the feasibility of disposing larger Class C quantities of ^{137}Cs at the Northwest Compact (US Ecology) and at the Texas-Vermont Compact (Waste Control Specialists (WCS)) sites.

The disposal at the Northwest Compact site occurred in September 2017 and the disposal at the Texas-Vermont site in December 2019. Both disposals were very expensive. CRCPD attributed the high cost for the US Ecology disposal to the rental of the Type B package. CRCPD attributed the higher cost of the disposal at the WCS site to two factors:

- the rental cost for the Type B package, and
- the license condition that requires a charge of \$0.40 per millicurie of waste being disposed up to \$220,000.00 per shipment.

Both disposals were successful.

After these disposals, CRCPD and National Nuclear Security Administration (NNSA) assessed the need for further disposals of larger activity, Class C sources. CRCPD placed emphasis on disposals of smaller sources that are transportable in Type A packages. These sources are prevalent and provide an ample number of facilities that CRCPD can assist with available funding. For example, the A1 value for ^{137}Cs is 54 Ci. When a ^{137}Cs source attains that activity, it will ship in a Type A package as long as it is currently certified as special form.

CRCPD will continue to dispose of larger sources, but at a lower frequency. DOE has another program that provides disposal of these higher activity sources. The Cesium Irradiator replacement Program (CIRP) will dispose of a cesium irradiator for a licensee at no charge and assist them with the purchase of an x-ray irradiator to replace it.

For some time the CRCPD has been monitoring for the old CD-V 794's and CD-V 793's. A few of these have already decayed to an activity that would allow their shipment as Type A quantities, reducing disposal cost significantly. A group of 14 of the ^{137}Cs sources in CD-V's will attain the A1 activity in October of this year. The SCATR program will incentivize their disposal with cost/share. Most of the sources in these CD-V 794's are currently certified as special form until August 31, 2021.

CRCPD continues to offer the standard cost/share program for those sealed sources previously acceptable to the SCATR program. The first shipment of the new fiscal year (2020-21) was significantly smaller than previous shipments. The services of the CRCPD's broker are essential, but all of us are being more cautious about activities we would not have given second thought to prior to Covid-19 guidelines.

The SCATR program is capable of working within each facility's guidelines and collecting sources, at least, at the same level as previously. We do encourage licensees to continue to participate at previous levels and take advantage of our new capabilities. CRCPD also requests that the states continue to encourage those licensees they identify as in need of disposal services to contact Russ Meyer at rmeyer@crcpd.org or call him at 512-761-3822 for information about SCATR.

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LOST MOISTURE DENSITY GAUGE

“At approximately 1749 CDT on August 1, 2020, the licensee notified the agency (Texas Department of State Health Services) that at approximately 1200 CDT, one of the licensee’s technicians had completed density testing and placed the Troxler Model 3440 gauge (SN: 25201) in the bed of his pickup with the insertion rod locked. The technician then collected a moisture sample. He failed to secure the gauge in its transportation case and failed to raise the tailgate of the truck as well. The technician had driven approximately 1.5 miles from the site when he realized what had happened and that the gauge was not in the bed of the truck. He reported immediately to his supervisor. The licensee searched by vehicle and on foot the entire route the technician had driven and also checked with some other workers on the site but they had not seen anything. The licensee reported the loss to local police department and then notified the agency. The licensee will pursue other avenues to attempt to locate the gauge (notify pawn shops, check for surveillance cameras at locations along the route, etc.). The gauge contained an 8 milliCurie cesium-137 and 40 milliCurie americium-241 source. More

information will be provided as it is obtained in accordance with SA-300.”

“The licensee has notified the agency (Texas Department of State Health Services) that a member of the public had posted on Facebook that he had found the gauge. The technician who lost the gauge saw the post and made arrangements to get the gauge from him. At approximately 1945 CDT, the licensee took possession of the gauge. The lock on the insertion rod was still in place, sources were in the fully shielded position, and there is no apparent damage to the gauge. The licensee will have it checked by the manufacturer/service company. Licensee will notify LLEA of the recovery.”

