LLW notes

Volume 34 Number 3 May/June 2019

Texas Compact/State of Texas

Texas Governor Vetoes SB 1804 Due to Unrelated Amendment Seeking to Delay Increase in Facility Surcharges and Fees Paid by Waste Control Specialists (WCS)

On June 5, 2019, Texas Governor Greg Abbott (R) vetoed a widely supported domestic violence bill due to the inclusion of a late amendment related to radioactive waste disposal.

Abbott called the measure, Senate Bill (SB) 1804, a "laudable effort" that lost his support when "someone slipped in an ill-considered giveaway to a radioactive waste disposal facility."

"Unfortunately, the bill author's good idea about domestic violence has been dragged down by a bad idea about radioactive waste," Abbott wrote in his veto statement.

Overview of SB 1804

Senate Bill 1804, as introduced by State Senator Lois Kolkhorst (R), would require that bond information about domestic violence offenders be entered into a statewide data repository.

Representative Poncho Nevárez (D), one of the bill's sponsors in the House, added an amendment about the Waste Control Specialists (WCS) nuclear waste disposal facility to the measure. Nevárez told lawmakers that the amendment added "economic competitive incentives" to the bill.

As written, the amendment would have delayed an increase to a surcharge and state fee paid by WCS – the private operator of a waste disposal facility in West Texas. Governor Abbott called the amendment an "ill-considered giveaway."

The amendment pushed back the date of a fee increase for the WCS radioactive waste disposal company from 2019 to 2021. Nevárez characterized the move as a matter of creating

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In This Issue

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

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

Current members are allowed to distribute these written materials to a limited number of persons within their particular organization (e.g., compact commissioners, state employees, staff within a federal agency, employees in a commercial enterprise.) It has become clear, however, that there will be instances where members and subscribers wish to share LLW Forum materials with a broader audience of non-members.

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Low-Level Radioactive Waste Forum, Inc.

LLW Notes
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Editor and Writer: Todd D. Lovinger
Layout and Design: Rita Houskie, Central Interstate Low-Level Radioactive Waste Compact

LLW Notes is published several times a year and is distributed to the Board of Directors of the Low-Level Radioactive Waste Forum, Inc. — an independent, non-profit corporation. Anyone — including compacts, states, federal agencies, private associations, companies, and others — may support and participate in the LLW Forum, Inc. by purchasing memberships and/or by contributing grants or gifts. For information on becoming a member or supporter, please go to our website at www.llwforum.org or contact Todd D. Lovinger — the LLW Forum, Inc.'s Executive Director — at (754) 779-7551.

Directors that serve on the Board of the Low-Level Radioactive Waste Forum, Inc. are appointed by governors and compact commissions. The LLW Forum, Inc. was established to facilitate state and compact implementation of the Low-Level Radioactive Waste Policy Amendments Act of 1985 and to promote the objectives of low-level radioactive waste regional compacts. The LLW Forum, Inc. provides an opportunity for state and compact officials to share information with each another and to exchange views with officials of federal agencies and other interested parties.

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LLW FORUM, INC.

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Key to Abbreviations

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

Low-Level Radioactive Waste Forum, Inc. (LLW Forum)

LLW Forum Announces Details re Fall 2019 LLW Forum Meeting

Embassy Suites Hotel in Downtown Chicago, Illinois
October 31, 2019 - November 1, 2019

The Low-Level Radioactive Waste Forum (LLW Forum) is pleased to announce that our fall 2019 meeting will be held at the Embassy Suites Hotel in Downtown Chicago, Illinois from October 31, 2019 through November 1, 2019. Please mark your calendars accordingly and save the date!

Either the LLW Forum Transition Committee and/or Disused Sources Working Group (DSWG) ***may*** meet on October 30, 2019. Additional information on these potential meetings will be forthcoming.

Fall 2019 LLW Forum Meeting

The fall 2019 LLW Forum meeting will be held on Thursday, October 31 (9:00 am – 5:00 pm) and Friday, November 1 (9:00 am – 1:00 pm) at:

Embassy Suites Hotel
511 N. Columbus Drive
Chicago, Illinois

Located in the heart of downtown Chicago, the Embassy Suites Hotel is one block to the Magnificent Mile, two blocks to the Chicago River and three blocks to Navy Pier.

LLW Forum Meetings Overview

Officials from states, compacts, federal agencies, nuclear utilities, disposal operators, brokers/ processors, industry and other interested parties are encouraged to attend the fall 2017 LLW Forum meeting.

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

If you have questions or require additional information, please contact Joe Klinger — Interim Executive Director of the LLW Forum — at (217) 494-1368 or at jklinger@llwforum.org.

LLW Forum Hires New Interim Executive Director

Organization Has New Contact Information

The Low-Level Radioactive Waste Forum (LLW Forum) is pleased to announce that it has hired Joe Klinger as the organization's new Interim Executive Director. Klinger's official start date was June 17, 2019. Klinger can be reached at (217) 494-1368 or at jklinger@llwforum.org.

In addition, the LLW Forum has a new mailing address as follows:

Low-Level Radioactive Waste Forum, Inc.
309 Bradley Boulevard
Suite 201
Richland, WA 99352

Stakeholders are requested to please update the contact information in your records.

If you have questions or require additional information, please contact Joe Klinger — Interim Executive Director of the LLW Forum — at (217) 494-1368 or at jklinger@llwforum.org.

Midwest Interstate Low-Level Radioactive Waste Compact Commission

Midwest Interstate Compact Commission Holds Annual Meeting

On June 7, 2019, the Midwest Interstate Low-Level Radioactive Waste Compact Commission held its annual meeting by telephone conference call from 10:00 a.m. – 11:30 a.m. CDT.

Due to time zone adjustments, the call was held from 11:00 a.m. – 12:30 p.m. EDT for participants in Indiana and Ohio.

Final Agenda

The following is the final agenda for the annual meeting of the Midwest Interstate Compact Commission:

- call to order and roll call;
- review of minutes of June 11, 2018 meeting;
- review of financial report;
- report from Acting Chair;
- election of Officers;
- report from Executive Director;
- consultant expenses projected for FY 2020;
  - legal counsel fees;
  - audit proposal;
  - website and annual report fees;
  - Low-Level Radioactive Waste Forum (LLW Forum) membership;
- adoption of Fiscal Year (FY) 2020 budget;
- other business; and,
- adjournment.

State Office Options

The public was encouraged to attend the Midwest Interstate Compact Commission annual meeting. The following is a list of participation sites that were made available at state offices:

- Iowa: Fifth Floor West Conference Room, IA Department of Natural Resources, Wallace State Office Building, 502 East 9th Street, Des Moines. *For information about the site and handicap access, call Iowa DNR Customer Service at (515) 725-8200.*
- Minnesota: Conference Room 401, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul 55155. *For information about the site and handicap access, call (651) 757-2138. For directions, see map at www.pca.state.mn.us.*
- Ohio: Ohio Department of Health, 246 N. High Street, Columbus, OH. *For information about the site and handicap access, call (614) 644-2727.*
- Wisconsin: Department of Health Services, 1 W. Wilson St., Room 139 (CR 139), Madison, WI 53702. *For information about the site and handicap access, call Susan Hagstrom at (608) 267-4797.*

For additional information, please contact James Chiles, Executive Director of the Midwest Interstate Low-Level Radioactive Waste Compact Commission, at (651) 757-2272 or at Jim.Chiles@state.mn.us or go to http://midwestcompact.org/news/.

Northwest Compact/State of Utah

Northwest Interstate Compact Committee Holds Annual Meeting

On June 20, 2019, the Northwest Interstate Compact on Low-Level Radioactive Waste Management held a Committee meeting beginning at 9:00 a.m. PT in Portland, Oregon.

The meeting, which was open to the public, was held at the Courtyard Portland Downtown/ Convention Center at 435 NE Wasco in Portland, Oregon.

Agenda

The following items, among others, were on the agenda for the June 20, 2019 Board meeting:

8:30 a.m. Coffee and Refreshments

8:45 a.m. Compact Members (Cheri Kennedy – Northwest Interstate Compact, Administrative Assistant)

-Travel Reimbursement
-Paperwork

9:00 a.m. Welcome and Introductory Remarks (Earl Fordham – Northwest Interstate Compact, Chair)

-Introductions

9:05 a.m. Compact Business (Earl Fordham – Northwest Interstate Compact, Executive Director)

-Approve Minutes of June 2018
-Committee Meeting

9:10 a.m. Party State Reports (Committee Members)

9:30 a.m. US Ecology Activities Overview (Mike Ault – US Ecology, General Manager)

-Disposal Volume Summary—2018 through May 2019
-Facility Capacity
-2019 Revenue Requirement
-Facility Updates
-Upcoming Challenges

9:50 a.m. Hazardous Waste Investigation at US Ecology (Theresa Howell – Washington Department of Ecology)

10:10 a.m. Break

10:30 a.m. Utah – Activities Overview (Rusty Lundberg – Utah Division of Waste Management and Radiation Control, Deputy Director)

-Legislation
-Energy*Solutions* Oversight
-Other Issues

10:50 a.m. Rocky Mountain Compact Update (Leonard Slosky – Rocky Mountain Compact, Executive Director)

-Overview and Update
-TENORM Requirements

11:10 a.m. Northwest Interstate Compact/ Washington State Updates (Earl Fordham – Northwest Interstate Compact, Executive Director)

-Import/Export License
-Applications
-Framatome Ash/USS Enterprise
-US Ecology Oversight/ Washington State Activities

11:30 a.m. Energy*Solutions* – Activities Overview (Vern Rogers – Energy*Solutions*, Manager, Compliance & Permitting)

- -2018 Low-Level Radioactive Waste Disposal Volumes
- -Facility Capacity
- -Facility Updates
- -Upcoming Challenges

11:50 a.m. *Lunch*

1:30 p.m. Idaho Updates (Brian English – Idaho Department of Environmental Quality, Hazardous Waste Permit Manager)

- -Explosion Event at Idaho National Laboratory
- -US Ecology Idaho Modeling

1:40 p.m. Compact Updates (Earl Fordham – Northwest Interstate Compact, Executive Director)

- -Issues Facing Compacts and TENORM
- -Disused Source Program Update
- -Waste Control Specialists (WCS) Status

1:50 p.m. Transfer of Northwest Compact Activities (Earl Fordham – Northwest Interstate Compact, Chair)

- -Status Update

2:00 p.m. Update on Legal Issues (Lilia Lopez – Northwest Interstate Compact Counsel, Washington State Attorney General's Office)

2:10 p.m. *Break*

2:25 p.m. U.S. Nuclear Regulatory Commission (NRC) Update (Earl Fordham – Northwest Interstate Compact, Executive Director/ Chair)

- -Part 61 Update
- -Very Low Activity Waste and Greater-than-Class C Waste

3:35 p.m. Round Table (Earl Fordham – Northwest Interstate Compact, Executive Director)

- -Member State Challenges
- -Open Discussion on TENORM Challenges
- -2020 Compact Meeting

4:35 p.m. Public Comment

4:45 p.m. *Meeting Adjourned*

The agenda and the time listed for discussion of agenda items, including public comment, were subject to change.

