LLW notes

Volume 30 Number 6 November/December 2015

U.S. Nuclear Regulatory Commission

NRC Releases Implementation Document re 2015 Concentration Averaging Branch Technical Position

On October 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) released a document providing implementation questions and answers related to Revision 1 of the Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP).

Revision 1 of the CA BTP was originally published at 80 *Federal Register* 10,165 on February 25, 2015. (See *LLW Notes,* March/April 2015, pp. 41-45.) The guidance provides acceptable methods that can be used to perform concentration averaging of low-level radioactive waste for the purpose of determining its waste class for disposal.

Revision 1 of the CA BTP consists of two volumes. Volume 1 (ADAMS Accession No. ML12254B065) contains the staff technical positions on averaging and certain other information. Volume 2 (ADAMS Accession No. ML12326A611) contains staff responses to stakeholder comments on the May 2012 draft (ADAMS Accession No. ML121170418) and the technical bases for the staff positions.

Revision 1 of the CA BTP can be found online at http://www.gpo.gov/fdsys/pkg/FR-2015-02-25/pdf/2015-03913.pdf.

Brief Overview re Revised CA BTP

Revision 1 of the CA BTP provides updated guidance on the interpretation of § 61.55(a)(8) of Title 10 of the *Code of Federal Regulations* (10 CFR), ‘‘Determination of concentrations in wastes,’’ as it applies to the classification (as Class A, B, or C waste) of a variety of different types and forms of low-level radioactive waste.

Paragraph 61.55(a)(8) states that radionuclide concentrations can be averaged over the volume

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In This Issue

COPYRIGHT POLICY

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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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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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 to Meet in Park City, Utah April 13-14, 2016

Please mark your calendars for the spring 2016 meeting of the Low-Level Radioactive Waste Forum (LLW Forum), which will be held at the Marriott Hotel in Park City, Utah from April 13-14, 2016.

Meeting Logistics

This will be a one and one-half day meeting beginning at 9:00 a.m. on Wednesday and concluding at 1:00 p.m. on Thursday. There will also be an optional site tour of the Energy*Solutions'* Clive facility for interested meeting attendees.

The meeting is being co-sponsored by the State of Utah and Energy*Solutions*.

Meeting registration and the hotel block information will be released in early January 2016.

Attendance

Officials from states, compacts, federal agencies, nuclear utilities, disposal operators, brokers/ processors, industry, and other interested parties attend 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.

Background

The LLW Forum is a non-profit organization of representatives appointed by Governors and compact commissions that seeks to facilitate state and compact implementation of the Low-Level Radioactive Waste Policy Act of 1980 and its 1985 amendments, as well as to promote the objectives of regional low-level radioactive waste disposal compacts.

The LLW Forum meets twice per year—once in the spring and once in the fall—at different locations throughout the country. LLW Forum members take turns sponsoring the meetings.

If you have questions or require additional information, please contact Todd D. Lovinger, Esq.—Executive Director of the LLW Forum and Project Director of the Disused Sources and Part 61 Working Groups (DSWG/P61WG)—at (754) 779-7551 or at LLWForumInc@aol.com.

LLW Forum/Disused Sources Working Group

DSWG to Meet in February 2016

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

For additional information and ongoing updates, interested stakeholders are encouraged to go to the DSWG web site at www.disusedsources.org.

DSWG Schedules Winter 2016 Meeting

The DSWG has scheduled its next meeting in Orange County, California for February 11-12, 2016. During the meeting, among other things, the DSWG plans to

- review the outstanding recommendations from the March 2014 DSWG report;
- continue evaluating responses to the the U.S. Nuclear Regulatory Commission's (NRC's) byproduct material financial scoping study public meeting/webinar and submittal of comments by the DSWG and others;
- receive an update and path forward re the Conference of Radiation Control Program Directors (CRCPD) working group on developing suggested state regulations concerning financial assurance for disused sources;
- provide a status update and potential further action re joint DSWG-CRCPD survey about the management and disposition of disused sources;
- consider the development and distribution of materials to educate licensees about the life-cycle costs related to source management prior to purchase;
- chart a path forward to enhance outreach to and coordination with other stakeholders; and,
- continue the discussion from the brokers and processors scoping session at the fall 2015 Low-Level Radioactive Waste Forum (LLW Forum) meeting including the proposal for creation of a central source processing facility and allowing brokers to receive sources on a bill of laden.

The winter 2016 DSWG meeting will be open only to DSWG members and invited guests.

Background

The LLW Forum is a non-profit organization of representatives appointed by Governors and compact commissions that seeks to facilitate state and compact implementation of the Low-Level Radioactive Waste Policy Act of 1980 and its 1985 amendments, as well as to promote the objectives of regional low-level radioactive waste disposal compacts.

In September 2011, the LLW Forum formed the Disused Sources Working Group (DSWG) to develop recommendations from the states and compacts for improving the management and disposition of disused sources.

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

LLW Forum/Part 61 Working Group

P61WG Representatives Meet with NRC Commissioners

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

For additional information and ongoing updates, interested stakeholders are encouraged to go to the P61WG web site at www.part-61.org.

P61WG Representatives Meet with NRC Commissioners

On December 2, 2015, three representatives of the LLW Forum's P61WG representing the sited states of South Carolina, Utah and Washington/ Northwest Compact met with four NRC Commissioners to provide stakeholder input and feedback on the proposed rule to amend 10 CFR Part 61, *Licensing Requirements for Land Disposal of Radioactive Waste,* as published for public comment at 80 *Federal Register* 16,081 on March 26, 2015. The meetings were held at the U.S. Nuclear Regulatory Commission's (NRC's) headquarters in Rockville, Maryland.

During the meeting, among other things, the P61WG representatives and Commissioners discussed:

- the common commitment and overall objective to ensure the protection of public health and safety from, and the proper security of, radioactive materials throughout their life cycle which is fundamental to and an integral part of the existing regulatory framework of the radioactive materials programs;
- questions concerning applicability of the proposed rule to operating facilities with licenses on the effective date;
- concerns with the regulatory analysis that was performed in support of the proposed rule;
- the potential burdens imposed from increasing what has been a design goal of a few hundred years under the current Part 61 rule to 10,000 years;
- the potential unintended impacts that may result should NRC implement the new regulations as currently proposed and an alternative proposal to place the new regulations in a new section, subpart, or stand-alone regulation where they only apply to commercial sites choosing to pursue the disposal of large volumes of long-lived radionuclides;
- the appropriate compatibility category for selected areas of 10 CFR Part 61; and,
- the need for a second rulemaking addressing the waste classification system and, more specifically, the classification of depleted uranium.

Formal comments from the P61WG and individual sited states on the new proposed 10 CFR Part 61 rule can be found on the working group's web site at www.part-61.org. In addition, presentations on the new proposed rule from the fall 2015 LLW Forum meeting are available to LLW Forum members and subscribers on the restricted-access, members-only portion of the organization's web site at www.llwforum.org by going to the "Publications" page and clicking on "Meeting Agendas and Presentations."

Background

The LLW Forum is a non-profit organization of representatives appointed by Governors and compact commissions that seeks to facilitate state and compact implementation of the Low-Level Radioactive Waste Policy Act of 1980 and its 1985 amendments, as well as to promote the objectives of regional low-level radioactive waste disposal compacts.

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

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

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

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

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

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

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

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

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

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

Central Interstate Compact

Central Interstate Compact Commission Holds Teleconference Meeting

On November 17, 2015, the Central Interstate Low-Level Radioactive Waste Compact Commission held a special teleconference meeting.

The purpose of the meeting, which began at 10:00 a.m., was to take necessary action on meeting minutes and the fiscal year 2014-2015 audit, ratify actions taken previously on export applications, and address all other business to come before the Commission.

The following is an overview of the agenda for the Central Interstate Compact Commission meeting:

- call to order and roll call;
- ratify action taken on export applications approved in July 2015, August 2015 and October 2015 including questions and discussion by Commissioners, questions and discussion by the public and a roll call vote;
- approve minutes of the June 16, 2015 annual meeting including questions and discussion by Commissioners, questions and discussion by the public and a roll call vote;
- approve Cochran, Head, Vick & Co. audit for fiscal years 2014-2015 including questions and discussion by Commissioners, questions and discussion by the public and a roll call vote;
- adjourn.

Persons interested in additional detail are directed to the formal agenda themselves.

An agenda, kept continuously current, is available by contacting the Central Interstate Compact Commission's office or visiting their web page at www.cillrwcc.org.

For additional information, please contact Rita Houskie of the Central Interstate Compact Commission at (402) 476-8247 or at rita@cillrwcc.org.

Midwest Compact/State of Minnesota

License Renewed re Dry Spent Fuel Storage Facility at Prairie Island

On December 9, 2015, the U.S. Nuclear Regulatory Commission (NRC) approved a 40-year license renewal for Northern States Power Co.-Minnesota's dry-cask independent spent fuel storage installation at the Prairie Island nuclear power plant in Goodhue County, Minnesota.

Overview

The renewed license, the sixth the NRC has issued for a dry cask storage facility, contains conditions requiring periodic inspections of the casks and their components to ensure potential aging effects are identified and managed. These conditions require Northern States Power to evaluate any issues and take corrective action to address anything that could prevent a cask component from performing its safety function.

"Our decision to relicense Prairie Island's dry cask storage systems is based on our finding that they meet the NRC's strict standards and will be able to store spent fuel safely over the extended

period of the renewed license," said Anthony Hsia, Acting Director of the NRC's Division of Spent Fuel Management. "Inspections by the licensee and the NRC going forward will ensure any effects from aging will be managed so they do not affect the casks' ability to protect workers, the public and the environment."

The license now has an expiration date of October 31, 2053.

Background

The initial 20-year license would have expired on October 31, 2013, but Northern States Power submitted a request to renew it in 2011. This meant the facility was considered to be in "timely renewal," where the license would not expire as long as the NRC staff was reviewing the request. This allowed the Prairie Island independent spent fuel storage installation to continue to operate under its existing license until the NRC completed its safety and security review and reached a decision on the license renewal application. The NRC published the final Environmental Assessment in July 2015 and documented the safety review in a final Safety Evaluation Report that was issued on December 9, 2015.

There are now operating independent spent fuel storage facilities at 69 sites in the United States. Spent fuel is moved into NRC-approved dry casks after an appropriate time of cooling in a spent fuel pool. Plants implement dry storage when their spent fuel pools are at or near capacity.

A copy of the NRC's Environmental Assessment can be found at http://pbadupws.nrc.gov/docs/ML1509/ML15098A026.pdf. A copy of the NRC's final Safety Evaluation Report can be found at http://pbadupws.nrc.gov/docs/ML1533/ML15336A230.pdf.