STOLEN MOISTURE DENSITY GAUGES

The following is a summary from the South Carolina Department of Public Health received via phone:

At 0945 EDT on 07/15/2020, the licensee’s Radiation Safety Officer (RSO) notified the State that two Troxler moisture density gauges (model 3430P, serial #'s 72756 and 75041), each containing 8 mCi of Cs-137 and 40 mCi of Am-241, were stolen from their Ballentine, SC storage facility. The devices had not been used in a few days, so

it is unknown when they were stolen. The RSO reports that the job box containing the travel cases were taken, but the locks were not cut. Additionally, the roll up gate was closed but not secured. The RSO believes it could be an inside job. The RSO was in the process of calling the police.

STOLEN MOISTURE DENSITY GAUGE

The following was received from the California Department of Public Health via email:

“A Troxler moisture density gauge (model 3430, serial # 31716) was reported stolen Monday morning at approximately 0600 PDT from the bed of an employee’s vehicle while the vehicle was parked for 1-2 hours outside the employee’s residence in Moreno Valley, CA. The gauge contains approximately 0.3 GBq (8 mCi) of Cs-137 and 1.50 GBq (40 mCi) of Am-241. The gauge was reportedly picked up earlier that morning at the licensee’s office in Rancho Cucamonga, and left appropriately chained/locked in the back of the vehicle at the employee’s residence before leaving for a work location. The theft was reported to the Moreno Valley Police Department (police report #MV201950058 taken by Officer Flores). A reward will be advertised for the

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>

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return of the gauge.”

TROXLER GAUGE ON EBAY

The following was received from the Florida Bureau of Radiation Control (BRC) via email:

The RSO [Radiation Safety officer] of Laboratory Technical Services, Milton, FL (License number 3734-1) contacted this office [BRC] at 1200 [EDT] to report a model 3450 Troxler Gauge inappropriately advertised on ebay. The Troxler location is advertised in Jacksonville, FL. Acting IRC [Incident Response Coordinator] contacted ebay at 1237 to report the prohibited item.

LOST TROXLER GAUGE

The following was received by the state of Maryland via email:

“On July 17, 2020 at 2115 EDT the Maryland Radiological Health Program was notified of a lost or stolen portable moisture density gauge. A technician for J. D. Hynes and Associates was at a job site at the University of Maryland Eastern Shore, 30610 College Backbone Road, Princess Anne Maryland. The technician completed the job and was preparing to store the gauge in the transportation case when he was distracted. He then drove the truck approximately 16 miles back to the office at 32185 Beaver Run Drive, Salisbury, MD 21804. The

technician discovered the gauge was not in the case. The technician contacted his supervisor and the owner at 1730 EDT and then returned to the job site at approximately 1800 EDT to search for the gauge and discovered the site was locked. The project superintendent was contacted and a key for entry was obtained by the licensee supervisor. Both the licensee supervisor and technician entered the jobsite and searched for the missing gauge and did not locate it there. Then they searched along the travel route independently from each other to try and locate the missing gauge. Both employees searched until approximately 2100 EDT when it got too dark to see. The licensee contacted Wicomico County Police Department and Somerset County Police department and both county fire departments. The gauge was a Troxler 3400 series with 9 mCi Cs-137 and 44 mCi AmBe sources. The serial number is 75791. A reactive inspection will be conducted on Monday July 20, 2020.”

“A portable density gauge was lost from the J.D. Hynes and Associates, Inc. on July 17, 2020 between approximately 14:45 EDT to 15:20 hours EDT. The gauge was identified as Troxler, model 3440P, serial number 75791 with nominal activities of 8 mCi of Cs-137 (on 1/7/2019) and 40 mCi of Am-241:Be (on 2/11/2019). The

last leak test was performed on March 6, 2020. The gauge was lost while returning to office from the job-site.

“On July 17, 2020, at approximately 10:00 hours EDT, the density gauge was placed in the tailgate of a pick-up truck by the gauge operator after warm up and daily calibration, and waiting for the day’s work at a building construction in the University of Maryland Eastern Shore Campus located at 30610 Collage Backbone Road; Princess Anne, Maryland 25813; in Somerset County. Work was suspended at about 14:45 hours EDT due to water leakages in the underground pipes. The gauge operator proceeded to drive back to the licensee’s office located at 32185 Beaver Run Drive, Salisbury, MD 21804, in Wicomico County. After driving for about 25 minutes (about 18 miles) and arriving at the office parking lot the gauge operator realized that the gauge was not placed in its transportation case. The gauge was missing from the bed of the open tailgate of the pick-up truck.