Background

The Northwest Interstate Compact on Low-Level Radioactive Waste Management is a cooperative effort of eight states to protect people and the environment, and maintain and enhance economic viability, while sharing the responsibilities of low-level radioactive waste management.

The Northwest Interstate Compact was created in 1981 with member states Alaska, Hawaii, Idaho, Montana, Oregon, Utah and Washington.

Congress ratified the Northwest Interstate Compact in 1985. Wyoming was the eighth state to join the compact in March of 1992.

For additional information, please contact Earl Fordham, Chair and Executive Director of the Northwest Interstate Compact, at (509) 946-0234 or at earl.fordham@doh.wa.gov.

Northwest Compact/State of Utah

Utah Waste Management and Radiation Control Board Meets

In May and June 2019, the Utah Waste Management and Radiation Control Board held meetings beginning at 1:30 p.m. MT in Salt Lake City, Utah.

The meetings, which were open to the public, were held in Conference Room 1015, Department of Environmental Quality (DEQ) Board Room, in the Multi Agency State Office Building that is located at 195 North 1950 West in Salt Lake City, Utah.

June 2019 Board Meeting

The following items, among others, were on the agenda for the June 13, 2019 Board meeting:

I. Call to Order

II. Public Comments on Agenda Items

III. Declarations of Conflict of Interest

IV. Approval of Meeting Minutes for the May 9, 2019 Board Meeting *(Board Action Item)*

V. Underground Storage Tanks Update

VI. Radioactive Materials

A. Approval to proceed with formal rulemaking and 30-day public comment period for proposed rule changes to R313-19-34, R313-22-75 and R313-32 of the Radiation Control Rules to incorporate changes promulgated by the U.S. Nuclear Regulatory Commission (NRC) and published in the July 16, 2018 *Federal Register* (83 *Federal Register* 33,046) with an additional proposed change to R313-32-2(5) *(Board Action Item)*

VII. Other Business

A. Miscellaneous Information Items

B. Scheduling of Next Board Meeting

VIII. Adjourn

May 2019 Board Meeting

The following items, among others, were on the agenda for the May 9, 2019 Board meeting:

I. Call to Order

II. Public Comments on Agenda Items

III. Declarations of Conflict of Interest

IV. Approval of Meeting Minutes for the April 11, 2019 Board Meeting *(Board Action Item)*

V. Underground Storage Tanks Update

VI. X-Ray Program

A. Approval of Mammography Imaging Medical Physicists (MIMP) in accordance with UCA 19-6-104(2)(b) *(Board Action Item)*

VII. Hazardous Waste Section

A. Approval of proposed Stipulation and Consent Order between the Board and Clean Harbors, Aragonite *(Board Action Item)*

VIII. Low-Level Radioactive Waste Section

A. Approval of Energy*Solutions'* request for a site-specific treatment variance from the Hazardous Waste Management rules – Energy*Solutions* seeks authorization to treat waste containing High-Subcategory Mercury for stabilization *(Board Action Item)*

IX. Presentation on the Utah Waste Tire Recycling Act Reauthorization

X. Election of Board Chair and Vice Chair *(Board Action Item)*

XI. Other Business

A. Miscellaneous Information Items

B. Scheduling of Next Board Meeting (June 13, 2019)

XII. Adjourn

Background

The Board — which is appointed by the Utah Governor with the consent of the Utah Senate — guides development of Radiation Control policy and rules in the state.

The Board holds open meetings ten times per year at locations throughout the state. A public comment session is held at the end of each meeting.

Copies of the Utah Waste Management and Radiation Control Board meeting agendas and packet information can be found at http://www.deq.utah.gov/boards/utah-waste-management-radiation-control-board-meetings.htm.

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

Northwest Compact/State of Washington

Small Radioactive Breach During Transport Process at Seattle Hospital

Thirteen People Decontaminated for Radiation Exposure

On May 2, 2019, thirteen people had to be decontaminated for radiation exposure following an incident at the research facility on the Harborview Medical Center campus in Seattle, Washington.

Overview

The personnel involved include two radioactive materials inspectors with the Washington State Department of Health and law enforcement officers who were present to observe removal of the device, as well as employees of a company contracted by the University of Washington to remove the device.

The device was in the process of being sealed and shipped to a safe disposal site and was located in a controlled-access work area in one of the buildings on the medical center's campus.

A leak was detected and a radioactive material, cesium-137, was detected in the controlled worksite. The contractor found contamination in the work area and that 13 people were contaminated. No contamination was released

outside of the area and there was no risk to the public, according to a news release from the Washington Department of Health.

Seattle Fire Department responded. Ten of the workers were sent to the hospital for testing and possible treatment. All personnel were decontaminated and released.

Radiation health physicists with the Washington Department of Health report that this type of work is fairly common, but release of radioactive material is very rare. The Washington Department of Health is investigating the incident in partnership with the University of Washington and will provide more information as it becomes available.

Background

The Harborview Medical Center is just east of the main hospital building. The incident occurred at a loading area in the rear of the building. The cesium-137 was being used at Harborview in the blood transfusion process.

Cesium-137 is used to irradiate blood, and in radiation therapy. It is also used in some industrial gauges. Cesium-137, which is water soluble, was widely spread by the nuclear accidents at the Chernobyl and Fukushima nuclear plants.

For additional information, please contact Kate Lynch of the Washington Department of Health at (360) 485-5101 or at kate.lynch@doh.wa.gov.

Southeast Compact Commission

2020 Hodes Award Nominations Sought

The Southeast Compact Commission for Low-Level Radioactive Waste Management is accepting nominations for the 2020 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 ’20 Symposium in Phoenix, Arizona. The award recipient will receive a $5,000 honorarium and all travel expenses will be paid.

Nominations must be received by August 31, 2019.

Background

Dr. Richard S. Hodes was a distinguished statesman and a lifetime scholar. He was one of the negotiators of the Southeast Compact law, in itself an innovative approach to public policy in waste management. He then served as the Chair of the Southeast Compact Commission for Low-Level Radioactive Waste Management from its inception in 1983 until his death in 2002.

Throughout his career, Dr. Hodes developed and supported innovation in medicine, law, public policy and technology. The Richard S. Hodes, M.D. Honor Lecture Award was established in 2003 to honor the memory of Dr. Hodes and his achievements in the field of low-level radioactive waste management.

Past Recipients

The following individuals and entities are past

recipients of the Richard S. Hodes, M.D. Honor Lecture Award:

- W.H. "Bud" Arrowsmith (2004);
- Texas A & M University Student Chapter of Advocates for Responsible Disposal in Texas (2004 *honorable mention*);
- William Dornsife (2005);
- California Radioactive Materials Management Forum (2006);
- Larry McNamara (2007);
- Michael Ryan (2008);
- Susan Jablonski (2009);
- Larry Camper (2010);
- Christine Gelles (2011);
- Lawrence "Rick" Jacobi (2012);
- James Kennedy (2013);
- Energy*Solutions*, the Utah Department of Environmental Quality (DEQ), the Conference of Radiation Control Program Directors (CRCPD), and the U.S. Department of Energy's (DOE) Global Threat Reduction Initiative (2013 *honorable mention*);
- Electric Power Research Institute (2014);
- Division of Radiation Control of the Utah DEQ and Energy*Solutions* (2015);
- Louis Centofanti (2016);
- Scott Kirk (2017);
- National Nuclear Security Administration (NNSA) and the Off-Site Source Recovery Program (OSRP) of the agency (2018); and,
- Clint Miller (2019).

The Award

The Richard S. Hodes Honor Lecture Award — established in March, 2003 — is awarded to 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 be recognized with a special plaque and an invitation to present a lecture about the innovation during the annual international Waste Management Symposium (WM '19). The 2020 symposium is sponsored by the University of Arizona and will be held in Phoenix, Arizona from March 8-12, 2020.

A special time is reserved during the Symposium for the lecture and the award presentation. The Southeast Compact Commission will provide the award recipient a $5,000 honorarium and will pay travel expenses and per diem (in accordance with Commission Travel Policies) for an individual to present the lecture.

Criteria

The Richard S. Hodes Honor Lecture Award recognizes innovation industry-wide. The award is not limited to any specific endeavor — contributions may be from any type of work with radioactive materials (nuclear energy, biomedical, research, etc.), or in any facet of that work, such as planning, production, maintenance, administration or research. The types of innovations to be considered include, but are not limited to:

- conception and development of new approaches or practices in the prevention, management and regulation of radioactive waste;
- new technologies or practices in the art and science of waste management; and,
- new educational approaches in the field of waste management.

The criteria for selection include:

1. *Innovation*. Is the improvement unique? Is it a fresh approach to a standard problem? Is it a visionary approach to an anticipated problem?
2. *Safety*. Does the practice enhance radiation protection?
3. *Economic*s. Does the approach produce significant cost savings to government, industry or the public?
4. *Transferability*. Is this new practice applicable in other settings and can it be

replicated? Does it increase the body of technical knowledge across the industry?

Eligibility

To be eligible for the award, the individual/group must consent to being nominated and must be willing to prepare and present a lecture about the innovation being recognized at the Waste Management Symposium. Individuals or organizations can nominate themselves or another individual, company, institution or organization.

Nominations

To nominate yourself or another individual, company or organization for this distinguished award, please contact:

Awards Committee
c/o Ted Buckner
Executive Director
Southeast Compact Commission
Post Office Box 5427
Cary, NC 27512
(919) 380-7780
(919) 380-7710 - FAX
tedb@secompact.org

or visit the Southeast Compact Commission's website at http://www.secompact.org/.