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

Confirmatory Order Issued to Monticello Nuclear Power Plant

By press release dated December 22, 2015, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency has issued a Confirmatory Order to the Monticello nuclear power plant. The company has agreed to a series of actions related to an event where specialized examinations were not performed properly on six spent fuel canisters.

Northern States Power Co.-Minnesota operates the Monticello nuclear plant. It is located in Monticello, Minnesota—approximately 30 miles northwest of Minneapolis.

Overview

The NRC has found no immediate safety concerns with the spent fuel canisters. However, as a result of the ADR meeting, the company has agreed to take a number of actions to regain compliance with agency regulations. Some of the commitments for the company include:

- ensuring the canisters are brought into compliance;
- submitting a plan to return to compliance and provide updates on progress;
- ensuring procedures require direct oversight of the testing performed by contractors; and,
- making a presentation on the facts and lessons learned at an industry forum so that others may receive the information.

The company has agreed to address these issues according to the timelines established in the Confirmatory Order and to send the NRC a letter documenting completion of the actions when they are done.

Background

The confirmatory order is a result of the NRC's Alternative Dispute Resolution (ADR) process, which was requested by the company to address three apparent violations related to the improper testing of the canisters in 2013. The NRC senior resident inspector identified the issue when he observed two contractors fail to properly perform liquid penetrant examinations on the welds of the canisters. The NRC conducted a follow-up investigation into the event, which determined that the testing examinations were falsely recorded and the plant failed to have effective quality controls in place to monitor the contractor work. The investigation also found the deliberate actions of the contractors caused the plant to be in violation of NRC requirements regarding the welds.

The ADR process involves mediation facilitated by a neutral third party with no decision-making authority who assists the NRC and a licensee in reaching an agreement when there are differences regarding an enforcement action.

The NRC's Confirmatory Order will be made publically available through the Agency Documents Access and Management System (ADAMS) on the NRC web site at www.nrc.gov.

For additional information, please contact Viktoria Mitlyng of the NRC at (630) 829-9662 or Prema Chandrathil of the NRC at (630) 829-9663.

Midwest Compact/State of Ohio

Operating License Renewed for Davis-Besse Nuclear Power Plant in Ohio

By press release dated December 8, 2015, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency has renewed the operating license of the Davis-Besse Nuclear Power Station in Oak Harbor, Ohio for an additional 20 years.

Overview

FirstEnergy Nuclear Operating Co. applied to renew the license on August 30, 2010. The NRC staff's review of the application proceeded on two tracks. A Safety Evaluation Report (SER) was issued on September 3, 2013. A supplement was then issued on August 10, 2015. In addition, on April 24, 2015, NRC issued a Supplemental Environmental Impact Statement (SEIS).

These documents, as well as other information about the Davis-Besse license renewal, are available on the NRC website. The NRC's Advisory Committee on Reactor Safeguards (ACRS) also reviewed the NRC staff's work.

Background

Davis-Besse, located about 21 miles east-southeast of Toledo, has a single pressurized-water reactor. The renewed license authorizes the plant to operate through April 22, 2037.

Renewal of Davis-Besse's operating licenses brings to 81 the number of commercial nuclear power reactors with renewed licenses—although two of those have since permanently shut down. Applications for an additional 13 renewals are currently under review.

The SEIS for the Davis-Besse license renewal can be found on the NRC web site at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/supplement52/.

Information about ongoing license reviews can be found on the NRC web site at http://www.nrc.gov/reactors/operating/licensing/renewal/applications.html.

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

Midwest Compact/State of Wisconsin

Mandatory Hearing Held re Proposed Medical Isotope Production Facility in Wisconsin

On December 15, 2015, the U.S. Nuclear Regulatory Commission (NRC) conducted a mandatory hearing on SHINE Medical Technologies Inc.'s application for a permit to construct a medical isotope production facility in Janesville, Wisconsin.

The mandatory hearing is the final step in the NRC's licensing process before the Commission issues a decision on whether to issue a construction permit.

Overview

The Commission's hearing, which began at 9:00 a.m., included testimony and exhibits from SHINE, as well as the NRC staff, on the question of whether the staff's review of the application has been adequate to support the findings necessary to issue a construction permit. It was held in the Commission Hearing Room at NRC headquarters in Rockville, Maryland. The hearing was open to the public and webcast.

A detailed agenda and presentation slides are available on the Commission transcripts web page at http://www.nrc.gov/reading-rm/doc-collections/commission/tr/2015/.

Background

On March 26 and May 31, 2013, SHINE submitted a two-part construction permit application for a medical isotope production facility to be built in Janesville, Wisconsin. An opportunity to intervene in a contested hearing was published in March 2015, but no petitions were filed.

In October 2015, the NRC staff completed its review of SHINE's application, issuing its Safety Evaluation Report (SER) and Final Environmental Impact Statement (FEIS).

The Advisory Committee on Reactor Safeguards (ACRS) conducted an independent review of SHINE's preliminary safety analysis report and the staff's safety evaluation. On October 15, 2015, the ACRS recommended that the Commission issue the SHINE construction permit.

The SER on the SHINE application can be found on the NRC web site at http://pbadupws.nrc.gov/docs/ML1528/ML15287A282.html. The FEIS can be found at http://pbadupws.nrc.gov/docs/ML1528/ML15288A046.pdf.

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

Northwest Compact/State of Utah

Utah Waste Management & Radiation Control Board Holds November and December 2015 Meetings

On November 12, 2015, the Utah Waste Management and Radiation Control Board held a regularly scheduled meeting beginning at 1:30 p.m. MT in Salt Lake City, Utah.

The Board held another regularly scheduled meeting beginning at 1:30 p.m. MT in Salt Lake City, Utah on December 10, 2015.

The meetings, which were open to the public, were held in the Multi Agency State Office Building in Salt Lake City, Utah.

November 2015 Board Meeting

The following items, among others, were on the agenda for the Board meeting that was held on November 12, 2015:

I. Call to Order

II. Introduction of Board Members

III. Election of Board Chairman and Vice-Chairman

IV. Underground Storage Tanks Update

V. Administrative Rules

a. final adoption of proposed rule changes R315-15-18, *Standards for the Management of Used Oil, Polychlorinated Biphenyls (PCBs),* as published in the July 15, 2015 edition of the Utah State Bulletin

VI. Hazardous Waste Section

a. proposed stipulation and consent order between the Board and Emerald Services, Inc.

b. Clean Harbors, Grassy Mountain, LLC request for a site-specific treatment variance to stabilize a high mercury—subcategory inorganic waste stream that has the characteristic waste code D009

VII. Low-Level Radioactive Waste Section

a. Energy*Solutions*, LLC request for a site-specific treatment variance from the hazardous waste management rules (Energy*Solutions* seeks authorization to receive cemented uranium extraction process residues for disposal.)

VIII. Other Business

a. miscellaneous information items

b. schedule of Board meetings

c. December 2015 Board meeting

IX. Adjourn

December 2015 Board Meeting

The following items, among others, were on the agenda for the Board meeting that was held on December 10, 2015:

I. Call to Order

II. Introduction of New Board Members

III. Approval of the Meeting Minutes for the November 12, 2015 Board Meeting *(Board Action Item)*

IV. Underground Storage Tanks Update

V. Administrative Rules

a. approval to proceed with formal rulemaking and 30-day public comment period for proposed changes to Radiation Control Rules, R313-15, R313-19, R313-22, and R313-24 *(Board Action Item)*

VI. Low-Level Radioactive Waste

b. Energy*Solutions*, LLC request for a site-specific treatment variance from the hazardous waste management rules—Energy*Solutions* seeks authorization to receive cemented uranium extraction process residues for disposal *(Board Action Item)*

VII. Director's Report

VIII. Other Business

d. introduction of HEAL—Ashley Ann Soltysiak

e. board training—Renette Anderson, Planning/Leadership Training, DEQ

f. next Board meeting

IX. 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/waste/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.

Southeast Compact

Louis Centofanti Named 2016 Hodes Award Recipient

The Southeast Compact Commission for Low-Level Radioactive Waste Management has selected Louis F. Centofanti, Ph.D., President and Chief Executive Officer of Perma-Fix Environmental Services, Inc. (Perma-Fix), as the recipient of the 2016 Richard S. Hodes, M.D. Honor Lecture Award—a program that recognizes an individual, company, or organization that has contributed in an innovative way to improving the technology, policy, or practices of low-level radioactive waste management in the United States.

In announcing the award recipient, Southeast Compact Commission Executive Director Ted Buckner stated in part as follows:

> Dr. Centofanti is being recognized for his innovative efforts in solving low-level radioactive waste management challenges

in the United States by developing critical new technologies, facilities, and resources for the nuclear industry. His efforts have improved radiation health, safety, and security throughout the nation and provided safe disposition of waste that did not previously have disposal pathways. His creative work clearly exemplifies the spirit and commitment that the Hodes Award is intended to recognize …

The Southeast Compact Commission would like to thank those individuals and organizations that participated in the 2016 awards program. Their involvement has helped to assure the continued success of the Richard S. Hodes, M.D. Honor Lecture Award.

As the award recipient, Dr. Centofanti will present a lecture during the 2016 Waste Management conference in Phoenix, Arizona. The conference is sponsored by WM Symposia and will be held from March 6 - 10, 2016 at the Phoenix Convention Center. A specific time is reserved on Monday (March 7, 2016) for the lecture and the presentation of the award.

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 (UDEQ), 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); and,
- Energy*Solutions* and the UDEQ (2015).

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 recipients are recognized with a special plaque and an invitation to present a lecture about the innovation during the annual international Waste Management Symposium. The 2016 symposium is sponsored by the University of Arizona and will be held in Phoenix, Arizona in the spring of 2016.

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 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?

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

Southwestern Compact/State of California

Civil Penalty Proposed for California Company re Import and Distribution Violations

By press release dated December 17, 2015, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency has proposed a $28,000 fine against CampCo, Inc., Smith & Wesson Watch Division., of Los Angeles, California for various violations of requirements related to importing and distributing watches containing radioactive material.

The NRC found that the company imported watches containing the radioactive isotope tritium and distributed them to individuals and another company in violation of the NRC's import and distribution regulations. Tritium watches are exempt from regulation once they are initially distributed, so retailers and consumers do not need a license to own them; however, the initial distribution must be made under an NRC license to ensure that the devices meet safety requirements.

The watches contain a small amount of tritium encapsulated in glass vials. The radioactive material ionizes a luminescent coating on the inside of the glass vial to produce light, so that the markers on the watch face and hands can be seen in low light.

CampCo holds an NRC exempt distribution license and is authorized to distribute several models of watches containing tritium. However, despite knowing its regulatory requirements, the

company imported and distributed a model for which it was not authorized. The company also violated NRC reporting requirements.

On December 14, 2015, the company was informed of the civil penalty. It has the option to seek mediation under the NRC's alternative dispute resolution program.