“The event has been reported to the Maryland State Police, in Salisbury; the Incident Number is: 2020-00322775.

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STOLEN HYDROPROBE

The following was received from the California Radiologic Health Branch (RHB) via email:

"On 07/08/20, the licensee's ARSO [(Assistant Radiation Safety Officer)] contacted the RHB to report a stolen hydroprobe, CPN Model 503, S/N H330301362 containing 50 mCi of Am-241. The gauge belonged to Blue Ocean Organics, Inc. and was stolen on 07/03/20, out of a technician's truck parked overnight at a location in Visalia, CA. The ARSO stated that the hydroprobe was removed from the two chain lock in the back of the truck and placed in the cab of the truck overnight when it was stolen along with some other items. On 07/03/20, immediate notification was made to Tulare County Police Department (Deputy G. Canales A344, case # 20-055488). Licensee will be posting a reward for the safe return of the gauge.

"RHB will be following up with the investigation. The licensee will be cited for several items including failure to notify RHB per 10 CFR 20.2201(a)."

MISSING I-125 SEED

The following was received via fax from the New York State Department of Health:

"On July 7, 2020, the [New York State] Department [of Health] was notified of a missing Iodine-125 lo

calization seed (Best Medical International, Inc., Model 2301, Activity: 142 microCuries) at Roswell Park Cancer Institute in Buffalo, New York. An Iodine-125 localization seed was removed from a patient in a procedure that took place on June 25, 2020, and is believed to have been lost in the intraoperative frozen section room in surgery. The RSO [Radiation Safety Officer] was informed of the missing seed on June 29, 2020. The facility conducted searches and surveys of the Surgery, Pathology, Radiation Safety and Environmental Services areas. Trash and regulated medical waste were also surveyed and inspected. It is believed that the seed will be recovered from the facility's regular trash, but more likely in the facility's radioactive waste."

LOST SHIPMENT OF I-125 SEEDS

The following was received from the Florida Bureau of Radiation Control (BRC) via email:

"[The licensee] called the BRC at around 0945 EDT to report that a package [containing 53.91 mCi of I-125] of Brachytherapy seeds was lost by [the common carrier]. The package left the manufacturing facility, then the local facility, was picked up by [the common carrier] at 1706 on July 20, 2020, but was lost somewhere before Tampa. IsoAid checked the delivery status on July 21, 2020, but it was not scanned. Route intended to be Tampa to Memphis to New York to South Africa.

"There are 100 seeds loaded in 7 magazines, 6 magazines contain 15 seeds each, and a 7th magazine contains 10 seeds. These seven magazines are contained in a white lead pig. The pig was packaged in a white box, 9" x 7" x 5" weighing about 4lbs. The package was labeled as Radioactive White - I, UN2915."

ABANDONED RADIOACTIVE SCRAP METAL

The following information was received via email:

"On 7/1/2020, Massachusetts Radiation Control Program was informed by Schnitzer Steel Industries, Inc., that a scrap metal shipment from Town of Littleton Transfer Station in Littleton, MA set off the radiation monitor alarm. The vehicle was redirected back to Littleton Transfer Station for follow-up survey and mitigation in accordance with MA RCP DOT Special Permit 10656 MA-MA-20-01.

"On 7/6/20, the material was identified and segregated from the scrap metal load by an independent

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radiation consultant. The radioactive material discovered was radium-226 Aircraft gauge. Device is intact and not leaking as a wipe test was done by radiation consultant. A Ludlum Model 9DP-1 ion chamber was used for direct measurements on the instrument. The dose rate at 6 inches from the instrument was 1 mR/hr. Dose rate outside of drum is less than 300 microR/hr. The radium-226 activity was estimated to be approximately 31.6 microCuries based on the dose rate measured.

“The RAM material is being stored in safe secure storage away from people and labeled as radioactive material held for proper disposal.

“This activity meets the 30-day event report requirement for lost or abandoned radioactive material greater than 10 times the quantities specified in 10 CFR 20 Appendix C, or the Massachusetts equivalent, 105 CMR 120.297 Appendix C, which is ten times reportable quantity for radium-226 (1 microCurie).

“The Massachusetts Radiation Control Program considers this event to be open until proper disposal of this instrument is confirmed.”