Nominations must be received by August 31, 2019.

Southwestern Compact/State of California

NRC Determines Fuel Loading May Be Safely Resumed at San Onofre

On May 21, 2019, the U.S. Nuclear Regulatory Commission (NRC) determined that fuel loading can be safely resumed at the San Onofre Nuclear Generating Station.

The San Clemente, California plant is owned by Southern California Edison and permanently shut down in 2013.

Overview

The NRC made its determination following extensive review of technical data submitted by Southern California Edison regarding the possible effects of scratching on spent fuel canisters during fuel loading operations.

On June 3, 2019, the NRC will hold a virtual public meeting/webinar from 2:00 – 3:00 p.m. Central Time (12:00 – 1:00 p.m. Pacific Time). Members of the public will have an opportunity to submit written comments and questions via the webinar user interface following a presentation by NRC officials. NRC staff will provide participation guidance during the webinar.

Interested members of the public should register for the webinar on the NRC website, at which time a confirmation e-mail will be sent with details for joining the webinar via computer or mobile device. There is an option to listen via a phone bridge; however participants must first register for the webinar to obtain the phone bridge number.

The link to register for the virtual public meeting/

webinar is https://register.gotowebinar.com/register/6570165116068864002.

Background

Fuel loading operations were suspended following an incident on August 3, 2018. The incident involved a loaded spent fuel storage canister that was misaligned and became stuck on a flange while being lowered into a storage vault.

On September 10-14, 2018, NRC officials conducted a Special Inspection at the San Onofre facility. Based on the results of the Special Inspection, two apparent violations were identified and were subsequently considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The apparent violations involved the failure to:

- ensure important-to-safety equipment was available to provide redundant drop protection features for a spent fuel canister during downloading operations; and,

- make a timely notification to the NRC Headquarters Operations Center for the disabling of important-to-safety equipment on August 3, 2018.

In a December 2018 letter transmitting the inspection findings to San Onofre officials, NRC stated as follows:

> The NRC is concerned about apparent weaknesses in management oversight of the dry cask storage operations. Your staff did not perform adequate direct observational oversight of downloading activities performed by your contractor, ensure adequate training of individuals responsible for performing downloading operations, provide adequate procedures for downloading operations, or ensure that conditions adverse to quality were entered into the corrective action program. The NRC identified that a causal factor for the misalignment incident involved management weakness in the oversight of dry cask storage operations.

According to NRC's letter, agency officials determined that three Severity Level IV violations of NRC requirements occurred. The violations involved failures to:

- identify conditions potentially adverse to quality for placement into San Onofre's corrective actions program;

- assure that operations of importance to safety equipment were limited to trained and certified personnel or under direct supervision; and,

- provide adequate procedures for dry cask storage operations involving downloading operations.

The NRC determined the issuance of a Notice of Violation is appropriate because the actions to restore compliance have not been fully developed and implemented and the actions must be effective prior to beginning fuel-handling activities.

On January 24, 2019, NRC met with representatives of Southern California Edison to discuss the preliminary findings of the Special Inspection it conducted at the San Onofre Nuclear Generating Station following the August 2018 fuel-loading incident. (See *LLW Notes*, January/February 2019, pp. 19-20.) The meeting was held from 2:00 – 5:00 p.m. Central Time at the NRC's Region IV office, which is located at 1600 E. Lamar Boulevard in Arlington, Texas. It was open to public observation and was broadcast via webinar. NRC officials answered questions submitted via the Internet from the public following the business portion of the meeting.

A copy of the November 2018 San Onofre Nuclear Generating Station inspection report is available online at https://www.nrc.gov/docs/ML1834/ML18341A172.pdf.

Information about the incident and the NRC's response is available on the NRC website at https://www.nrc.gov/reactors/operating/ops-experience/songs-spec-insp-activities-cask-loading-misalignment.html.

For additional information, please contact Victor Dricks of the U.S. Nuclear Regulatory Commission (NRC) at (817) 200-1128.

(Continued from page 1)
jobs. The Texas House approved the amendment by a vote of 142-0.

Governor Abbott's Veto

The following is the text of the Proclamation of the Governor of the State of Texas on his veto of SB 1804 on June 5, 2019:

> Pursuant to Article IV, Section 14, of the Texas Constitution, I, Greg Abbott, Governor of Texas, do hereby disapprove of and veto Senate Bill No. 1804 as passed by the Eighty-Sixth Texas Legislature, Regular Session, because of the following objections:
>
> Senate Bill 1804 was a laudable effort to address domestic violence, until someone slipped in an ill-considered giveaway to a radioactive waste disposal facility. Unfortunately, the bill author's good idea about domestic violence has been dragged down by a bad idea about radioactive waste.
>
> Since the Eighty-Sixth Texas Legislature, Regular Session, by its adjournment has prevented the return of this bill, I am filing these objections in the office of the Secretary of State and giving notice thereof by this public proclamation according to the aforementioned constitutional provision.

Stakeholders' Statements and Reactions

Thomas Graham, a WCS spokesperson, said the company was "disappointed to learn of the Governor's objections."

"This amendment continued current law, previously enacted and signed into law by the [G]overnor, and ensures that costs associated with disposal of waste from cancer treatments, X-rays and other essential human health activities are not burdened with additional taxation," Graham said in a statement. "This issue was thoroughly studied in the interim and unanimously recommended by a select House and Senate Committee of the legislature that the waste facility needed to be competitive with other states' waste sites."

Luke Metzger, Executive Director of Environment Texas, called the eleventh-hour change to the bill "unfortunate."

"I'm sad to see that the good legislation was tainted and therefore vetoed, but I certainly understand the [G]overnor's thinking," said Metzger. "It ultimately comes down to a really bad decision by Rep. Nevárez to put the interests of a radioactive waste dump ahead of the victims of domestic violence."

Background

Various bills were introduced during the Eighty-Sixth Texas legislature related to low-level radioactive waste disposal in the State of Texas including:

- House Bill No. 2269 and Senate Bill No. 1021, which are identical pieces of legislation that, amongst other things, seek to lower certain charges and reserve disposal capacity for Texas and Vermont at the WCS facility; and,

- Senate Bill No. 1753 that, among other things, seeks to addresses emergency planning and fees related to the transportation of radioactive waste; impose new requirements related to contingency planning; impose new requirements for the implementation of biannual, independent inspections of a radioactive waste site; and, require adjustments to the amount of financial security to account for information received from the state auditor before a license may be issued or renewed.

(See *LLW Notes*, March/April 2019, pp. 1, 10-14.)

In addition, on April 26, 2019, Governor Abbott sent a letter to U.S. Department of Energy (DOE) Secretary Rick Perry and U.S. Nuclear Regulatory Commission (NRC) Chair Kristine Svinicki in which the Governor expresses his opposition to any increase in the amount or concentration of radioactivity authorized for disposal at the WCS low-level radioactive waste disposal facility in Andrews County, Texas.

In the letter, Governor Abbott writes:

> Actions taken by the U.S. Department of Energy (DOE) and the U.S. Nuclear Regulatory Commission (NRC) could allow for disposal of more highly radioactive waste in Texas without approval by our State. The federal government should allow States with disposal sites for low-level radioactive waste (LLRW) to accept or reject such changes, rather than forcing them to take on the increased hazards of Greater-Than-Class C (GTCC) or equivalent waste. At this time, I oppose any increase in the amount or concentration of radioactivity authorized for disposal at the facility in Andrews County, Texas.
>
> DOE has shown a clear interest in disposal of GTCC waste in Texas, both by identifying a generic commercial facility as one of two preferred alternatives for GTCC waste, and by specifically evaluating the suitability of the Andrews County site for that purpose. The NRC continues development of a regulatory basis for allowing GTCC disposal in the Andrews County facility, even taking steps last October to expedite that effort. These actions could culminate in a reclassification of LLRW, with some or all of the GTCC waste inventory arbitrarily becoming Class C LLRW without Texas having any say in the matter.
>
> Texas is ready to work cooperatively with our federal partners to safely manage the use and disposal of radioactive materials. In the spirit of that relationship, please consider measures to allow for state approval of any changes you would propose to the regulatory framework for LLRW or wastes of greater radioactivity. (citations omitted)

(See LLW Forum memo to members and supporters titled, "Letter from Texas Governor Greg Abbott (R) to U.S. Department of Energy (DOE) Secretary Rick Perry and U.S. Nuclear Regulatory Commission (NRC) Chair Kristine Svinicki Expressing Opposition to Any Increase in the Amount or Concentration of Radioactivity Authorized for Disposal at the Waste Control Specialists (WCS) Facility in Andrews County, Texas," dated May 2, 2019.)

For additional information, please contact the Governor's Office of the State of Texas at https:// gov.texas.gov/ or at (512) 463-5739.

For additional information about Senate Bill 1804, please see theVeto Proclamation by Governor Abbott and go to https:// capitol.texas.gov/BillLookup/Text.aspx? LegSess=86R&Bill=SB1804#.

Texas Compact

Texas Compact Commission Holds May 2019 Meeting

On May 30, 2019, the Texas Low-Level Radioactive Waste Disposal Compact Commission (Texas Compact Commission) held a regularly scheduled meeting in Waco, Texas.

The meeting began at 9:00 a.m. It was held in the Cooper Room at the Greater Waco Chamber of Commerce, which is located at 101 S 3rd Street, Waco, Texas 76701.

There was no live feed provided for the meeting; however, a video of the meeting will be posted to the Texas Compact Commission website once available.

The formal meeting agenda is available on the Texas Compact Commission's web site at www.tllrwdcc.org.

Agenda

The following is an abbreviated overview of the agenda for the Texas Compact Commission meeting. Persons interested in additional detail are directed to the formal agenda themselves.