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

Texas Compact/State of Texas

Texas Compact Commission Holds November 2015 Meeting

Next Meeting is February 4, 2016

On November 12, 2015, the Texas Low-Level Radioactive Waste Disposal Compact Commission (Texas Compact Commission) held a regularly scheduled meeting. The meeting, which began at 9:30 a.m., was held in Room E1.028 of the Texas Capitol located in Austin, Texas.

The Texas Compact Commission did not meet in December 2015.

November 2015 Meeting

The following is an abbreviated overview of the agenda for the Texas Compact Commission meeting that was held on November 12, 2015. Persons interested in additional detail are directed to the formal agenda themselves.

- call to order;
- roll call and determination of quorum;
- introduction of commissioners, elected officials and press;
- public comment;
- consideration of and possible action on the request by Bionomics for an amendment to an agreement for importation of low-level radioactive waste;
- discussion of and possible action on the limitation of authorization of disposal of curie amounts to ensure maintenance of the curie limit for the Compact Facility as specified in Texas Health and Safety Code (THSC) 401.207(e) including a reduction of curie amounts previously authorized;
- consideration of and possible action on applications and proposed agreements for importation of low-level radioactive waste from Entergy Nuclear Indian Point; Qal-Tek Associates; and Veolia ES Alaron LLC;
- receive reports from Waste Control Specialists LLC (WCS) about recent site operations and any other matter WCS wishes to bring to the attention of the Texas Compact Commission;
- discussion and possible action on the adoption of an amendment or amendments to the Texas Compact Commission's bylaws authorizing the Chair to designate an appropriately qualified individual to finalize transaction with the Comptroller of Public Accounts and changing the amount that must be approved by a majority vote of the Texas Compact Commission for travel reimbursement;
- Chairman's report on Texas Compact Commission activities including reporting on fiscal matters and discussion of potential fiscal and legal issues related to actions that might be taken by the Texas Compact in addressing personnel matters;
- report from Leigh Ing, Consulting Supervisory Director of the Texas Compact Commission, on her activities and questions related to compact commission operations;

- discussion and possible changes of dates and locations of future Texas Compact Commission meetings in 2015 and 2016; and,

- adjourn.

Upcoming Meetings

The January 14, 2016 meeting of the Texas Low-Level Radioactive Waste Disposal Compact Commission (Texas Compact Commission) has been rescheduled and will now be conducted on Thursday—February 4, 2016. The meeting that was previously scheduled for February 25, 2016 has been cancelled.

A listing of future Texas Compact Commission meeting dates can be found at http://www.tllrwdcc.org.

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 Consulting Supervisory Director Leigh Ing at (512) 305-8941 or at leigh.ing@tllrwdcc.org.

Texas Compact/State of Texas

Texas Publishes Proposed Rule re Two-Year Storage Condition for General Licenses

On November 20, 2015, the Texas State Department of Health Services (TSDHS) published proposed rules in the *Texas Register* to 25 Texas Administrative Code (TAC) §289.251 concerning exemptions, general licenses, and general license acknowledgements and 25 TAC §289.252 concerning licensing of radioactive material. Among other things, the proposed rules include a two-year storage condition for General Licenses.

The proposed rules, which primarily contain the agency's planned implementation of the new U.S. Nuclear Regulatory Commission (NRC) revisions to Title 10 Code of Federal Regulations (CFR) Part 37 and Part 40, can be found at http://www.sos.state.tx.us/texreg/archive/November202015/Proposed%20Rules/25.HEALTH%20SERVICES.html#48.

Overview

As proposed, the rule provides, among other things, that:

> *Any person who receives, acquires, possesses, uses, or transfers radioactive material in a device in accordance with the general license ... [may] not hold devices that are not in use for longer than 24 months following the last principal activity use.*

The rule provides exemptions from the two-year storage condition, including the following:

> *(-b-) Devices kept in standby for future use are excluded from the 24-month [two -year] time limit if the agency approves a plan for future use submitted by the licensee. Licensees shall submit plans at least 30 days prior to the end of the 24 months of nonuse.*
>
> *(-c-) The general licensee shall perform [performs] quarterly physical inventories of these devices while they are in standby. The licensee shall make, [and] maintain, and retain for intervals of 5 [five] years, records of the*

quarterly physical inventories for inspection by the agency;

Background

A public meeting on the draft revisions to both §289.251 and §289.252 was held in conjunction with the Texas Radiation Regulatory Conference to accept oral comments on the draft rules. (See *LLW Notes*, September/October 2014, pp. 15-17.)

The meeting—which began at 3:30 pm on Thursday, September 11, 2014—was held at the Double Tree by Hilton at 6505 Interstate Highway 35 North in Austin, Texas. There was no fee for attending the public meeting.

For additional information, please contact Ray Fleming of the Texas State Department of Health Services at (512) 834-6688 ext. 2206 or at ray.fleming@dshs.state.tx.us.

Texas Compact/State of Vermont

Changes Approved re Vermont Yankee Nuclear Plant's Emergency Planning Requirements

On December 10, 2015, the U.S. Nuclear Regulatory Commission announced that the agency has granted Entergy Nuclear Operations Inc.'s request to alter the emergency preparedness plan for the Vermont Yankee Nuclear Power Station in Vernon, Vermont— effective April 15, 2016—to reflect the plant's decommissioning status.

Overview

The changes come in the form of exemptions from certain NRC requirements that may not be appropriate for a plant that has permanently ceased operations. Once the licensee implements the exemptions, state and local governments may rely on comprehensive emergency management ("all hazard") planning for off-site emergency response to events at Vermont Yankee, rather than having a dedicated offsite radiological emergency response plan approved by the Federal Emergency Management Agency (FEMA). As a result, there will not be a 10-mile emergency planning zone identified in Vermont Yankee's license. The plant will maintain an onsite emergency plan and response capabilities, including the continued notification of state government officials of an emergency declaration.

Analyses

Entergy provided analyses to show the exemptions are warranted because when compared to an operating power reactor, the risk of an offsite radiological release is significantly lower and the types of possible accidents significantly fewer at a nuclear power reactor that has permanently ceased operations and removed fuel from the reactor vessel. The NRC staff evaluated and confirmed these analyses. Based on the NRC staff's evaluation and recommendation, the Commission approved the exemptions on March 2, 2015. The exemption package, including a safety evaluation, was issued on December 10, 2015. Under the exemptions, Entergy may not implement the changes to its emergency preparedness plans until April 15, 2016 based on the company's evaluation of applicable accidents.

Background

Vermont Yankee, a single boiling-water reactor, began operations in 1972. It ceased operations on December 29, 2014. All spent fuel has been

permanently moved from the reactor vessels into the spent fuel pools for storage.

The exemptions from certain emergency preparedness requirements are part of several changes to the plant's licensing basis and technical specifications the licensee requested to reflect Vermont Yankee's decommissioning status.

The Commission's approval of the staff's recommendation to grant Entergy Nuclear Operations request for exemptions from certain emergency planning requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50 for the Vermont Yankee Nuclear Power Station as contained in SECY-14-0125 can be found at http://pbadupws.nrc.gov/docs/ML1506/ML15061A516.pdf.

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

State of New York

Public Comment Sought re Draft Supplement to Environmental Study of Indian Point Nuclear Plant License Renewal

On December 22, 2015, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency is seeking public comment on a draft supplement to the Environmental Impact Statement (EIS) on the proposed license renewal of the Indian Point nuclear power plant in Buchanan, New York.

This is the second supplement to the EIS for the Indian Point nuclear power plant. It incorporates information obtained by the NRC staff since the first supplement was published in June 2013.

Overview

The supplement includes the staff's evaluation of revised cost estimates for severe accident mitigation alternatives, new information on the plant's impact on aquatic life in the Hudson River, and other environmental issues. It also incorporates findings of the NRC's Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel, published in September 2014. Finally, the supplement describes new consultations under the Endangered Species Act regarding the northern long-eared bat and provides an update on the status of the operating licenses of Indian Point units 2 and 3.

Comments

Comments may be submitted over the federal government's rulemaking website, www.regulations.gov, using Docket ID NRC-2008-0672. They may also be submitted by mail to:

Cindy Bladey
Office of Administration
Mail Stop OWFN-12-H08
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

The comment period will begin upon publication of a *Federal Register* notice by the U.S. Environmental Protection Agency (EPA), which is expected in early January 2016, and will end on March 4, 2016.

Background

Indian Point Nuclear Generating Units 2 and 3 are two pressurized-water reactors located about 24 miles north of New York City. Entergy Nuclear Operations Inc. submitted its license renewal application in April 2007. The NRC staff issued its final EIS in December 2010.

The draft supplement is Volume 5 of Supplement 38 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants.

The draft supplement and other documents related to the Indian Point license renewal are available on the NRC web site at http://www.nrc.gov/reactors/operating/licensing/renewal/applications/indian-point.html.

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

EnergySolutions and Waste Control Specialists LLC

Energy*Solutions'* Parent Company to Acquire Waste Control Specialists

Announces Sale of Project, Products and Technology Division

On November 19, 2015, in separate press releases, it was announced that Rockwell Holdco, Inc. (Rockwell) has signed a definitive agreement to acquire Waste Control Specialists LLC (WCS)—a wholly owned subsidiary of Valhi, Inc. and operator of a low-level radioactive waste disposal facility located in Andrews County, Texas. Rockwell is the parent company of Energy*Solutions*—which operates low-level radioactive waste disposal facilities in Tooele County, Utah and Barnwell, South Carolina. Rockwell is owned by Energy Capital Partners, a private equity firm focused on investing in North America's energy infrastructure.

On November 17, 2015, just two days prior to announcing the WCS acquisition, Energy*Solutions* announced that the company has signed a definitive agreement for the sale of its Projects, Products and Technology (PP&T) business to WS Atkins plc—a United Kingdom listed design, engineering and project management consultancy company with operations around the world.

Acquisition of Waste Control Specialists

According to the companies' press releases, upon closing, Rockwell will pay $270 million in cash and $20 million face amount in Series A Preferred Stock. In addition, Rockwell will assume approximately $77 million of WCS debt, as well as all financial assurance obligations related to the WCS business.

The Valhi Board of Directors and the Rockwell Board of Directors have approved the purchase agreement. Completion of the sale, which is expected to close in the first half of 2016, is subject to certain customary closing conditions as outlined in the transaction agreement. Until completion of the sale, Energy*Solutions* and WCS will continue to operate as independent companies.

"Combining our capabilities will bring improved operational efficiencies and allow us to deliver a safe and seamless supply chain that better serves the needs of commercial and government customers," said David Lockwood, President and Chief Executive Officer of Energy*Solutions*. "In addition to the ongoing utilization of all the acquired assets, we intend to continue to seek expansion opportunities in the nuclear services area."