LEAKING SOURCE FROM AIRCRAFT RADIUM DIAL

On June 23, 2020 at approximately 1130 [CDT], the Permit Radiation Safety Officer (PRSO) was working on a J-79 engine and proceeded to survey his work area. During the survey, he found measurements indicating contamination on a nearby table that contained an instrument dial. He did a direct measurement of the Oxygen Pressure Indicator dial, which is approximately 2 inches in diameter and found approximately 7000 Counts Per Minute (CPM) direct reading. The PRSO surveyed the covering over the table on which the dial was on and found approximately 100 CPM with the Ludlum 44-9 pancake style Geiger Muller (GM) probe. The area of the contamination he found was about the size of the probe area. Surveys of the cockpit and surrounding areas were all less than 20 disinte-

grations per minute (dpm)/100 square centimeter loose and 100 dpm/100 square cm total for Radium-226 in accordance with the Acceptable Surface Contamination Levels. The dial was removed from a restored aircraft in a publicly accessible part of the museum. The aircraft was originally surveyed in 1989 and the presence of the radium dial was not detected. Therefore, no radiological controls were implemented to prevent any possible public exposure. The quantity of Radium-226 was estimated at 2 microCuries for the dial. The dial was turned into the Air Force Radioactive Recycling and Disposal center for disposal. The contaminated portion of the table was cut out and disposed of. The open cockpit was surveyed to verify no presence of Radium-226. Any cleaning equipment for the cockpit and surrounding area of the aircraft were controlled and moved to a radioactive storage area.

LOST TRITIUM EXIT SIGN

The following information was received via email:

“The Michoud Assembly Fa-

cility [(MAF)] operates under an NRC general license. The MAF currently has a project being performed by a subcontractor to replace approximately 28 Tritium exit signs. On 7/6/2020,

an employee noticed that one Tritium exit sign [source activity of 3.0 Curies] was not in the location of its last inventory. Further investigation into the incident and discussions with the

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project manager indicated that the exit sign was most likely removed by the subcontractor performing the demolition work on-site. The project manager notified the subcontractor to investigate the incident further, at which time the subcontractor reported the Tritium exit sign had been disposed of at the Construction and Debris (C&D) waste [facility] in the Gentilly Landfill LCC 1 located at 10200 Almonaster Blvd. in New Orleans, LA 70127.”

LOST TRITIUM EXIT SIGN

The following was received from the state of Nebraska via email and phone:

“Approximately April 2019, a tritium exit sign was thrown away with construction debris while a contractor was cleaning up to remodel from catastrophic flooding in Pender, Nebraska. The sign was discovered missing when inventory was taken 7/17/2020.

“Device Name: RADIOLUMINESCENT SIGN

Manufacturer: Best Lighting

Model Number: SLTURW10

Serial Number: 165713

Radionuclide: H-3

Activity: 7.03 Ci (260.11 GBq)”

ABANDONED TRITIUM SIGN

The following information was received via a letter from Goodwill Industries to the Oregon Department of Health Radiation Protection:

“Goodwill Industries of Lane and South Coast Counties found an abandoned exit sign (Tritium) in their inventory. The exit sign was sent to SRB Technologies, INC. at 2580 Landmark Drive, Winston-Salem, NC 27103 (NC Radioactive Materials License# 034-0534-2) for proper disposal. One sign was sent. The sign had been manufactured by Isolite Safety Light Corp. Bloomberg, PA/ Model Number 2040. Serial Number 0412499. Date of Manufacture 12-84. Life rating/ Curies of 10 years 9.8ci. The device was never registered or installed at any of our sites as it was abandoned here.