- call to order;
- roll call and determination of quorum;
- introduction of Commissioners, elected officials and press;
- moment of recognition for Jim Crowson;
- public comment;
- report from Deidre Delisi, Governmental Relations Representative, on her activities including a report on the 2019 Texas Legislative Session;
- consideration of and possible action on applications for importation of low-level radioactive waste from Exelon Generation, Thomas Gray and Associates, Qal-Tek Associates and Ameren Missouri;
- consideration of and possible action on applications for exportation of low-level radioactive waste from Bionomics;
- receive reports from Waste Control Specialists LLC (WCS) about compact facility capacity, recent site operations and any other matter WCS wishes to bring to the attention of the Compact Commission;
- discussion and possible action regarding the proposal for publication for public comment related to the amendment of 31 Texas Administrative Code (TAC) 675.20 concerning the definition of "small quantity generator and new rule 31 TAC 375.25 – Capacity Reservation for Small Quantity Generators;
- consideration, evaluation and possible action with respect to the Texas Compact Commission credit card usage policies and limitations on the use of the credit card;
- receive report from Chair on Texas Compact Commission activities including reporting on fiscal matters to be taken by the compact, electronic signature policy for the Texas

Compact Commission and addressing personnel matters;

- report from Leigh Ing, Executive Director of the Texas Compact Commission, on her activities and questions relating to Texas Compact Commission operations including work with the Southwestern Compact Executive Director in follow-up to the February 28, 2019 Texas Compact Commission meeting (see *LLW Notes*, March/April 2019, pp. 15-16);

- discussion and possible changes of dates and locations of future Texas Compact Commission meetings in 2019 and 2020;

- discussion and possible action regarding the strategic direction of the Texas Compact Commission and associated fiscal and legal matters including staffing resources that may be needed to implement the strategic direction of the Commission;

- discussion and possible action relating to staff contract renewal and personnel reviews for Leigh Ing, Andrew Tachovsky, Deidre Delisi and Diane Fulmer; and,

- adjourn.

Background

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

For additional information, please contact Texas Compact Commission Executive Director Leigh Ing at (512) 305-8941 or at leigh.ing@tllrwdcc.org.

Texas Compact/State of Vermont

Vermont Seeks to Become 39th NRC Agreement State

On April 10, 2019, the State of Vermont formally applied to the U.S. Nuclear Regulatory Commission (NRC) to become the 39th Agreement State.

Vermont's application to become an Agreement State is available on the NRC's website at www.nrc.gov.

Overview

Pursuant to the terms of the 1954 Atomic Energy Act (AEA), if NRC approves the application, Vermont would assume authority from the federal agency for the licensing and regulation of radioactive byproduct materials, source materials and limited amounts of special nuclear materials. According to NRC, that is expected to cover 36 licenses in Vermont including industrial companies, medical facilities or academic institutions that use devices containing radioactive materials.

The NRC will retain regulatory authority over the retired Vermont Yankee nuclear power plant, which is the sole atomic energy facility in the state, along with federal use of radioactive materials in Vermont. Any fuel cycle facilities would also remain under NRC oversight, although there are currently none in Vermont.

The formal application that was submitted by Vermont contains separate sections addressing legal elements of the state regulatory program including

- the basis for Vermont's authority to become an Agreement State and state regulatory requirements;

- licensing program elements;
- the state inspection and licensing programs;
- technical staffing and training; and,
- the event and allegation program.

If approved, the Environmental Health Division of the Vermont Health Department would manage the regulatory program.

Process

In July 2015, Vermont initiated the Agreement State application process with a letter of intent from then-Vermont Governor Peter Shumlin.

In the introductory letter to the application, William Irwin (Radiation Control Program Director at the Vermont Department of Health), wrote, "We look forward to working with the NRC on the completion of our Application to Become an Agreement State over the course of the next several months."

NRC staff is conducting an assessment of the compatibility of the Vermont program with the federal agency's program, as well as reviewing the adequacy of Vermont's program to protect public health and safety with respect to the materials covered by the proposed agreement.

NRC staff has already initiated a review of Vermont's draft application. However, a number of steps remain in the approval process – including staff development of a draft analysis and agreement; an opportunity for public input; the drafting and issuance of final versions of the documents; and, the making of a decision by the Commission.

Background

In September 2018, the State of Wyoming became the 38th NRC Agreement State. (See *LLW Notes*, September/October 2018, p. 14.)

In addition to Wyoming, thirty-seven other states have signed similar agreements with the NRC. They include Alabama, Arizona, Arkansas, California, Colorado, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Virginia, Washington and Wisconsin.

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

Commonwealth of Massachusetts

Entergy Permanently Shuts Down Pilgrim Nuclear Power Station

Massachusetts Attorney General Renews Questions re Decommissioning Funds

On May 31, 2019, Entergy permanently shut down the Pilgrim Nuclear Power Station due to economic challenges and competition within the energy market. The facility, which is located in Cape Cod, was the last operating nuclear power plant in Massachusetts.

In August 2018, Entergy announced plans sell the property by the end of this year to Holtec International, which would assume all responsibility for cleanup and spent fuel management via the established trust fund to pay for the work. (See *LLW Notes*, July/August 2018, pp. 19-21.)

Following the plant's closure, however, the Attorney General of Massachusetts expressed concern that there is not enough money set aside to safely cleanup the site and renewed her call for

federal regulators to hold a hearing on the proposed sale and decommissioning.

Plant Closures

The Pilgrim shutdown reduces the number of operating nuclear power plants in the United States to ninety seven. Pilgrim is the tenth nuclear power plant to close since 2012, with seven of the ten closings attributed primarily to economic shifts within the energy market. The other three closings – which include one in Crystal River, Florida and two in San Clemente, California (San Onofre Units 2 and 3) – were closed in response to the need for expensive repairs.

The other nuclear power plants that have closed since 2012 include the Kewaunee Nuclear Power Station in Wisconsin; the Vermont Yankee plant in Vermont; the Fort Calhoun plant in Nebraska; and, the Oyster Creek plant in New Jersey.

Pilgrim Overview

The Pilgrim site currently has 580 employees. The work force is expected to shrink to about 270 employees over the next approximately ten months.

"The difficult but necessary decision to close Pilgrim impacted our dedicated employees and their families, and was a decision we did not make lightly," said Entergy Chief Executive Officer Leo Denault in a press release. "Our employees are the backbone of the company, and their pride and professionalism are evident every day. Their legacy is a 47-year record of carbon-free power generation, done safely and securely, which benefited the region in innumerable ways."

According to the press release, Entergy plans to find positions within the company for qualified employees who are willing to relocate. Currently, more than 50 employees from Pilgrim have accepted offers to continue with Entergy in other locations.

Decommissioning Funds

In early 2019, Massachusetts' Attorney General Maura Healey and the state Executive Office of Energy and Environmental Affairs initiated an effort to convince the U.S. Nuclear Regulatory Commission (NRC) that Entergy and Holtec International have not demonstrated that the Pilgrim plant's decommissioning trust fund can cover all of the costs associated with decommissioning the plant and the long-term management of spent fuel, which could lead to health and safety problems.

In a recent interview, Healey reiterated her concerns that Holtec does not have the appropriate experience to conduct the decommissioning and that the dedicated fund does not have sufficient money to ensure that the work is performed safely and without leaving the taxpayers to cover any cost overrides.

If the sale and license transfer applications are approved, Holtec plans to transfer fuel from Pilgrim between 2019 and 2021 and to restore the site to meet NRC requirements by 2027. According to the company's filings, activity would continue at the spent fuel storage installation until 2062 or 2063, and the Pilgrim site would be fully restored by 2064.

NRC spokesperson Neil Sheehan said last week that the agency is still reviewing the application for the license transfer and the request for a hearing from Healey and Massachusetts Governor Charlie Baker's administration. In February 2019, the Commission said the "adequacy of the decommissioning trust fund is one of the areas the staff is evaluating."

Background

The Pilgrim Nuclear Power Station, which began operations in 1973, was the only nuclear power plant operating in Massachusetts. It is located in the Manomet section of Plymouth on Cape Cod Bay, south of the tip of Rocky Point and north

of Priscilla Beach. Like many similar plants, it was constructed by Bechtel, and is powered by a General Electric BWR 3 boiling water reactor inside of a Mark 1 pressure suppression type containment and generator. It has a 690 MW production capacity. Pilgrim Station produces about 14% of the electricity generated in Massachusetts.

In 2015, Entergy announced plans to retire the Pilgrim nuclear power plant, stating that increasing operating costs and competition with natural gas as a power source had eroded the economic viability of the 690-megawatt boiling water.

In addition to the Pilgrim plant, Holtec International is also planning separate acquisitions for two other Entergy sites:

- the Palisades Power Plant in Michigan, which is scheduled to retire in 2022 (see *LLW Notes*, July/August 2018, pp. 19-21); and,

- the three-reactor Indian Point site in New York, for which the final reactor is scheduled to shut down in 2021 (see *LLW Notes*, March/April 2019, pp. 16-19).

Holtec – an energy technology company based in Camden, New Jersey – is also seeking to purchase Exelon's newly closed Oyster Creek Nuclear Generating Station in New Jersey.

For additional information about Holtec International, please see www.holtecinternational.com.

For additional information about the Pilgrim project, please contact Erika Grandrimo at (856) 797-0900, ext. 3920 or at e.grandrimo@holtec.com.

National Council on Radiation Protection and Measurements (NCRP)

NCRP Issues Report re Radiation Safety of Sealed Radioactive Sources

On April 25, 2019, the National Council on Radiation Protection and Measurements (NCRP) announced the release of NCRP Report No. 182 titled, *Radiation Safety of Sealed Radioactive Sources.*

NCRP Report No. 182 is intended to serve as "cradle to grave" guidance for sealed radioactive sources.

Interested stakeholders may purchase NCRP Report No. 182 at https://ncrponline.org/shop/reports/report-no-182-radiation-safety-of-sealed-radioactive-sources-2019/.

Overview

NCRP Report No. 182, *Radiation Safety of Sealed Radioactive Sources*, provides information and guidance on the essential elements of a comprehensive "cradle to grave" program for the acquisition, use and disposition of sealed radioactive sources. This user-friendly document combines information from a variety of different documents, bringing together regulatory information with best-practice guidance.

Sealed radioactive sources (also referred to as *sealed sources*) are used in a wide variety of occupational settings – including academic and medical institutions, the oil and gas industry, manufacturing industries, nuclear power plants and sterilization facilities. Sealed radioactive sources are subject to different regulatory and licensing structures depending on the type of source and its application.