"The sale of Waste Control Specialists to Rockwell will expand the range of services available to its customers, while providing Valhi the opportunity to deploy the cash proceeds from the sale to take advantage of growth opportunities in its remaining businesses," said Steven Watson, Chair of the Board and Chief Executive Officer of Valhi. "The continuing equity interest in Rockwell, the parent company of the combined businesses, will allow Valhi to participate in the benefits of the combination."

Sale of Energy*Solutions'* Project, Products and Technology Division

According to Energy*Solutions'* press release, Atkins will pay $318 million for the PP&T business, which is comprised of Energy*Solutions'* North American government, Europe, and Asia businesses. Atkins will hire approximately 650 Energy*Solutions'* employees pursuant to the agreement. EnergySolutions will retain its logistics, processing and disposal (LP&D) business, its reactor decommissioning business (including current projects at Zion, Illinois and LaCrosse, Wisconsin), and its North American utility services (including liquid waste processing, fuel pool services, and other commercial projects). The transaction is subject to customary regulatory approvals and is expected to close in first quarter of 2016.

"This transaction positions Energy*Solutions* to better serve the North American utilities market and pursue the growth opportunities in the decommissioning marketplace," said Lockwood. "Focusing on transportation, logistics, processing and disposal enables Energy*Solutions* to better meet the waste disposition needs for the U.S. Department of Energy, U.S. Navy and commercial nuclear facilities."

Background

Energy*Solutions* offers customers a full range of integrated services and solutions, including nuclear operations, characterization, decommissioning, decontamination, site closure, transportation, nuclear materials management, processing, recycling, and disposition of nuclear waste, and research and engineering services across the nuclear fuel cycle.

WCS operates a West Texas facility for the processing, treatment, storage and disposal of a broad range of low-level radioactive and hazardous wastes.

For additional information about EnergySolutions, please contact Dan Shrum at (801) 649-2000 or at dshrum@energysolutions.com or go to the company's web site at www.energysolutions.com.

For additional information about WCS, please contact Rodney Baltzer at (972) 450-4235 or at rbaltzer@valhi.net or visit the company's web site at www.valhi.net.

For additional information about the acquisition, please contact Mark Walker at mwalker@energysolutions.com or at (801) 231-9194.

EnergySolutions

Energy*Solutions* to Host 2016 Customer Conference

Salt Lake City, Utah from January 13-15, 2016

From January 13-15, 2016, Energy*Solutions* will host their 2016 Annual Conference for Nuclear Industry Professionals in Salt Lake City, Utah.

The customer conference will be held at the Grand America Hotel and will include a tour of the Clive low-level radioactive waste disposal facility, as well as waste acceptance training and industry panel sessions.

The following is an overview of the preliminary agenda for the conference:

Wednesday—January 13, 2016

1:00 p.m.	Clive/Energy*Solutions* Capabilities Tour
1:00 p.m.	Registration Open – Grand America
6:00 p.m.	Opening Reception – Grand America (Ken Robuck: Welcome)

Thursday—January 14, 2016

7:00 a.m.	*Breakfast – Grand America*
8:15 a.m.	Conference begins – Instruction
8:20 a.m.	Safety Message (Jeff Willman, Director of Safety, Energy*Solutions*)
8:25 a.m.	Energy*Solutions* update (David Lockwood, President and CEO)
8:40 a.m.	Keynote Speaker (Duncan Hawthorne, CEO of Bruce Power, Ontario, Canada)
9:15 a.m.	Video – "Energy*Solution*s Serving the Nuclear Industry"
9:25 a.m.	State of Zion (John Sauger – Zion Decommissioning Project)
10:00 a.m.	Decommissioning Discussion (Paul Paradise, Decommissioning Director, Vermont Yankee; *two additional speakers, to be determined*)
11:00 a.m.	*Break*
11:15 a.m.	Transportation and Logistics panel discussion (Scott Dempsey, Energy*Solutions* update; Mark Lewis, Energy*Solutions*; Donald Wink, Newmont Mining; Mark Ross, Exelon; and, Rob Despain, Petersen Inc.)
12:00 p.m.	Lunch – Behind the scenes of the NFL (Brian Kehl, New York Giants, Linebacker; Scott Mitchell, Detroit Lions, All-Pro Quarterback)
1:30 p.m.	U.S. Department of Energy (DOE) Upcoming Initiatives & Challenges (Frank Marcinowski, Speaker & Panel Moderator)

<u>Panel Discussion</u>

- DOE Waste Disposition Update (Christine Gelles, DOE)
- NRC Decommissioning Rulemaking Update (Scott Morris, Director of the Division of Inspection Regulatory Support)

- Dean Lobdell, Portsmouth
- Con Murphy, Paducah

2:45 p.m. *Break*

3:15 p.m. Utility Panel Discussion –

Panel Discussion

- Ray Newmaster (Peach Bottom OSD Project)
- Brian Wood (Tennessee Valley Authority)
- Jack Storton (BWXT)

4:30 p.m. Conference Wrap–Up

4:35 p.m. Break/Prep for Game

5:15 p.m. Bus to Arena

5:30 p.m. Dinner at Arena

7:00 p.m. Jazz vs Kings

9:30 p.m. Bus to Hotel

Friday—January 15, 2016

7:00 a.m. Breakfast

8:00 a.m. Waste Acceptance Criteria (WAC) Training

- Online Customer Portal Enhancements
- WAC and Licensing Updates
- Regulatory Updates
- U.S. Nuclear Regulatory Commission (NRC) Branch Technical Position on Concentration Averaging
- Lessons Learned

The WAC training will provide continuing education credits as accredited by the American Academy of Health Physics.

Interested stakeholders may register for the conference at http://www.energysolutions.com/2016-customer-conference/.

Updated information on hotel reservation availability may be obtained at https://bookings.ihotelier.com/bookings.jsp?groupID=1500629&hotelID=4650.

Nuclear Waste Management Forum

14th Annual Nuclear Waste Management Forum Concludes

The 14th Annual Nuclear Waste Management Forum was held at the Gaylord Opryland Resort & Convention Center in Nashville, Tennessee from November 30, 2015 through December 3, 2015.

An updated agenda for the conference can be found at http://www.perma-fix.com/conference2015/agenda.pdf.

Agenda

The following is an overview of some of the topics included on the agenda for the 14th Nuclear Waste Management Forum:

- key note address including U.S. Department of Energy (DOE) Environmental Management (EM) mission for fiscal year 2016; Oak Ridge reservation clean-up progress; and, Pennsylvania oil and gas technologically enhanced naturally occurring radioactive material (TENORM) study—potential regulatory impacts;

- DOE's high-level radioactive waste program including DOE's investment in tank waste clean-up; Savannah River salt waste

processing facility construction and start-up; tank waste management at Hanford and Savannah River; and, Idaho sodium bearing waste processing;

- lunch break—refining the EM acquisition process for the next wave of DOE procurements;

- DOE project updates including clean-up progress at Hanford's central plateau; decommissioning at ETTP—progress to date; Waste Isolation Pilot Plant (WIPP) facility recovery and resumptions of operations; deactivation of Paducah gaseous diffusion plant; West Valley decommissioning and construction of a high-level radioactive waste storage facility; and, Portsmouth decommissioning update and disposition of high gram wastes;

- DOE project updates continued including Los Alamos waste management program update; completion of the transuranic waste (TRU) mission at the Savannah River Site; DOE Nevada Nuclear Security Site (NNSS) radioactive waste acceptance program activities and process improvements; and, importance of waste treatment facility to meet customer clean-up missions;

- 2016 changes to International Air Transport Association (IATA) regulatory changes;

- forum overview including Perma-Fix Nuclear Services update; domestic medical isotope research, development and production; and, FUSRAP program update;

- clean-up project updates including decommissioning navel vessels; Lawrence Berkeley National Laboratory, Old Town Building 5 D&D; alternate radiological segregation of a clean-up of a commercial brownfield site; Hematitite Nuclear Fuel Fabrication remediation project update; and, regulatory changes surrounding oil and gas exploration in West Virginia;

- lunch break—SBA mentor/protégé relationships, how they benefit both parties and the government;

- international clean-up programs including nuclear waste management in Canada; radioactive waste management in Italy; radioactive waste management in the United Kingdom; and, spent fuel and irradiated material packaging systems;

- commercial project updates including lab packing project for commercial mixed wastes; USEC tank decommissioning project; use of advanced survey and mapping capabilities for site characterization; closing remarks; and,

- U.S. Department of Transportation (DOT) HM250 regulatory change.

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

Attendance

Nuclear industry leaders that focus on the area of radioactive waste management attend the event, which is hosted by Perma-Fix Environmental Services. Attendees learn information about the latest technologies and applications for radioactive waste management, share lessons learned that improve safety and efficiency for their projects, and network with experts from a variety of U.S. and international waste generator sites.

For additional information, please contact Autumn Bogus of Perma-Fix Environmental Services at abogus@perma-fix.com or at (865) 251-2088.

Holtec International

Holtec Launches Team to Decommission Nuclear Power Plants

By press release dated November 30, 2015, Holtec International announced the launching of Team Holtec, LLC—a wholly owned subsidiary of Holtec International that will be "tasked with carrying out the decommissioning and dismantlement of shutdown nuclear plants by deploying the best technologies developed and honed by an elite group of North America's top nuclear contractors."

According to the press release, Team Holtec is working with the following nuclear companies:

- Atkins with Faithful and Gould;
- Beckman & Associates, Inc.;
- Black & Veatch;
- CN Associates;
- DP Engineering Ltd. Co.;
- High Bridge Associates, Inc.;
- GE Hitachi Nuclear Energy;
- Holtec International;
- Manafort Brothers, Inc.;
- Northwest Demolition & Dismantling;
- Radiation Safety & Control Services;
- Sarens Group;
- Sargent & Lundy;
- Saulsbury Industries;
- Canada's SNC-Lavalin;
- UTC-Edlow Nuclear Logistics, Inc.; and,
- Wachs Services.

Holtec states that additional members from Europe and Asia may be admitted as Team Holtec enters the overseas markets. Holtec Senior Vice President, Pierre Oneid, has been named the Executive-in-Charge of Team Holtec.

"Holtec's President and CEO, Dr. Kris Singh, calls *Team Holtec* an indispensable part of the Company's strategy to execute expeditious decommissioning of shut-down plants made possible by Holtec's ultra-safe HI-STORM UMAX system that allows for fuel to be quickly off-loaded from the idled plant's fuel pool and placed into dry storage with as little as three years of cooling in the pool," states the Holtec press release. "The HI-STORM UMAX system offers the additional benefits of high seismic robustness and complete compatibility with Holtec's Consolidated Interim Storage Facility under development in New Mexico."