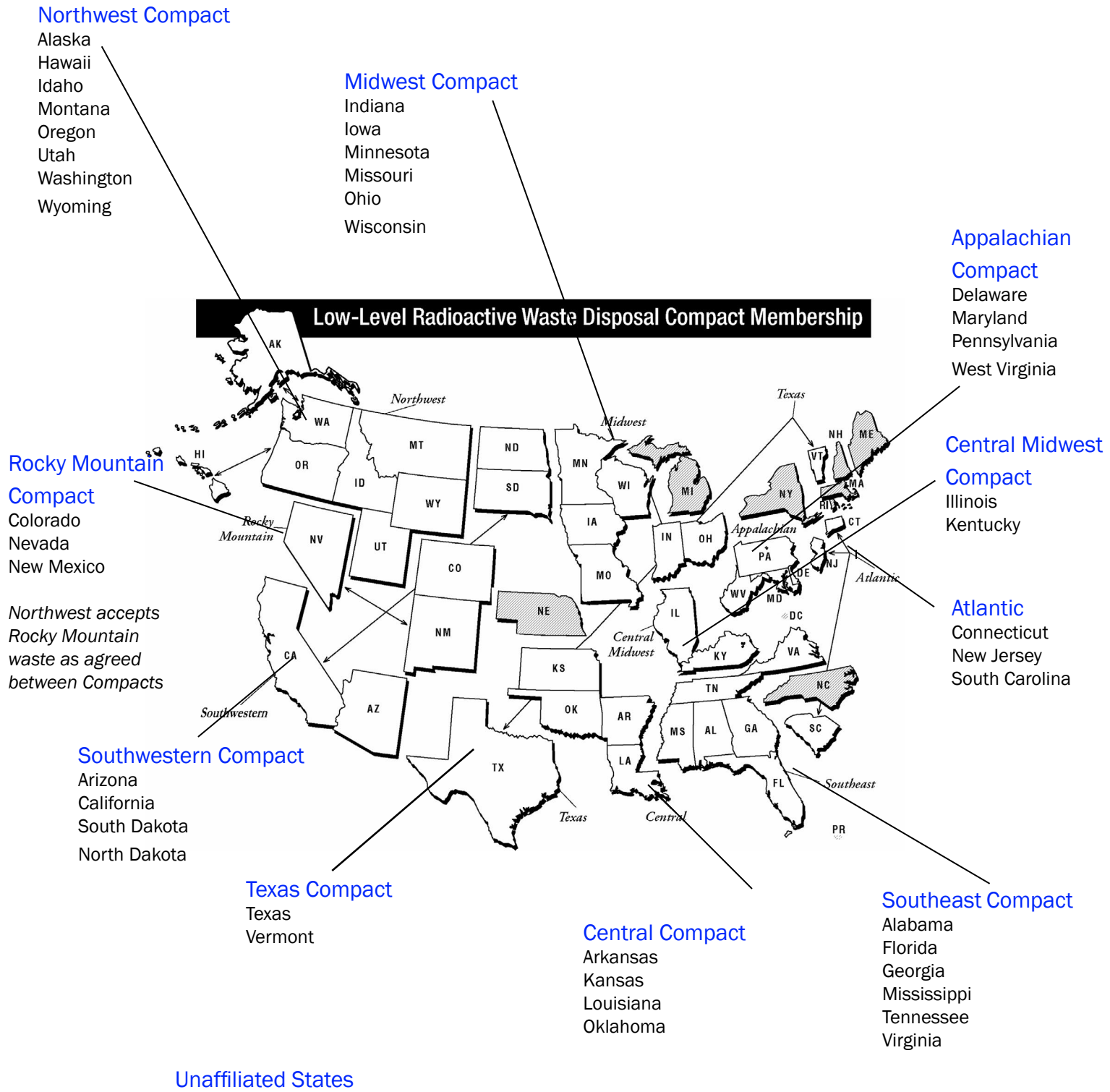
“The Oregon Department of Health Radiation Protection will attempt to find the original owner based on the serial number. Since the light has been disposed of properly and reporting is now entered per SA300, Oregon is requesting that this event be marked as complete and request closure of this event.”

IAEA Study of Radioactive Source Security During COVID-19 Pandemic

IAEA conducted a survey of 90 countries to determine the impact of COVID-19 on the regulatory oversight over radioactive sources. Concerns were expressed that factors (financial, human resources, regulatory elements, and logistics) could impact risks associated with radioactive source accountability. The survey report “Impact of COVID-19 Pandemic on the Regulatory Activities for the Safety of Radiation Sources Survey Analysis” is available at https://www.iaea.org/sites/default/files/20/05/covid19_nsrw_report_93_countries.pdf

Source: IAEA news release “Regulators Use Innovative Methods to Assess Safety of Radiation Sources during COVID-19 Pandemic”

Low-Level Radioactive Waste Disposal Compact Membership



Membership details available at 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
- 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) listserv@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
- 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

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Daniel B. Shrum
Executive Director,
Dshrum@llwforum.org