NCRP Report No. 182 provides guidance on the following aspects of radiation safety related to sealed radioactive sources:

- design, fabrication and manufacturing of sealed radioactive sources;
- source acquisition, receipt and inventory;
- use in specific occupational settings – including the handling and use of low-penetrating power sources, such as electroplated or foil sources;
- source storage and transportation;
- proper disposal; and,
- emergency preparedness for accidents and incidents involving sealed radioactive sources.

According to NRCP's press release, interested stakeholders who are or who may find themselves responsible for sealed radioactive source control would benefit from the report – including radiation safety officers; facilities and programs regulated by the U.S. Nuclear Regulatory Commission (NRC), Agreement States and the U.S. Department of Energy (DOE); scrap metal recyclers; and, small education institutions to large research facilities. Regulatory authorities may also use NCRP Report No. 182 to establish or modify requirements for sealed radioactive source programs.

Recommendations

NCRP Report No. 182 includes new recommendations regarding:

- a single definition of a sealed radioactive source and use of a categorization scheme for applying regulatory controls to sealed radioactive sources;

- use and maintenance limitations for sealed radioactive sources and devices to end users;
- inventory and tracking mechanisms applied to sealed radioactive sources and devices used under a general license; and,
- return and/or disposal of disused and spent sealed radioactive source.

Background

NCRP is a Congressionally chartered body that seeks to formulate and widely disseminate information, guidance and recommendations on radiation protection and measurements which represent the consensus of leading scientific thinking.

Additional information regarding NCRP is available at http://ncrponline.org/.

NCRP Issues Commentary re Implementation Guidance for Emergency Response Dosimetry

On June 13, 2019, the National Council on Radiation Protection and Measurements (NCRP) announced the release of NCRP Commentary 28 titled, *Implementation Guidance for Emergency Response Dosimetry*.

NCRP Commentary 28 provides practicable, actionable guidance and tools for emergency planners and responders on tracking radiation dose early in response to a radiological or nuclear incident, when not every responder has a dosimeter, but they all need protection.

Interested stakeholders may purchase NCRP Commentary 28 at https://ncrponline.org/shop/commentaries/commentary-no-28-implementation-guidance-for-emergency-response-dosimetry/.

Executive Summary

NCRP Commentary 28, *Implementation Guidance for Emergency Response Dosimetry*, is a companion to NCRP Report No. 179 (2017), *Guidance for Emergency Response Dosimetry*, which defined the emergency worker and provided guidance to bridge the gap in managing dosimetry between trained, fully equipped emergency workers and the remainder community of responders during the early response period.

Responders may arrive at the scene without appropriate dosimetry or radiation detection instrumentation and be expected to promptly measure and control radiation exposures while performing their functions and later be assigned a radiation dose.

Commentary 28, *Implementation Guidance for Emergency Response Dosimetry*, also complements NCRP Report No. 165 (NCRP 2010) and Commentary No. 19 (2005).

Overview

NCRP Commentary 28, *Implementation Guidance for Emergency Response Dosimetry*, includes the following dosimetry operational guidance and tools:

- establishing radiation control zones;
- choosing the correct dosimeter;
- defining the minimal and ideal information needs for dose reconstruction;
- integrating dose tracking into the Incident Command System (ICS), including example ICS forms;
- answering responder questions, including pre-scripted messages; and,
- protecting urban search and rescue service dogs.

The intent of Commentary 28 is to help emergency managers, planners and responders develop a plan to implement the dose tracking recommendations in NCRP Report No. 179 during a radiological or nuclear incident using existing response frameworks.

Background

NCRP is a Congressionally chartered body that seeks to formulate and widely disseminate information, guidance and recommendations on radiation protection and measurements which represent the consensus of leading scientific thinking.

Additional information regarding NCRP is available at http://ncrponline.org/.

Conference of Radiation Control Program Directors (CRCPD)

CRCPD Announces Opening of Registration for NORM IX Symposium

The Conference of Radiation Control Program (CRCPD) recently announced that registration for NORM IX is now open.

NORM IX will be hosted for the first time in the United States. The symposium will be held at the Embassy Suites by Hilton Hotel in downtown Denver, Colorado from September 23-27, 2019.

Overview

During the conference, stakeholders will learn how Naturally Occurring Radioactive Material (NORM) is managed around the world and discuss safety and environmental impacts from NORM, as well as best practices for NORM management.

The symposium will include presentations, posters, training and roundtable sessions from industry representatives, scientists, regulators and other stakeholders.

Special Training Sessions

The following special training sessions are currently scheduled for the NORM IX symposium:

- "Cradle to Grave" NORM Management Workshop: This one-day, real-world course in managing NORM from identification to final disposition will address practical and logistical methods in managing NORM-contaminated equipment and waste. It is scheduled for Sunday (September 22, 2019). The registration fee is $350.

- Radiation Risk Assessment Training: This full-day, advanced course focuses on specific technical and regulatory issues that Remedial Project Managers (RPMs) and On-Scene Coordinators (OSC's) address when managing Superfund sites that have a risk-assessment conducted for radioactive contaminants. It is scheduled for Sunday (September 22, 2019). There is limited space available.

- International Challenges and Solutions Related to NORM Residue and Waste Management: This special session is being organized by the International Atomic Energy Agency (IAEA)/ENVIRONET NORM Project. It is focused on providing practical guidance on establishing policies and strategies to deal with NORM waste, NORM waste inventory estimation and determination of costs associated with the management practices. Technical papers on these topics will be presented during this Tuesday afternoon session. Working sessions of the NORM Project will also be held on Monday and Friday afternoons and are open to all who wish to attend.

- IAEA Workshop on the Safe Management of NORM: This session will provide information on relevant safety standards applicable to industrial activities involving NORM and present key safety issues in terms of policy, regulatory and operational aspects. It is scheduled for Wednesday (September 25, 2019). Limited space is available.

- CRCPD Workshop – Radiation Protection in NORM Industries: Join CRCPD, state, local, national and international organizations to identify priority issues related to the handling and disposal of TENORM generated during some industrial processes. Discuss measures that can be taken to improve protection of workers and members of the public. This workshop is scheduled for Wednesday (September 25, 2019).

The following networking and social events are scheduled for the NORM IX symposium:

- Tour of Red Rocks Amphitheater: Tour the on-site museum, amphitheater and visit the golf shop. There is an on-site restaurant for lunch.

- Central City Night Out: Ride into the Rocky Mountains to the historic town of Central City. Enjoy restaurants, gift shops and casinos.

- Tour of Clean Harbors Deer Trail NORM Disposal Facility: This tour is very limited in size and will sell out quickly.

Additional costs apply to the networking and social events listed above.

Interested stakeholders may view the conference announcement at https://gallery.mailchimp.com/97f7d5fba6ef7315cda63c8f0/files/8fd32a0c-36cd-4b5f-b456-c14f74aededc/NORM_IX_flyer_v3.pdf.

The preliminary conference agenda is available at https://gallery.mailchimp.com/97f7d5fba6ef7315cda63c8f0/files/7dcac048-2f9b-4c0d-a231-05dc2ebcd2c3/NORMIX_agenda9.pdf.

Registration is available at www.crcpd.org/NORMIX.

For additional information, please send an e-mail inquiry to normix@crcpd.org.

Holtec International

NRC Finalizes Enforcement Action Against Cask Manufacturer

In late April 2019, the U.S. Nuclear Regulatory Commission (NRC) finalized its enforcement action against Holtec International in connection with loose parts found in manufactured fuel-storage casks at Vermont Yankee and other sites.

Overview

NRC determined that Holtec International violated safety regulations and did not follow proper procedures in modifying the design of its casks, which are used to store radioactive material at nuclear plants around the country. The violations included:

- failure to establish design control measures for Holtec's casks; and,

- failure to perform certain evaluations before implementing changes.

However, the defect was not found at Vermont Yankee. In addition, according to a Holtec executive, the defects were not found to have hindered the casks' function. "The loaded

canisters do not and have never posed any risk to public health and safety," said Joy Russell, Senior Vice-President of Business Development and Communications at Holtec, in a statement issued on April 26, 2019.

The design control measure violation was deemed "potentially safety significant" because Holtec "did not adequately assess a potentially credible accident and exposure scenario that had the potential for a significant consequence." According to documents, a subsequent analysis by Holtec demonstrated that the casks would still perform in an acceptable manner even assuming the failure of multiple pins. NRC staff reached the same conclusion, determining that the casks "would continue to be in a safe condition during the entire licensed period of storage."

The NRC considered a $36,250 fine for one of the violations. However, the agency ultimately decided it was not warranted in part due to "Holtec's prompt and comprehensive correction of the violation."

NRC will do a follow-up inspection "to verify the effective implementation of Holtec's corrective actions and methods to preclude repetition" of the cask issue.

Background

Vermont Yankee stopped power production at the end of 2014, but all of the plant's spent nuclear fuel remains at the Vernon site. In 2018, then-owner Entergy completed a $143 million project to transfer Vermont Yankee's spent fuel from a cooling pad to sealed casks that were produced by Holtec, which also administered the fuel move.

However, the project was halted for nearly two months after a loose part identified as a shim standoff pin was found in a Holtec cask at the closed San Onofre nuclear power plant in California. According to an NRC spokesperson, another broken pin was subsequently found at Holtec's facility in Camden, New Jersey.

In May 2018, the Vermont Yankee fuel move was restarted following detailed inspections and engineering analyses by Entergy and Holtec. The NRC subsequently inspected Holtec's headquarters and found two apparent violations, which were finalized in late April 2019 after consultation with Holtec.

On January 11, 2019, Entergy Corporation completed the sale of Entergy Nuclear Vermont Yankee to subsidiaries of NorthStar Group Services, which will decommission the Vermont Yankee Nuclear Power Station site. (See *LLW Notes*, January/February 2019, pp. 20-22.) The sale is a first-of-its-kind in the nuclear power industry – a permanent ownership and license transfer to a company that is slated to perform timely and efficient decommissioning and site restoration.

The NorthStar decommissioning team includes Orano USA (reactor vessel segmentation and used fuel management support); Waste Control Specialists (waste management, packaging, transport and disposal); and, Burns & McDonnell (engineering and regulatory support).

Waste Management Conference

Waste Management 2020 Conference Issues Call for Abstracts

On June 3, 2019, Waste Management (WM) extended an invitation to interested stakeholders to submit an abstract for the WM 2020 Conference.