In addition, Holtec continues to pursue an ongoing project to establish a Consolidated Interim Storage Facility in New Mexico with its Eddy Lea Energy Alliance, LLC (ELEA) partners. "This will enable the used nuclear fuel to be removed from the decommissioning sites and relocated to a planned-to-be constructed underground storage facility in southeast New Mexico's high desert," states Holtec's press release. "Upon an expedited completion of the decommissioning project and re-location of used fuel, former sites of nuclear reactors will be returned to green field."

For additional information, please contact Caitlin Marmion, Marketing and Communications Specialist for Holtec, at (856) 797-0900 ext. 3991 or at c.marmion@holtec.com.

Advisory Committee on Reactor Safeguards (ACRS)

ACRS Elects 2016 Leadership, Confirms Meeting Schedule

By press release dated December 17, 2015, the U.S. Nuclear Regulatory Commission (NRC) Advisory Committee on Reactor Safeguards (ACRS) announced that it has elected Dennis Bley as Chair, Michael Corradini as Vice-Chair and Peter Riccardella as Member-at-Large.

The ACRS, a group of experienced technical experts, advises the Commission—independently from the NRC staff—on safety issues related to the licensing and operation of nuclear power plants, as well as on issues of health physics and radiation protection.

The complete listing of the ACRS membership and their bios can be found at http://www.nrc.gov/about-nrc/regulatory/advisory/acrs/membership.html.

The confirmed ACRS 2016 full-committee meeting schedule is available on the NRC web site at http://www.nrc.gov/reading-rm/doc-collections/acrs/agenda/2016/.

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

(Continued from page 1)

of the waste or its weight if the units are expressed as nanocuries per gram. The average radionuclide concentrations are compared with the waste classification tables in 10 CFR 61.55 to determine the class of the waste. The waste class determines the minimum safety measures to be applied in order to provide reasonable assurance of safe disposal of the waste.

The previous version of the CA BTP, published in 1995 (ADAMS Accession No. ML033630732), was issued before the NRC adopted its risk-informed and performance-based regulatory policy. Revision 1 of the CA BTP, which has been informed by that policy, contains new guidance related to blending of low-level radioactive waste, as directed by the Commission in its Staff Requirements Memorandum for SECY–10–0043, ‘‘Blending of Low-Level Radioactive Waste,’’ (ADAMS Accession No. ML102861764).

The major changes in Revision 1 of the CA BTP include, among other things, the following:

- an increase in the limits for disposal of cesium-137 (Cs-137) sealed sources from 1.1 TBq (30 Ci) to 4.8 TBq (130 Ci), based on new, more risk-informed analysis;

- specification of certain thresholds on radionuclide concentrations of waste streams that are blended together, based on a probabilistic dose assessment, above which licensees should demonstrate that the waste is adequately blended;

- the addition of specific guidance for licensees to use in proposing site- or waste-specific averaging approaches, rather than the generic approaches specified in the body of the CA BTP, consistent with NRC’s performance-based regulatory policy;

- application of a more risk-informed position to allow for the treatment of cartridge filters as blendable waste, with a documented justification; and,

- a tying of the averaging factors for discrete items to the class limit for radionuclide concentrations (not the average of the mixture), which has a relationship to risk because the class limits are based on a dose of 5 mSv/yr (500 mrem/yr) exposure to an inadvertent intruder, as well as revision of the Factor of 1.5 to 2, since the uncertainty associated with intruder protection does not justify the precision implied by the first factor.

A more complete list of changes can be found in Appendix B of Volume 1 of Revision 1 of the CA BTP. In addition, NRC staff responses to individual public comments are contained in Section 3 of Volume 2 of Revision 1 of the CA BTP. Finally, a summary of the changes to the May 2012 version published for public comment is available in ADAMS Accession No. ML14157A227.

Implementation of the Revised CA BTP

Revision 1 of the CA BTP describes and makes available to NRC and Agreement State licensees, Agreement States, and the public, methods that the NRC believes are acceptable for implementing specific parts of the Commission's regulations. The positions in Revision 1 of the CA BTP are not intended as a substitute for regulations, and compliance with them is not required. Agreement States may use this information in establishing waste acceptance criteria for their licensees who are operating waste disposal sites. Applicants and licensees may use the information in Revision 1 of the CA BTP when developing applications for initial licenses, amendments to licenses, or requests for NRC regulatory approval. Licensees may use the information in Revision 1 of the CA BTP for actions (*i.e.,* in determining average radionuclide concentrations in waste) that do not require prior NRC review and approval. Licensees may also use the information in Revision 1 of the CA BTP to assist in attempting to resolve regulatory or inspection issues. Agreement States and current licensees may continue to use the previous guidance for complying with the concentration averaging provision in 10 CFR 61.55(a)(8) (*i.e.*, the January 23, 1995, ''Final Branch Technical Position on Concentration Averaging and Encapsulation''). Current licensees may also voluntarily use positions in Revision 1 of the CA BTP.

In addition to the guidance in Revision 1 of the CA BTP, licensees that ship waste for disposal in a 10 CFR Part 61 or Agreement State equivalent facility should ensure that the waste meets the concentration averaging provisions in the land disposal facility license. Where there are conflicts with this guidance, the land disposal facility license conditions issued by the regulatory authority (*i.e.*, the Agreement State) must be met.

Implementation Questions and Answers

The document released by NRC on October 30, 2015 provides the following 11 questions and answers related to implementation of Revision 1 of the CA BTP:

1. Is there a significant difference between the guidance in Revision 1 of the Concentration Averaging Branch Technical Position (CA BTP) on when to apply the Factor of 2, which replaced the 1995 CA BTP Factor of 1.5, and the 1995 CA BTP guidance on when to apply the Factor of 1.5?

The 1995 CA BTP guidance for activated metals, components incorporating radioactivity in their design, contaminated materials, and cartridge filters stated that the Factor of 1.5 should be applied to primary gamma emitting radionuclides when the primary gamma-emitting radionuclides "dictate the classification of the waste." Similarly, for these waste

types, Revision 1 of the CA BTP states that the Factor of 2 should be applied to primary gamma- emitting radionuclides, "[i]f the primary gamma-emitting radionuclides are classification-controlling." Revision 1 also states the Factor of 2 should be applied to sealed sources that are not encapsulated. In addition, the 1995 BTP stated that the Factor of 1.5 should be applied to cartridge filters in all cases, whereas Revision 1 only applies the Factor of 2 to cartridge filters when they are treated as discrete items instead of blendable waste.

Revision 1 of the CA BTP provides a step-by-step process to determine whether the primary gamma-emitting radionuclides are classification-controlling, based on the process for determining waste classification in 10 CFR 61.55. The U.S. Nuclear Regulatory Commission (NRC) staff finds no significant difference between the phrases "dictate the classification of the waste" and "classification-controlling." However, some stakeholders have noted that the step-by-step process outlined in Revision 1 of the CA BTP may be slightly different from common practice in determining when primary gamma-emitting radionuclides dictate the classification of the waste.

2. There is a provision in both the 1995 BTP and the revised BTP that if a container is at least 90 percent full, the nominal internal volume of the container can be used for averaging. This provision is included in Section 3.2.1, "Concentration Averaging for a Single Blendable Waste Stream," of Revision 1 of the CA BTP, but is not repeated in Section 3.2.2, "Concentration Averaging for Multiple Blendable Waste Streams." Does the provision apply to waste discussed in Section 3.2.2?

Section 3.2.1 of Revision 1 of the CA BTP addresses concentration averaging for a single blendable waste stream. There are three topics addressed in Section 3.2.1 including: (1) using the nominal fill volume for containers filled to at least 90 percent; (2) the averaging volume for absorbed liquids; and, (3) the treatment of small check sources. For efficiency, these provisions were not repeated in Section 3.2.2, "Concentration Averaging for Multiple Blendable Waste Streams." However, each of these three provisions also is applicable to blended waste (i.e., mixtures of two or more blendable waste streams) if the additional constraints in Section 3.2.2 are met. Similarly, each of these three provisions are applicable to mixtures of multiple blendable waste types if the constraints of both Sections 3.2.2 and 3.4 are met.

3. Section 3.4 of Revision 1 of the CA BTP addresses mixtures of two or more different waste types. However, for blendable waste, it only discusses physical and chemical compatibility of the waste types, it does not provide averaging constraints. What are the averaging constraints for mixtures of two or more blendable waste types?

Section 3.2.2 of Revision 1 of the CA BTP addresses blending of different waste streams within the same waste type. The phrases "of the same waste type" or "of a single waste type" were used in several places in Section 3.2.2 because additional constraints are recommended for blending waste streams of different waste types in Section 3.4 of the guidance. The guidance on blendable waste in Section 3.4 applies in addition to the guidance in Section

3.2.2. For efficiency and clarity, the guidance in Section 3.2.2 was not repeated in Section 3.4; however, the guidance in Section 3.2.2 is applicable to blending waste streams of different waste types, provided the additional constraints in Section 3.4 are met.

4. If a generator pours resin into a HIC containing cartridge filters, and the cartridge filters are justified as being treated as blendable waste, does the operational efficiency clause apply?

Cartridge filters and resins are different waste types, even if the cartridge filters are justified as being treated as blendable waste. Therefore, as discussed in response to Question #3, the guidance in Section 3.2.2 and Section 3.4 is applicable to such a case. The generator determines if combining the waste types was done for operational efficiency, occupational safety, or occupational dose reduction. The NRC staff encourages licensees to communicate with disposal site State regulators on acceptable averaging practices; however, because this language in the 2015 CA BTP is very similar to language in the 1995 CA BTP, this provision should not result in a significant change in current practice. Because the resins and cartridge filters are different waste types, at least one of which is blendable, the licensee should document the physical and chemical compatibility of the waste types and make the documentation available for inspection.

5. Given that Revision 1 of the CA BTP relies on the Uniform Waste Manifest (UWM) to identify waste types, can anion and cation exchange resins be considered a single waste type even though they are listed on the UWM separately?

Yes. Anion and cation resins need not be treated as separate waste types for the purposes of the CA BTP. Anion and cation resin are considered a single waste type for the purposes of the CA BTP just as primary and secondary resins are considered a single waste type (but still different waste streams). Similarly, for the purposes of the CA BTP, a bed of mixed ion exchange media is considered a single waste type (even when charcoal is a constituent of the mixed bed). Staff will look into further clarifying the UWM, which is currently undergoing revision.

6. Revision 1 of the CA BTP provides guidance for single blendable waste streams, mixtures of two or more blendable waste streams of the same waste type, and mixtures of two or more blendable waste streams from different waste types. What guidance applies to single waste streams from multiple waste types?

As defined in the CA BTP, a waste type has a "unique physical description" and a waste stream has both "relatively uniform radiological and physical characteristics." Under the CA BTP, waste streams are subsets of waste types. That is, a waste type could contain separate waste streams, but a single waste stream would not include more than one waste type. Stakeholders have noted that there appears to be a different standard for physical uniformity applied to waste types as compared to waste streams, noting "a unique physical description" could be interpreted to be a more stringent standard than "relatively uniform" physical characteristics. Under the CA BTP, there is no distinction between these two phases. The term "unique physical description" was used for consistency with the definition of waste type in

10 CFR Part 20. For the purposes of the CA BTP, waste types are not more physically uniform than waste streams.

Other stakeholders asked specifically if mixed-bed resins represented a single waste stream that contains more than one waste type. For the purposes of the CA BTP, the purpose of distinguishing blendable waste types from one another is to determine when physical and chemical compatibility should be documented. In this case, because the different physical materials in a mixed bed resin are used in contact with one another, the physical and chemical compatibility are generally apparent, and the mixed bed resin can generally be treated as a single waste type for the purposes of the CA BTP.

7. If a waste container is approximately 80 percent full, it is common practice to add nonradioactive material so that it reaches 85 percent full, which is a waste acceptance criterion (WAC) at Barnwell. What happens if nonradioactive material is added to make the container 90 percent full? Can averaging then be used over the entire internal volume? Guidance in Revision 1 of the CA BTP says that added material should have a purpose other than lowering the classification. However, adding material to meet a WAC of 85 percent could be considered "necessary," and adding more nonradioactive material would make the waste package more stable (i.e., less void space), and would therefore have a purpose other than lowering the classification.

In general, it is not clear why licensees would add nonradioactive materials to containers to achieve an 85 percent - 90 percent fill volume when they could add radioactive material, which would likewise reduce void space. However, staff does not believe an increase of 5 percent constitutes an extreme measure; therefore, averaging could be used over the entire internal volume.

8. In the encapsulation guidance (Section 3.3.4), the CA BTP specifies that containers "up to" 9.5 m3 may be used. Did staff mean to state "up to and including" 9.5 m3?

Yes, as found in the CA BTP, staff interprets "up to" to mean the same as "up to and including."

9. If a generator has two partially filled waste containers, and combines them to fill void space and reduce the number of containers for disposal, is that "operational efficiency?"

In general, yes, this would be considered operational efficiency for the purposes of the CA BTP.

10. What does staff interpret as "extreme measures" to avoid when performing solidification, encapsulation, or thermal processing?

The term "extreme measures" is used in the 1995 BTP. As in the 1995 CA BTP, the staff interprets the phrase to mean that any non-radioactive material added to the waste should have a purpose other than lowering the waste classification (e.g., stabilization or thermal process control). Revision 1 of the CA BTP does not change the meaning of the term "extreme measures." As in the 1995 CA BTP, the staff has not specif[ied] any particular numerical constraints, and instead has chosen to allow state regulators flexibility in their determination of what constitutes "extreme measures."

11. Absent a specific numerical standard for "extreme measures," can the 14

percent waste loading criterion used for encapsulation in containers larger than 0.2 m3 also be used for solidification and thermal processing?

The 14 percent waste loading value used in the encapsulation guidance is based on a topical report for an encapsulation process submitted to NRC and is not necessarily transferrable to solidification or thermal processing. The key factor in determining whether or not a particular waste loading would be appropriate for another process is to determine whether the material added has a purpose other than changing the waste classification. If a particular waste loading is the highest waste loading that allows for a solidified waste form to have the necessary properties to meet stability requirements (or other waste acceptance criteria), that waste loading would generally not be considered an extreme measure. Similarly for thermal processing, if the material added is needed for process control or to control some property of the final waste form, it would generally not be considered an extreme measure. The NRC staff encourages communication with disposal State regulators on these issues.

(citations omitted)

Background

To provide protection for individuals who inadvertently intrude into a waste disposal facility, radioactive waste proposed for near-surface disposal must be classified based on its hazard to the intruder. The NRC's regulation, ''Licensing Requirements for Land Disposal of Radioactive Waste,'' 10 CFR Part 61, establishes a waste classification system based on the concentration of specific radionuclides contained in the waste. This system is one of the key components in ensuring protection of an inadvertent intruder. In determining these concentrations, the regulation states in 10 CFR 61.55(a)(8), that radionuclide concentrations can be averaged over the volume of the waste or its weight if the units are expressed as nanocuries per gram.

1983 Technical Position and 1995 CA BTP
Although 10 CFR Part 61 acknowledges that concentration averaging for the purposes of classifying waste for disposal is acceptable, it does not specify limitations on the implementation of concentration averaging. The staff published a technical position on radioactive waste classification, initially developed in May 1983 (ADAMS Accession No. ML033630755), that provided guidance on concentration averaging. This 1983 technical position describes overall procedures acceptable to NRC staff that could be used by licensees to determine the presence and concentrations of the radionuclides listed in 10 CFR 61.55, and thereby classify waste for near-surface disposal. Section C.3 of the 1983 technical position provided guidance on averaging of radionuclide concentrations for the purpose of classifying the waste.

In 1995, the NRC staff updated a portion of the 1983 technical position, publishing as a separate document the ''Branch Technical Position on Concentration Averaging and Encapsulation,'' (60 *Federal Register* 4451, January 23, 1995). The 1995 CA BTP significantly expanded and further defined Section C.3 of the 1983 technical position dealing with concentration averaging, specifying a number of constraints on concentration averaging.

Significant Changes Necessitating Revision The 2015 update to the CA BTP was necessitated by the significant number of changes in the low-level radioactive waste program since the CA BTP was published in 1995. First, the Commission reviewed the 1995 CA BTP's position on blending of low-level radioactive waste in 2010 and directed the staff to revise it to be more risk-informed and performance-based. The 1995 version constrained the concentration of certain waste types put into a mixture (*e.g.*, ion exchange resins) to within a

factor of 10 of the average concentration of the final mixture. The Commission directed the staff to replace this position and to implement a risk-informed, performance-based approach for low-level radioactive waste blending that made the hazard (*i.e.*, the radioactivity concentration) of the final mixture the primary consideration for averaging constraints. Second, the NRC adopted a risk-informed, performance-based regulatory approach for its programs in the late 1990's, after the 1995 CA BTP was published. Revision 1 of the CA BTP more fully reflects that approach, not just for the blending position, but for other topics as well. One example is for concentration averaging of sealed radioactive sources.

The 1995 CA BTP significantly constrained disposal of sealed sources. Many sources have no disposal path because of the constraints recommended in the 1995 BTP. Licensees must store sealed sources for potentially long periods of time if there is no disposal option, and the sources are subject to loss or abandonment. The staff has re-examined the 1995 assumptions underlying the radioactivity constraints on their disposal. The CA BTP's revised positions are based on different but conservative assumptions and will allow for the safe disposal of more sealed sources than the 1995 CA BTP. The revised position will enhance national security by ensuring that the safest and most secure method for managing sealed sources (*i.e.*, permanent disposal in a licensed facility) is available to licensees.

Opportunities for and Response to Public Comments Revision 1 of the CA BTP was developed after consideration of public comments on three drafts. The first draft (ADAMS Accession No. ML103430088) was noticed in the *Federal Register* on January 26, 2011 (76 FR 4739). The second draft (ADAMS Accession No. ML112061191) was made available to the public in September 2011—in advance of a public workshop held in Albuquerque, New Mexico—on October 20, 2011. The third draft (ADAMS Accession No. ML121170418) was noticed in the *Federal Register* for public comment on June 11, 2012, (77 *Federal Register* 34411).

Fifteen organizations representing a variety of interests submitted comments on the drafts. They included federal and state agencies and organizations, a nuclear power plant research organization, disposal and waste processing facility licensees, industry professional organizations, an advocacy group, and a waste services company. The NRC staff considered these comments in developing Revision 1 of the CA BTP. An overview of the changes to the 1995 CA BTP is presented in the *Federal Register* notice dated February 25, 2015. Detailed responses to each of the public comments are available in Volume 2 of Revision 1 of the CA BTP.

For additional information, please contact Maurice Heath of the NRC's Office of Nuclear Material Safety and Safeguards (NMSS) at (301) 415-3137 or at Maurice.Heath@nrc.gov. Please refer to Docket ID NRC–2011–0022.

NRC Issues RIS 2015-15 re Specific Exemption in Requirements for Physical Protection of Category 1 and 2 Quantities of Radioactive Material

On December 4, 2015, the U.S. Nuclear Regulatory Commission issued Regulatory Issue Summary (RIS) 2015-15 to provide information regarding the guidance in NUREG-2155, Rev. 1, Implementation Guidance for 10 CFR Part 37, *Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material*, and in the questions and answers concerning the application of 10 CFR Part 37 to licensees with 10 CFR Part 73 security plans.

In particular, 10 CFR 37.11(b) states that "[a]ny licensee's NRC-licensed activities are exempt from the requirements of subparts B and C of this part to the extent that its activities are included in a security plan required by part 73 of this chapter." NRC issued RIS 2015-15 to provide information on the activities that should be included within the licensee's security plan relative to this specific exemption from the requirements of subparts B and C of 10 CFR Part 37.

RIS 2015-15 does not require any specific action or written response. Instead, the NRC is providing RIS 2015-15 to the Agreement States for their information and for distribution to their licensees, as appropriate.

Additional information may be found on NRC's public website at http://www.nrc.gov/security/byproduct/10-cfr-part-37.html.

Overview

Generally, if Category 1 or Category 2 quantities of radioactive material are located within a protected area (PA), as defined by 10 CFR Part 73, of a facility—such as a power reactor, Category I spent nuclear materials (SNM) facility, or an independent spent fuel storage installation—existing physical protection measures within a PA required by 10 CFR Part 73 are expected to provide a level of protection equivalent with the requirements of 10 CFR Part 37. In order to demonstrate that their 10 CFR Part 73 security plan or their 10 CFR Part 37 security plan adequately protects Category 1 or Category 2 quantities of radioactive material located within a PA from theft or diversion, NRC states in RIS 2015-15 that licensees' security plan(s) and/or procedures should, at a minimum, describe the following:

- the existing physical protection measures that will be used to ensure Category 1 and Category 2 quantities of radioactive material will be protected from theft and diversion;
- the process used for maintaining accountability of Category 1 and Category 2 quantities of radioactive material and the location of the material; and,
- the training that will be provided to individuals who are responsible for protecting Category 1 and Category 2 quantities of radioactive material.