The symposium will be held at the Phoenix Convention Center in Phoenix, Arizona from March 8-12, 2020.

Additional information about the Waste Management conference is available at www.wmsym.org.

Overview

Waste Management 2020 marks the 46th annual symposium. The platform is dedicated to enhancing the transparency and credibility of the global radioactive waste industry. During the conference, attendees are invited to network with over 900 different organizations; 2,400 industry specialists and managers from more than 35 countries; and, our four-day technical program that will include 145+ sessions with more than 600+ presentations.

The WM 2020 Conference theme is, *Reducing Long-Term Environmental Liability Through Efficient, Effective Clean-Up.* The conference will continue the growth and focus of Young Professionals supporting the future of the rad waste management industry.

Conference registration will open in late August 2019.

Abstract Submissions

WM 2020 welcomes abstracts in nine topic areas related to nuclear waste management. The symposium's submission site is now available.

To submit an abstract, interested stakeholders should visit the conference website at www.wmsym.org and login by clicking on the orange button and enter your email and password. Your password is also your email address, unless you changed or created a new password on your profile after logging in. Under the heading "Abstract & Paper Submission," click on the button that reads "Submit/Manage Abstract for WM2020." You will then see a button that reads "New Abstract – Click Here to Start." Follow the instructions to submit your abstract, being sure to click on the "Submit Abstract" button at the bottom of the screen.

An instructional video will be available on the Waste Management website soon under Technical Program> Resources & Forms> Authors / Presenters>Abstract Submission Instructional Video.

The deadline to submit abstracts is Friday – August 23, 2019. Any submission received after this date will be subject to a second review prior to any acceptance. There is a limit of abstract submissions to two (2) per presenter, but no limit on the number of abstracts that a stakeholder may co-author.

Background

The annual WM conference, presented by WM Symposia (WMS), is an international symposium concerning the safe and secure management of radioactive wastes arising from nuclear operations, facility decommissioning and environmental remediation, as well as storage, transportation and disposal and associated activities. WMS was founded to provide a forum for discussing and seeking cost-effective and environmentally responsible solutions for the safe management and disposition of radioactive waste and radioactive materials.

The WM 2020 conference marks the 46th annual Waste Management Symposium. The conference provides an opportunity for stakeholders to connect with the worldwide nuclear community in a forum for discussing and seeking safe and cost-effective solutions to managing and dispositioning radioactive waste and decommissioning nuclear facilities.

Supporting Organizations

Supporting organizations include the American Nuclear Society (ANS), the International Atomic Energy Agency (IAEA), the International Framework for Nuclear Energy Cooperation (IFNEC) and the Organization for Economic Co-operation and Development/Nuclear Energy Agency (OECD/NEA).

The conference is organized in cooperation with the U.S. Department of Energy (DOE), the U.S. Nuclear Regulatory Commission (NRC), the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Defense (DoD).

For additional information on the Waste Management Conference, please contact Shelley Sullivan, Technical Program Coordinator, at (480) 557-0263 or via email at shelley@wmarizona.org; Lisa Parenti, Technical Program Administrator, at (480) 557-0263 or at lisa@wmarizona.org; Gary Benda, Program Advisory Committee (PAC) Chair, at (803) 317-1116 or at gbenda@wmarizona.org; or, Susan Walter, Deputy PAC Chair, at swalter@wmarizona.org.

Nuclear Power Plants and Other NRC Licensees

News Briefs for Nuclear Power Plants Across the Country

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

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

Atlantic Compact/State of New Jersey

Oyster Creek Nuclear Power Plant On June 20, 2019, the U.S. Nuclear Regulatory Commission (NRC) approved the transfer of the Oyster Creek Nuclear Generating Station license from Exelon Generation Corporation to Oyster Creek Environmental Protection (OCEP), as owner, and Holtec Decommissioning International (HDI), as decommissioning operator. The three companies requested the license transfer in August 2018. Once the purchase is finalized, as previously announced, OCEP and HDI plan to expedite decommissioning and dismantling of the plant. The license transfer includes the dry cask spent fuel storage installation at Oyster Creek. The NRC order approving the license transfer became effective immediately, but the license transfer will not be finalized until the successful completion of the transaction between Exelon, OCEP and HDI. At that point, the NRC will issue a license amendment reflecting completion of the transfer. Oyster Creek is a boiling water reactor located in Lacey Township, N.J. It permanently ceased operations in September 2018. In reviewing the license transfer application, the NRC staff considered OCEP's and HDI's technical and financial qualifications; the adequacy of Oyster Creek's decommissioning trust funds to complete the radiological decommissioning of the plant; and, the adequacy of plans to manage the onsite storage of spent nuclear fuel until it can be removed for storage or disposal elsewhere. The staff concluded that OCEP and HDI met the regulatory, legal, technical and financial requirements necessary to qualify as licensees. On June 18, 2019, the Commission denied two requests for an adjudicatory hearing challenging the license transfer. The NRC order approving the transfer was issued on June 20, 2019. The order and other documents related to the review will be available through the NRC's ADAMS online documents database at accession number ML19095A454. *For additional information, please contact David McIntyre at (301) 415-8200.*

Northwest Compact/State of Idaho

Idaho State University On May 3, 2019, NRC issued a Confirmatory Order to Idaho State University, which has agreed to a series of actions designed to improve its processes and procedures for the use of radioactive materials. The Confirmatory Order is the result of the NRC's Alternative Dispute Resolution process, which was requested by the university to address violations identified by the NRC in an inspection

report dated January 10, 2019. The process involves mediation facilitated by a neutral third party with no decision-making authority, who assists the NRC and a licensee in reaching agreement when there are differences regarding an enforcement action. In the inspection report, NRC identified one apparent violation considered for escalated enforcement involving the failure to secure two portable gauges containing radioactive material to prevent unauthorized access or removal. Following significant corrective actions taken by the university, the NRC has decided not to issue a Notice of Violation or civil penalty. Under terms of the Confirmatory Order, the university has agreed to improve its handling of radioactive materials as identified by a third-party auditor. *For additional information, please contact Victor Dricks at (817) 200-1128.*

Atomic Safety and Licensing Board (ASLB)

Hearing Denied re Proposed New Mexico Spent Fuel Storage Facility

On May 7, 2019, the U.S. Nuclear Regulatory Commission (NRC) announced that an Atomic Safety and Licensing Board (ASLB) denied requests by several petitioners to hold an evidentiary hearing challenging Holtec International's license application to construct and operate a consolidated interim storage facility for spent nuclear fuel in southeastern New Mexico.

The NRC staff's technical and environmental reviews of the license application will continue.

The board's ruling is available on the NRC's Electronic Hearing Docket on the agency website at https://www.nrc.gov/about-nrc/regulatory/adjudicatory.html under Holtec International 72-1051.

Overview

In January 2019, the three-judge board held oral arguments in Albuquerque, New Mexico on the standing of the various petitioners and the admissibility of their proposed contentions under NRC regulations. While the judges agreed that some of the six petitioners met the qualifications for standing, they concluded that the nearly 50 contentions raised were not admissible for an evidentiary hearing. The judges held that the contentions either were not relevant to the application or did not establish a genuine dispute with aspects of the application.

"With the hearings hurdle removed, Holtec's effort to establish the HI-STORE CISF (consolidated interim storage facility) in New Mexico remains on track for licensing in 2020," stated Holtec International in a press release following the ASLB's decision.

The NRC's hearing process allows interested parties who might be affected by a proposed licensing action to challenge the application on technical (safety) or environmental grounds. Most hearings are conducted by licensing boards appointed from the ASLB Panel – a group of administrative judges independent of the NRC staff. Board rulings may be appealed to the Commission.

Company Statement

Following the ASLB's decision, Holtec International released a press release that contained, in part, the following statement:

> The licensing of HI-STORE CISF will provide the nation an interim storage solution for the long-standing used nuclear fuel storage problem. The used fuel packaged in all-welded canisters, presently stored in a variety of above-ground storage systems at different nuclear plant sites will be aggregated and stored in terror-resistant, *below-*

ground systems known as HI-STORM UMAX which will provide ready retrievability to ship the canisters to any licensed repository at any time. The HI-STORE CIS can serve as the aging facility for the fuel (which is necessary to cool it down for interment in any repository). The HI-STORE CIS could thus serve a critical missing link in the nation's back-end high-level-waste management program. The canisters stored in HI-STORM UMAX will be exposed to low humidity and the benign atmosphere of the dry plateau of Southeastern New Mexico meaning they will sustain virtually no reduction in their service life.

"From a technical standpoint, one cannot conceive of a more ideal, safe and secure interim storage of used fuel than the proposed HI-STORE CIS site," added Stefan Anton, Holtec's Vice President of Engineering and Licensing.

Background

Holtec is a vendor of dry cask storage systems. The company has proposed to store spent nuclear fuel from the nation's commercial nuclear power plants at a facility in Lea County, which is located in the southeastern corner of New Mexico.

The license application for the HI-STORE CISF was submitted to the NRC on March 31, 2017. The Commission accepted the application in February 2018 (U.S. NRC Docket No. 72-1051.)

Hearing petitions were filed by Beyond Nuclear, the Sierra Club and the Fasken Land and Minerals and Permian Basin Land and Royalty Owners, which were granted standing. Two other petitioners – a coalition of several different organizations and NAC International, a rival dry storage cask vendor – were denied standing. The standing of a sixth petitioner, the Alliance for Environmental Strategies, was not decided.

For additional information, please contact David McIntyre of the NRC at (301) 415-8205 or Erica Grandrimo of Holtec at (856) 797-0900 ext. 3920 or at e.grandrimo@holtec.com.

U.S. Department of Energy (DOE)

DOE Assistant Secretary Anne White Resigns

Principal Deputy Assistant Secretary Mark Gilbertson Reassigned

In June 2019, the U.S. Department of Energy (DOE) announced that Assistant Secretary for Environmental Management (EM) Anne White had submitted her resignation.

White's resignation, which was detailed in a department announcement signed off with the names of Secretary of Energy Rick Perry and the Deputy Secretary of Energy Dan Brouillette, became effective on June 14, 2019.