In RIS 2015-15, NRC states that if Category 1 and Category 2 quantities of radioactive material are not located inside of a PA, but are located in other areas of a facility covered under a 10 CFR Part 73 security plan (e.g., outside of a PA), the existing physical protection measures provided in these areas may not provide a level of protection for Category 1 or Category 2 quantities of radioactive material that is equivalent with the requirements of 10 CFR Part 37. As an example, NRC notes that these areas may not provide continuous monitoring and the ability to detect without delay

all unauthorized entries into the area (i.e., security zone) where Category 1 and Category 2 quantities of radioactive material are stored. Therefore, for areas not within a PA, NRC requires that the 10 CFR Part 73 or 10 CFR Part 37 security plan must—as discussed in the questions and answers associated with 10 CFR Part 37 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13282A701)—either meet the 10 CFR Part 37 security requirements or, pursuant to 10 CFR 37.11(b), describe how the 10 CFR Part 73 security program provides a level of protection for Category 1 and Category 2 quantities of radioactive material that is equivalent with the requirements of 10 CFR Part 37, subparts B and C.

RIS 2015-15 points out that power reactor licensees should be aware that the NRC developed an enforcement guidance memorandum (EGM), EGM-14-001 (ADAMS Accession No. ML14056A151), which provides guidance to NRC staff on how to disposition potential violations associated with 10 CFR Part 37 requirements with respect to large components and robust structures containing Category 1 and Category 2 quantities of radioactive material or waste. This EGM authorizes the NRC staff to exercise enforcement discretion and not cite potential violations associated with protection of this material if certain conditions, described in the EGM, are met. RIS 2015-15 states that power reactor licensees that store large components and/or utilize robust structures containing Category 1 or Category 2 quantities of radioactive material or waste should review this EGM and ensure that they meet the conditions of the EGM.

In addition, NRC notes that licensees should also be aware that the requirements in 10 CFR 37.11 (b) do not exempt them from complying with the requirements of 10 CFR Part 37 Subpart D, "Physical Protection in Transit." Accordingly, RIS 2015-15 states that licensees with an NRC-approved 10 CFR Part 73 security plan can choose to protect Category 1 and Category 2 quantities of radioactive material from theft or diversion by using their 10 CFR Part 73 security plan, a separate 10 CFR Part 37 security plan, or use both their 10 CFR Part 73 security plan and a separate 10 CFR Part 37 security plan.

Background

In a final rule published in the *Federal Register* on March 19, 2013 (78 *Federal Register* 16921), the NRC added a new 10 CFR Part 37 to its regulations and made conforming changes to other parts of NRC regulations regarding physical protection of radioactive materials. The new regulation, which NRC licensees were required to be in compliance with by March 19, 2014, establishes physical security requirements for the possession and use of Category 1 and Category 2 quantities of radioactive material. Power reactor licensees and other licensees who operate under a security plan required by 10 CFR Part 73 and who possess Category 1 or Category 2 quantities of radioactive material are subject to 10 CFR Part 37 requirements, in addition to existing physical security requirements for special nuclear material in 10 CFR Part 73. The new rule, 10 CFR Part 37, can be found at http://www.nrc.gov/reading-rm/doc- collections/cfr/part037/.

The provisions of 10 CFR 37.11(b) are intended to allow licensees with an NRC-approved 10 CFR Part 73 security plan to rely on the physical protection measures described in that plan to meet the physical protection requirements of 10 CFR Part 37, subparts B and C to the extent that the 10 CFR Part 73 security program provides the equivalent level of protection for Category 1 and Category 2 quantities of radioactive material. Accordingly, licensees with an NRC-approved 10 CFR Part 73 security plan can choose to protect Category 1 and Category 2 quantities of radioactive material from theft or diversion by using their 10 CFR Part 73 security plan, a separate 10 CFR Part 37 security plan, or use both their 10 CFR Part 73 security plan and a separate 10 CFR Part 37 security plan. Whichever plan a licensee chooses to use, the licensee's security

plan(s) must describe how Category 1 and Category 2 quantities of radioactive material will be protected from theft or diversion, pursuant to 10 CFR Part 37. In addition, the licensee's 10 CFR Part 73 or 10 CFR Part 37 security plan may take credit for and utilize existing physical protection measures established under the 10 CFR Part 73 security program to protect Category 1 and Category 2 quantities of radioactive material.

On June 12, 2014, the Nuclear Energy Institute (NEI) submitted a petition for rulemaking (PRM) requesting that the exemption requirements under 10 CFR 37.11 be amended. The NRC docketed NEI's petition as PRM-37-1 and published the notice of docketing and request for comment for the petition in the *Federal Register* on October 28, 2014 (79 *Federal Register* 64149). The NRC reviewed the petition, supporting rationale, and the associated comment letters and determined that the issues raised in the petition had merit and should be considered in the rulemaking process.

For additional information, please contact Duane White of the NRC at (301) 287-3627 or at Duane.White@nrc.gov.

Public Comment Sought re Draft Guidance for Subsequent Renewal of Nuclear Power Plant Operating Licenses

The U.S. Nuclear Regulatory Commission is seeking public comment on two draft documents designed to guide the agency's staff in reviewing applications to extend operations of commercial nuclear power plants beyond 60 years.
The draft documents (NUREG-2191 and NUREG -2192) are available on the NRC's web site at http://www.nrc.gov/reactors/operating/licensing/renewal/slr/guidance.html.

Overview

The NRC expects to receive the first application for "subsequent license renewal," or SLR, sometime in 2019. The draft guidance documents, once finalized, will describe methods and techniques acceptable to the NRC staff in reviewing subsequent license renewal applications. According to NRC, industry will be able to use the documents when preparing their applications.

The new documents, Generic Aging Lessons Learned for Subsequent License Renewal (GALL -SLR) Report and Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants (SRP-SLR), are based on similar documents covering initial license renewals. They will describe aging management programs acceptable to the NRC for operations up to 80 years.

Public Meetings

NRC staff plans to hold public meetings on the draft documents at the agency's headquarters in Rockville, Maryland on January 21, January 22 and February 23, 2016. During the meetings, staff will present the guidance, answer questions and receive comments.

Comments

Written comments may be submitted over the federal government's rulemaking website, www.regulations.gov, using Docket ID NRC-2015-0251. The comment period will open upon publication of a *Federal Register* notice, which is expected on December 22, 2016. Comments will be accepted through February 29, 2016.

Background

U.S. commercial nuclear power reactors are initially licensed for 40 years of operation, and the licenses can be renewed for periods of 20 years. To date, the NRC has renewed the licenses of 81

reactors to operate for up to 60 years (two of those reactors have since permanently shut down). Information about reactor license renewal is available on the NRC's web site at http://www.nrc.gov/reactors/operating/licensing/renewal.html.

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

NRC Approves Changes to Reactor Oversight Process

On December 2, 2015, the U.S. Nuclear Regulatory Commission approved changes to the agency's Reactor Oversight Process (ROP), adjusting the criteria for subjecting a nuclear power plant to additional oversight and directing the staff to develop new guidance to help identify weaknesses in a licensee's performance.

Overview

The Commissioners approved a staff recommendation to require three low-to-moderate safety significance (white) inspection findings or performance indicators to push a reactor into the "degraded cornerstone" category of regulatory oversight, often known as Column Three of the ROP Action Matrix. Column One represents a reactor receiving normal oversight and Column Five is reserved for reactors ordered to shut down due to unacceptable performance.

In the Staff Requirements Memorandum approving the criteria change, the Commission also directed the staff to include additional resources and guidance for inspectors to review a licensee's common cause analyses for two white inputs in the same cornerstone. According to NRC, the guidance will help identify potential programmatic weaknesses in a licensee's performance.

"The Reactor Oversight Process is a mature and effective program," said Bill Dean, Director of the NRC's Office of Nuclear Reactor Regulation. "For the past 15 years, it has helped us provide appropriate oversight of the nation's commercial nuclear power plants. These adaptations will help us target our oversight more precisely on those plants with significant performance issues."

The changes will take effect in January 2016 and do not alter the current oversight status of any plants.

Background

The ROP, initiated in 2000, assesses a nuclear power plant's performance across seven aspects of facility operation, called cornerstones. Inspection findings are color-coded as green, white, yellow or red in increasing order of safety significance. Performance indicators are objective data regarding licensee performance in the different cornerstones. These safety-significant numbers are compiled by licensees and reported to the NRC. They are color-coded in a similar manner.

The current criteria would move a plant to Column Three based on two white inputs in the same cornerstone or a single yellow input. A staff assessment determined that from a risk-informed perspective, three white findings, not two, are more closely equivalent to a single yellow input.

Moving from Column Two to Column Three involves a significant increase in resources for both the NRC and the plant in that Column Two involves about 40 hours of additional inspections, whereas Column Three requires 200 hours. According to NRC, the change to three white inputs in the same cornerstone better aligns the safety significance to the additional level of inspection.

The staff's proposal and assessment of the criteria were spelled out in SECY-15-018, which was made public in August 2015.

The SRM approving the criteria change can be found at http://pbadupws.nrc.gov/docs/ML1533/ML15335A559.pdf. SECY-15-018 can be found at http://pbadupws.nrc.gov/docs/ML1507/ML15076A066.pdf.

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

Potential Changes to Regulations re Power Reactor Decommissioning

The U.S. Nuclear Regulatory Commission is seeking public comment on potential changes to its regulations governing the decommissioning of commercial nuclear power plants.

In particular, NRC is seeking input from stakeholders on the development of a draft regulatory basis that would support potential changes to the agency's regulations for the decommissioning of nuclear power reactors. The NRC's goals in amending these regulations would be to provide an efficient decommissioning process, reduce the need for exemptions from existing regulations, and support the principles of good regulation, including openness, clarity, and reliability.

The NRC is soliciting public comments on the contemplated action and invites stakeholders and interested persons to participate. The NRC plans to hold a public meeting to promote full understanding of the issues and facilitate public comment.

Overview

On November 19, 2015, NRC published an Advanced Notice of Proposed Rulemaking (ANPR) in the *Federal Register* to announce its intention to develop a draft regulatory basis to support a new decommissioning rule. The new rule would establish clear requirements for decommissioning reactors in emergency preparedness, physical security and fitness-for-duty, among other areas, thereby reducing the need for exemptions from current requirements designed for operating reactors. It would also address the timeliness of decommissioning and the role of state and local governments and other organizations. According to NRC, the result would be a more efficient, open and reliable decommissioning process.

The ANPR includes questions to be considered by stakeholders when submitting comments including questions related to:

- emergency preparedness requirements for decommissioning power reactor licensees;
- the physical security requirements for decommissioning power reactor licensees;
- fitness for duty (FFD) requirements for decommissioning power reactor licensees;
- training requirements of certified fuel handlers for decommissioning power reactor licensees;
- the current regulatory approach for decommissioning power reactor licensees;
- the application of back-fitting protection to decommissioning power reactor licensees;
- decommissioning trust funds;
- off-site liability protection insurance requirements for decommissioning power reactor licensees;
- on-site damage protection insurance for decommissioning power reactor licensees; and,
- decommissioning power reactor regulations in general.

Persons interested in additional detail are directed to the *Federal Register* notice.

The Federal Register notice can be found at https://www.federalregister.gov/articles/2015/11/19/2015-29536/regulatory-improvements-for-decommissioning-power-reactors.

Background

The NRC began a similar rulemaking process in 2000-2001, but stopped after a stronger focus on security was prompted by the terrorist attacks of September 11, 2001. However, five reactors have permanently shut down since the beginning of 2013, and three more are expected to cease operations by 2019. The five reactors now undergoing decommissioning required several exemptions from NRC's regulations for operating reactors to reflect their decommissioning status. By incorporating changes into regulation, the NRC believes the transition from operation to decommissioning can become more efficient and effective for the agency and the licensee, as well as more open and transparent for the public.

Opportunity for Public Comment

The *Federal Register* notice explains the basis for the potential rulemaking in detail and provides instructions for submitting comments, which may be submitted by any of the following methods:

- *Federal rulemaking Web site:* Go to *http://www.regulations.gov* and search for Docket ID NRC-2015-0070.
- *Email comments to: Rulemaking.Comments@nrc.gov*. If you do not receive an automatic email reply confirming receipt, then contact NRC at (301) 415-1677.
- *Fax comments to:* Secretary, U.S. Nuclear Regulatory Commission at (301) 415-1101.
- *Mail comments to:* Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.
- *Hand deliver comments to:* 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. ET.

Written comments will be accepted through January 4, 2016.

NRC staff will conduct a public meeting to discuss the draft regulatory basis and receive public comments. That meeting is tentatively scheduled for December 9, 2015. It is scheduled from 10:00 a.m. to 5:00 p.m. in the Commission Hearing Room at agency's headquarters, which are located at 11555 Rockville Pike in Rockville, Maryland.

For additional information, please contact David McIntyre of the NRC at (301) 415-8200 or at David.McIntyre@nrc.gov or Jason Carneal of the NRC at (301) 415-1451 or at Jason.Carneal@nrc.gov.

NRC Accelerates Schedule for Earthquake Risk Analysis at U.S. Reactors

The NRC, after reviewing updated earthquake hazard information from all U.S. nuclear power plants, has concluded that the plants can, where appropriate, complete in-depth analyses of their updated earthquake risk earlier than originally planned. In other cases, the NRC has concluded reactors no longer need to submit an in-depth analysis.

Overview

The NRC's comprehensive response to the Fukushima Dai-ichi nuclear accident included a

request for all U.S. plants to re-analyze their earthquake hazards. The agency has reviewed the submittals, beginning with Central and Eastern U.S. plants in 2014, and then the Western U.S. plants earlier this year. The agency also considered insights from earlier probabilistic risk assessments related to seismic hazards. In addition, the agency reviewed the plants' evaluations on whether any interim measures are called for while they complete an in-depth risk analysis. The NRC continues to conclude U.S. reactors are safe to continue operating while they do more analysis where appropriate.

"Our substantial reviews have shown that fewer reactors than we first thought actually need the in-depth analysis," said Bill Dean, Director of the NRC's Office of Nuclear Reactor Regulation. "This outcome means both the NRC and industry can better focus their seismic expertise to work on the plants most in need of additional analysis. We now expect the first in-depth risk analysis to be completed three months ahead of the original schedule, and the last ones potentially a year ahead of their original deadline."

The NRC has concluded the plants have appropriately reviewed their existing seismic protection. Moreover, according to NRC, many U.S. reactors already comply with the agency's March 2012 Orders for additional safety equipment and enhanced spent fuel pool monitoring.

Schedule

The updated submittal schedule covers the following plants:

- Vogtle on March 31, 2017;
- Indian Point Unit 2 on June 30, 2017;
- Watts Bar on June 30, 2017;
- Beaver Valley on September 30, 2017;
- Diablo Canyon on September 30, 2017;
- Callaway on December 31, 2017;
- Pilgrim on December 31, 2017;
- North Anna on March 31, 2018;
- Peach Bottom on March 31, 2018;
- D.C. Cook on June 30, 2018;
- Indian Point Unit 3 on June 30, 2018;
- Summer on September 30, 2018;
- Oconee on December 31, 2018;
- Columbia on March 31, 2019;
- Robinson on March 31, 2019;
- Dresden on June 30, 2019;
- Catawba on September 30, 2019;
- Palisades on September 30, 2019;
- Browns Ferry on December 31, 2019;
- McGuire on December 31, 2019; and,
- Sequoyah on December 31, 2019.

The NRC's letter regarding the submission schedule revision is available on the agency's website. The NRC's blog has several entries on the seismic re-evaluation process.

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

NRC Meeting re Three Long-Term Lessons-Learned From Fukushima

1:00 to 4:30 p.m. on January 7, 2016

On January 7, 2016, U.S. Nuclear Regulatory Commission (NRC) staff will meet with the public and industry representatives to discuss efforts to resolve three long-term issues raised by the Fukushima nuclear accident in 2011.

During the meeting, NRC staff and stakeholders will discuss recommendations regarding enhanced reactor monitoring instrumentation, hardened vents for certain containment designs and hydrogen control.

Purpose

The purpose of the meeting is to discuss the staff evaluations of hydrogen control, vent designs and enhanced instrumentation found in Enclosures 4 and 5 of SECY 15-0137, "Proposed Plans for Resolving Open Fukushima Tier 2 and 3 Recommendations" (ADAMS Accession No. ML15254A006), as well as relevant comments thereon as found in an Advisory Committee on Reactor Safeguards (ACRS) letter report dated November 16, 2015 (ADAMS Accession No. ML15320A074).

The staff will discuss pending changes to these evaluations and solicit comments on the evaluations. An extended comment period will be provided at the end of the meeting to solicit comments and answer questions regarding the evaluations.

Logistics

The meeting is scheduled from 1:00 - 4:30 p.m. on January 7, 2016. It will be held in Room O9B4 of the NRC's White Flint complex at 11555 Rockville Pike in Rockville, Maryland.

During the meeting, NRC staff will describe the recommendations and the basis for resolving them. The public will have the opportunity to ask questions and provide comments regarding the staff's work.

Teleconference and Webinar Details

The meeting will include a teleconference and webinar.

To register and participate in the webinar, please go to https://attendee.gotowebinar.com/register/7450722169641458178.

To participate via teleconference, please call (888) 282-0362 and use pass code 7047033.

Information regarding proposed plans for resolving open Fukushima tier 2 and 3 recommendations can be found in SECY-15-0137 at http://pbadupws.nrc.gov/docs/ML1525/ML15254A006.html.

For additional information, please contact Joseph Sebrosky at (301) 415-1132 or via e-mail at joseph.sebrosky@nrc.gov or William Reckley at (301) 415-7490 or via e- mail at william.reckley@nrc.gov.

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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**

To access a variety of documents through numerous links, visit the website for the LLW Forum, Inc. at www.llwforum.org

Acknowledgement and Disclaimer

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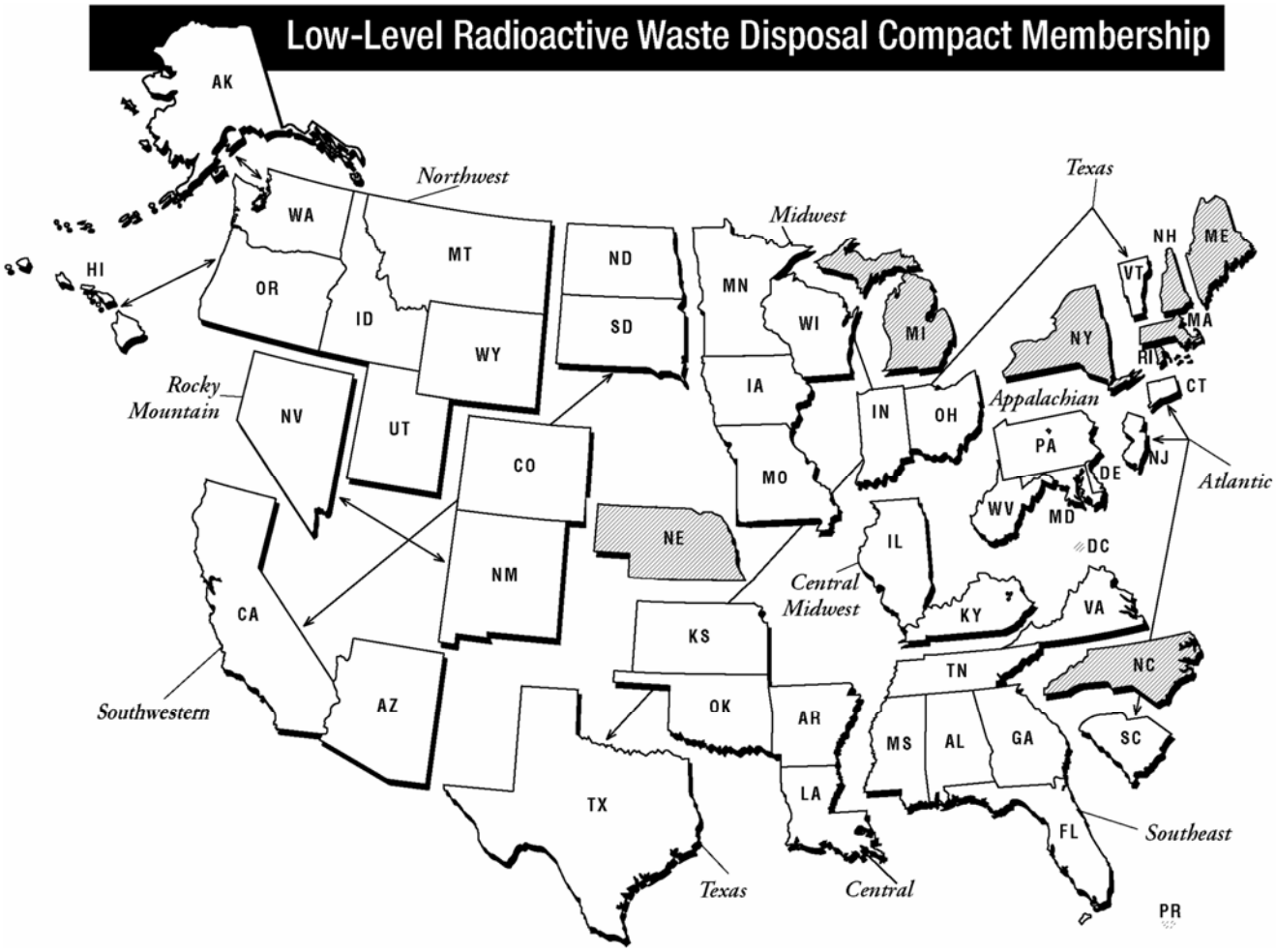

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Northwest Compact
Alaska
Hawaii
Idaho
Montana
Oregon
Utah
Washington
Wyoming

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

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