Overview

DOE's Assistant Secretary for Environmental Management The DOE memo does not provide a reason for White's resignation. "Anne's service to the Department of Energy and to this nation are greatly appreciated," the personnel announcement reportedly reads. "Please join us in wishing her the best in her future endeavors."

However, reports indicate that White was asked to resign by her immediate supervisor, Undersecretary of Energy for Science Paul Dabbar. In addition to friction with Dabbar, her departure was linked to concerns about her handling of the spread of radioactive contamination from the Portsmouth Site in Ohio to the surrounding area. Last month, a middle school near the site closed early for summer due to reported radiological contaminants in air

samples. DOE says that its own air monitoring has shown only trace amounts of contaminants including neptunium-237 and americium-241 that are far below being a risk to human health. Nonetheless, the Department has agreed to pay for extra air sampling this summer by an outside consultant.

DOE's Principal Deputy Assistant Secretary for Environmental Management Mark Gilbertson, who is currently DOE's Principal Deputy Assistant Secretary for Environmental Management, has also been reassigned. According to the DOE memo, Gilbertson will become the Director of the Department's National Laboratory Operations Board. The Board works to strengthen DOE's national labs and their shared relationships.

Todd Shrader, the Manager of Environmental Management's Waste Isolation Pilot Plant (WIPP) Carlsbad Field Office, will replace Gilbertson as the EM Principal Deputy Assistant Secretary, according to the memo.

National Nuclear Security Administration (NNSA) Management William "Ike" White, the Chief of Staff at the National Nuclear Security Administration (NNSA), will now serve as a Senior Advisor to DOE Under Secretary for Science Paul Dabbar. Among other things, Dabbar oversees environmental- and legacy-management missions.

The NNSA is in charge of the nation's nuclear complex and related nonproliferation. Late last month, William Bookless was sworn in as the NNSA's Principal Deputy Administrator.

Background

Environmental Management, established in 1989, is charged with cleaning up the nation's legacy from the Cold War and other government-sponsored energy research. On January 3, 2018, the White House announced President Donald J. Trump's intent to nominate White to be the EM Assistant Secretary. On March 22, 2018, White was confirmed for the position by voice vote of the U.S. Senate. White was sworn in on March 29, 2018. (See *LLW Notes*, March/April 2018, p. 30.)

White is the founder of Bastet Technical Services, LLC — a consulting firm that has been engaged in providing strategic solutions to solve complex environmental challenges across the DOE complex. She has more than 25 years of experience across a broad range of activities within the nuclear field, mainly focused on project and program management projects with complex technical, regulatory and stakeholder challenges.

"She has industry-recognized credentials in technical skills that lead to sound, technically underpinned, cost effective solutions," stated an earlier announcement. "She has extensive hands on in the field experience at many of the Environmental Management sites for which she will have responsibility."

White, who has supported a number of emerging nuclear power nations to develop legal and regulatory structures and national policies, received a Master's Degree of Science in Nuclear Engineering from the University of Missouri-Columbia.

Prior to White's swearing-in, James Owendoff had been serving as the Acting EM-1 Assistant Secretary. In this role, Owendoff focused on more timely decisions on cleanup projects.

The position was previously held by Monica Regalbuto at the end of the administration of former-President Barack Obama.

For additional information about the U.S. Department of Energy's Office of Disposal, please go to www.energy.gov.

DOE Publishes Interpretation on High-Level Radioactive Waste

On June 5, 2019, the U.S. Department of Energy (DOE) sent a supplemental notice to the *Federal Register* that provides the public with its interpretation of high-level radioactive waste, informed by more than 5,000 public comments.

For decades, DOE has managed nearly all reprocessing waste streams as high-level radioactive waste regardless of radioactivity. According to the Department, however, this one-size-fits-all approach has led to decades of delay, costs billions of dollars and left the waste trapped in DOE facilities in the states of South Carolina, Washington and Idaho without a permanent disposal solution.

"Recognizing this failure, this Administration is proposing a responsible, results-driven solution that will finally open potential avenues for the safe treatment and removal of the lower level waste currently housed in three states," said U.S. Undersecretary for Science Paul Dabbar. "DOE is going to analyze each waste stream and manage it in accordance with Nuclear Regulatory Commission standards, with the goal of getting the lower-level waste out of these states without sacrificing public safety."

Overview

Moving forward, DOE's interpretation is that reprocessing waste streams are defined by their characteristics, not just how they were made. With this new interpretation, DOE states that the Department will pursue new avenues for the responsible and safe treatment and removal of lower level waste that has been languishing at DOE sites, while protecting the environment and the health and safety of local communities.

According to DOE, this interpretation does not change or revise any current policies, legal requirements, permits or agreements. Decisions about whether and how this interpretation of high-level radioactive waste will apply to existing wastes and whether such wastes may be disposed of as non-high-level radioactive waste will be the subject of subsequent actions. Any actions to implement the high-level radioactive waste interpretation will be done on a site-specific basis with appropriate engagement with affected stakeholders.

DOE is also issuing a separate *Federal Register* notice initiating a National Environmental Policy Act (NEPA) analysis to determine the potential environmental impacts of the disposal of a Savannah River Site reprocessing waste stream as non-high-level radioactive waste at a commercial disposal facility licensed to receive low-level radioactive waste. The Department will continue to work with the affected local communities on this analysis and the path forward for cleanup at Savannah River.

Background

DOE manages large inventories of legacy waste resulting from spent nuclear fuel (SNF) reprocessing activities from atomic energy defense programs – i.e., nuclear weapons production. DOE also manages a small quantity of vitrified waste from a demonstration of commercial SNF reprocessing. Reprocessing generally refers to the dissolution of irradiated SNF in acid, generating liquid or viscous wastes and the chemical processing to separate the fission products or transuranic elements of the SNF from the desired elements of plutonium and uranium, which are recovered for reuse. Liquid reprocessing wastes have been or are currently stored in large underground tanks at three DOE sites: the Savannah River Site (SRS) in South Carolina; the Idaho National Laboratory (INL) in Idaho; and, the Office of River Protection at the Hanford Site in Washington. Solid reprocessing wastes are liquid wastes that have been

immobilized in solid form and are currently stored at SRS, INL and the West Valley Demonstration Project in New York.

DOE's interpretation of high-level radioactive waste is that reprocessing waste is non-high-level radioactive waste if the waste:

I. does not exceed concentration limits for Class C low-level radioactive waste as set out in section 61.55 of title 10, Code of Federal Regulations; or,

II. does not require disposal in a deep geologic repository and meets the performance objectives of a disposal facility as demonstrated through a performance assessment conducted in accordance with applicable regulatory requirements.

Under DOE's interpretation, waste meeting either of these criteria is non-high-level radioactive waste and may be classified and disposed of in accordance with its radiological characteristics.

In October 2018, DOE issued a *Federal Register* notice announcing the public comment period on the Department's interpretation of the definition of the statutory term high-level radioactive waste as set forth in the Atomic Energy Act of 1954 and the Nuclear Waste Policy Act of 1982. (See *LLW Notes*, September/October 2018, pp. 1, 28-31.) The *Federal Register* notice stated that, at this time, DOE is not making (and has not made) any decisions on the disposal of any particular waste stream. Disposal decisions, when made, will be based on the consideration of public comments in response to the *Federal Register* notice and prior input and consultation with appropriate state and local regulators and stakeholders. DOE will continue its current practice of managing all its reprocessing wastes as if they were high-level radioactive waste unless and until a specific waste is determined to be another category of waste based on detailed technical assessments of its characteristics and an evaluation of potential disposal pathways, according to the *Federal Register* notice.

For further information, see 83 Federal Register 50,909 (October 10, 2018).

For additional information, please contact Theresa Kliczewski at HLWnotice@em.doe.gov or at U.S. Department of Energy, Office of Environmental Management, Office of Waste and Materials Management (EM–4.2), 1000 Independence Avenue SW, Washington, DC 20585 or at (202) 586-3301.

For more information on high-level radioactive waste and DOE's interpretation, go to https://www.energy.gov/em/high-level-radioactive-waste-hlw-interpretation.

U.S. Nuclear Regulatory Commission (NRC)

NRC Makes Senior Management Selections

On May 16, 2019, the U.S. Nuclear Regulatory Commission (NRC) announced senior management selections filling several key positions.

Overview

NRC's announcement identified the following senior management selections:

- Catherine Haney, the NRC Region II Administrator in Atlanta, has been selected to succeed Robert Lewis as Assistant for Operations (AO) in the Office of the Executive Director for Operations. In addition to her AO responsibilities, Haney will be the lead for strategic initiatives that

will benefit from her unique and extensive regulatory experience. Lewis will become Deputy Director in the Office of Nuclear Material Safety and Safeguards (NMSS).

- Haney joined the NRC in 1981 as a Health Physicist Intern in the former Office of Inspection and Enforcement and has held key agency positions including as the Director of the Division of Operating Reactor Licensing and the NMSS Director. She earned a Bachelor's Degree in Radiological Technology from the University of Maryland and a Master's Degree in Radiological Science from Emory University. Haney will soon begin transitioning to her new role based at the agency's headquarters in Rockville, Maryland.

- Laura Dudes, currently NRC Region II Deputy Administrator, will replace Haney as the region's Administrator. Dudes joined the NRC in 1994 as a Reactor Engineer Intern. She has held various important positions including Senior Resident Inspector at the Oyster Creek Nuclear Generating Station and Director of the Division of Construction Inspection and Operational Programs in the Office of New Reactors. Dudes received both a Bachelor's and Master's Degree in Mechanical Engineering from Stevens Institute of Technology. She will transition to her new position in June 2019.

- Vonna Ordaz has been selected as the Director of the Office of Small Business and Civil Rights (SBCR), concurrent with the retirement of Pamela Baker, who currently serves as the SBCR Office Director.

- Ordaz joined the NRC in 1991 as an Engineer in the Office of Nuclear Reactor Regulation and has since held a number of key positions including as Region IV Resident Inspector and notable leadership roles in safety and security functions. She earned a Bachelor's Degree in Mechanical Engineering from the University of Maryland.

"As those on our senior leadership team retire or pursue other endeavors, it is essential that we fill these principal positions with highly talented, broadly skilled, and energetic leaders with a willing commitment to help transform our agency," said Executive Director for Operations Margaret Doane. "It is with great pride that I announce these selections."

Other leadership Changes

NRC's announcement identified the following other leadership changes:

- Scott W. Moore, currently NMSS Deputy Director, has been selected as Acting Deputy Director in the Office of Nuclear Regulatory Research (NRR).

- Mark Lombard, currently Deputy Director in the Office of Administration, will become Deputy Director in the Office of Nuclear Security and Incident Response (NSIR). He replaces John Lubinski, who formerly served as NSIR Deputy Director and is currently the NMSS Director. The selection of Lombard's replacement is pending.

- Brian McDermott, currently NRR Deputy Director for Engineering, has been selected NRR Deputy Office Director for Reactor Safety Programs and Mission Support. McDermott will replace Michele Evans, who will retire this summer.

- Mirela Gavrilas, currently NRR Director in the Division of Safety Systems will become NRR Deputy Office Director for Engineering.

For additional information, please contact the NRC's Office of Public Affairs at (301) 415-8200.

NRC Issues FY 2018 Annual Report on Abnormal Occurrences

On June 7, 2019, the U.S. Nuclear Regulatory Commission (NRC) published its annual report to Congress for fiscal year 2018 on Abnormal Occurrences involving the medical and industrial uses of radioactive material.

Overview

Nine of the 11 incidents detailed in the report were medical events, such as misadministration of radioactive material in diagnosis or treatment of an illness. One event occurred during radiography operations, while the more recent event involved a stolen radiography camera that has since been recovered.

No events at commercial nuclear power plants in 2018 met the criteria requiring an Abnormal Occurrence declaration.

Background

U.S. law defines an Abnormal Occurrence as an unscheduled incident or event that the NRC determines to be significant from the standpoint of public health or safety. The NRC sets specific criteria, updated in October 2017, for determining which events qualify.

Report to Congress on Abnormal Occurrences, Fiscal Year 2018, is available on the NRC website as NUREG 0090, Volume 41.

For additional information, please contact David McIntyre of the U.S. Nuclear Regulatory Commission (NRC) at (301) 415-8200.

NRC Issues Direct Final Rule to Certify Korean APR1400 Reactor

On April 30, 2019, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency will issue a direct final rule certifying Korea Electric Power Corporation and Korea Hydro & Nuclear Power's Advanced Power Reactor 1400.

The certification, valid for 15 years, will state that the NRC finds the design fully acceptable for use in the United States.

Overview

On December 23, 2014, Korea Electric Power Corporation and Korea Hydro & Nuclear Power submitted an application to certify the APR1400 for use in the United States. The design, as approved, would produce approximately 1,400 megawatts of electricity.

The APR1400 features enhanced systems to safely shut down the reactor or mitigate the effects of an accident. Full certification allows a utility to reference the design when applying for a Combined License to build and operate a nuclear power plant.

Absent adverse comments, the rule will become effective 120 days following publication in the *Federal Register*.

Background

The NRC has certified five other such designs including:

- the Advanced Boiling Water Reactor;
- System 80+;
- AP600;

- AP1000; and,
- the Economic Simplified Boiling Water Reactor.

The NRC staff is reviewing applications to certify two other designs including:

- the U.S. Advanced Pressurized Water Reactor; and,
- the NuScale small modular reactor.

The staff is also reviewing an application to renew the ABWR certification.

Additional information about the APR1400 design review is available on the NRC's website at www.nrc.gov.

For additional information, please contact Scott Burnell of the NRC at (301) 415-8205.

NRC Amends Licensing, Inspection and Annual Fees for FY 2019

On May 17, 2019, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency has amended its regulations to reflect the licensing, inspection, special project and annual fees it will charge applicants and licensees for fiscal year (FY) 2019.

The final fee rule, as published in the Federal Register, is available to interested stakeholders online at https://www.federalregister.gov/documents/2019/05/17/2019-10051/revision-of-fee-schedules-fee-recovery-for-fiscal-year-2019.

Overview

For FY 2019, the NRC's required fee recovery amount – after accounting for fee-recovery exclusions, fee-relief activities and net billing adjustments – is $782.5 million. Approximately $252.1 million will be recovered through fees for service under Part 170 of Title 10 of the *Code of Federal Regulations* and approximately $530.5 million will be recovered through annual fees under 10 CFR Part 171.

Compared to FY 2018, the FY 2019 annual fees will increase for operating reactors, research and test reactors, and some materials users. Annual fees will decrease for spent fuel storage/reactor decommissioning, fuel facilities, select materials users, the U.S. Department of Energy (DOE) transportation activities and the DOE Uranium Mill Tailings Radiation Control Act (UMTRCA) Program. The annual fee for the non-DOE uranium recovery licensee remains unchanged.

The final fee rule also includes several other changes affecting licensees and applicants. First, the NRC has increased the hourly rate from $275 in FY 2018 to $278 for FY 2019. Second, the NRC has revised the flat rate license application fees under 10 CFR 170.21 and 170.31 to reflect the new hourly rate. Finally, the final fee rule includes two fee-policy changes and one administrative change.

Background

The final fee rule includes fees required by law for the NRC to recover approximately 90 percent of the agency's annual budget authority. A proposed rule was published for public comment on January 31, 2019.

The NRC estimates that the FY 2019 annual fees will be paid by the licensees of 98 operating commercial power reactors, four research and test reactors, 122 spent nuclear fuel storage and decommissioning reactor facilities, seven fuel cycle facilities, one uranium recovery facility and approximately 2,600 nuclear materials licensees.

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

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

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

- EPA • (for program information, publications, laws and regulations) ..... **www.epa.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)..... **www.access.gpo.gov**

- GAO homepage (access to reports and testimony) ..... **www.gao.gov**

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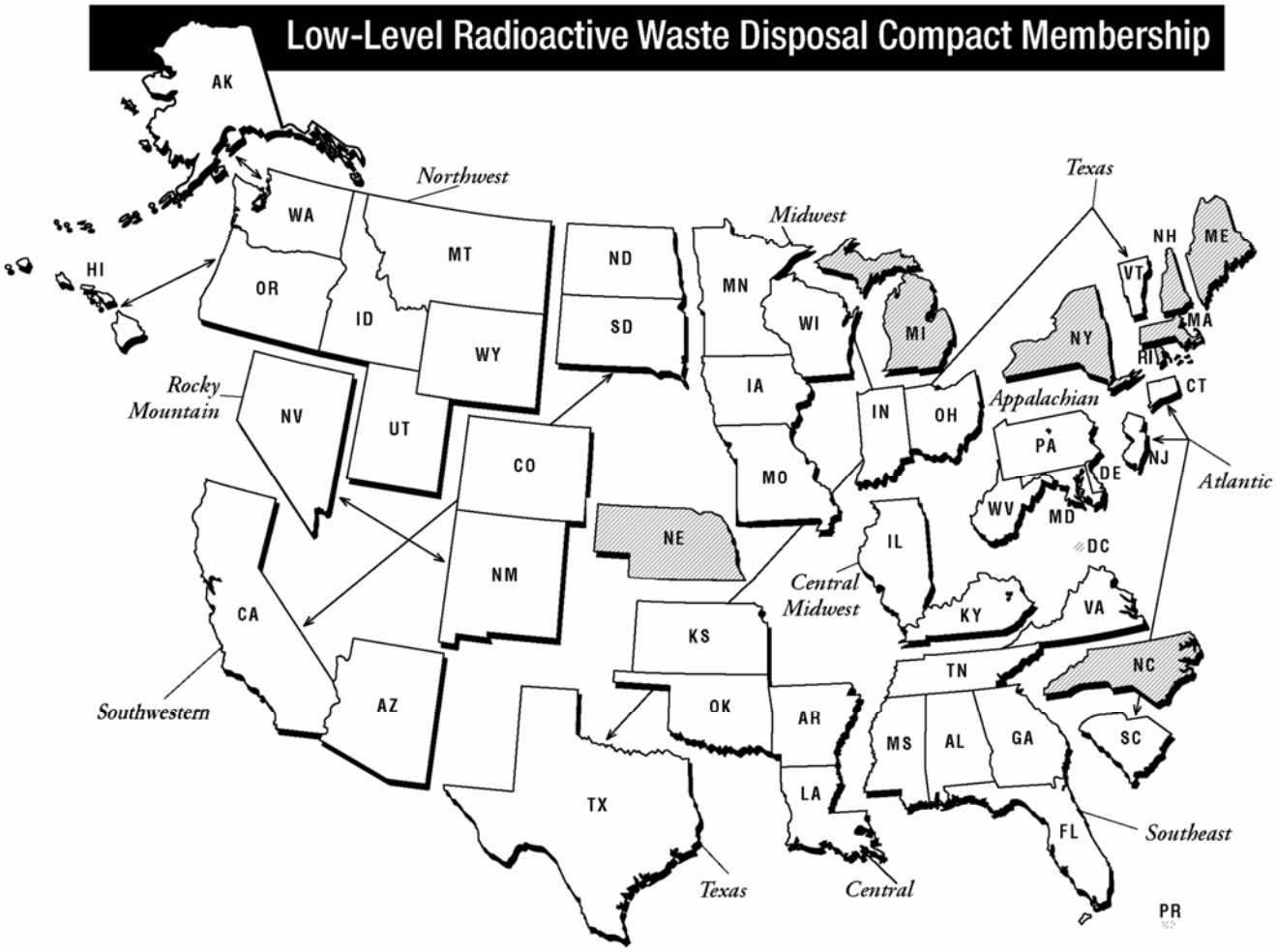

Appalachian Compact
Delaware
Maryland
Pennsylvania
West Virginia

Atlantic Compact
Connecticut
New Jersey
South Carolina

Central Compact
Arkansas
Kansas
Louisiana
Oklahoma

Central Midwest Compact
Illinois
Kentucky

Northwest Compact
Alaska
Hawaii
Idaho
Montana
Oregon
Utah
Washington
Wyoming

Midwest Compact
Indiana
Iowa
Minnesota
Missouri
Ohio
Wisconsin

Rocky Mountain Compact
Colorado
Nevada
New Mexico

Northwest accepts Rocky Mountain waste as agreed between compacts

Southeast Compact
Alabama
Florida
Georgia
Mississippi
Tennessee
Virginia

Southwestern Compact
Arizona
California
North Dakota
South Dakota

Texas Compact
Texas
Vermont

Unaffiliated States
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