

# LLW *notes*

Volume 33 Number 1 January/February 2018

*U.S. Nuclear Regulatory Commission (NRC)*

## NRC to Conduct Very Low-Level Radioactive Waste Scoping Study

On February 14, 2018, the U.S. Nuclear Regulatory Commission (NRC) issued a *Federal Register* notice announcing the agency's plans to conduct a very low-level radioactive waste (VLLW) scoping study to identify possible options to improve and strengthen the NRC's regulatory framework for the disposal of the anticipated large volumes of VLLW associated with the decommissioning of nuclear power plants and material sites, as well as waste that might be generated by alternative waste streams that may be created by operating reprocessing facilities or a radiological event. (See 83 *Federal Register* 6,619 dated February 14, 2018.)

As part of the process, the NRC is seeking stakeholder input and perspectives. Respondents are asked to consider specific questions posed by the NRC staff and other federal agencies in the *Federal Register* notice. Comments are due by May 15, 2018. Comments considered after this date will be considered if it is practical to do so, but the NRC is only able to ensure consideration of comments received on or before the deadline.

On February 22, 2018, NRC held a public meeting to discuss the VLLW scoping study and concerns associated with the disposal of Greater-

than-Class C (GTCC) waste. (*See related story, this issue.*) The meeting was held from 9:00 a.m. to 3:00 p.m. in the auditorium at the agency's headquarters in Rockville, Maryland. Interested stakeholders were able to participate via webinar or teleconference.

### Specific Request for Comment

The NRC is interested in receiving comments from a broad range of stakeholders including professional organizations, licensees, Agreement States and members of the public. Likewise, interested stakeholders with insight into relevant international initiatives are invited to provide their perspectives regarding international best practices related to VLLW disposal or other experiences

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## 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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# Low-Level Radioactive Waste Forum, Inc.

## LLW Notes

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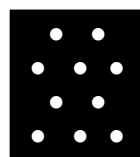
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## Key to Abbreviations

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

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

## LLW Forum to Host Spring 2018 Meeting *Hyatt Regency Airport Hotel in San Francisco, California April 16-17, 2018*

The spring 2018 meeting of the Low-Level Radioactive Waste Forum (LLW Forum) will be held at the Hyatt Regency Airport Hotel in San Francisco, California on April 16-17, 2018. Please mark your calendars accordingly and save the date!

In terms of planning and making travel arrangements, please note that there will be a meeting for designated state and compact members (Directors and Alternates only) of the LLW Forum Board of Directors from 2:30 – 5:00 pm on Tuesday afternoon, April 17. The Disused Sources Working Group (DSWG) will meet from 9:00 am – 5:00 pm on Wednesday, April 18.

Interested stakeholders are encouraged to register and make hotel reservations for the meeting at your earliest convenience, as there is limited space available in our discount room block.

The Southwestern Low-Level Radioactive Waste Compact Commission is co-sponsoring the meeting.

*The meeting documents—including a meeting bulletin, registration form and draft agenda—have been posted to the LLW Forum Meeting page of the organization's web site at <http://llwforum.org/llw-forum-meeting/>.*

*As a new option for interested stakeholders, a registration form may be completed and submitted online.*

### **Draft Agenda**

The draft LLW Forum meeting agenda includes a range of significant yet diverse topics including, but not limited, to:

- ◆ a presentation by Waste Control Specialists President and COO David Carlson on the completion of the sale of the company to J.F. Lehman & Company addressing industry impacts, vision of the new owners, long-term viability of the facility and so forth;
- ◆ a comprehensive overview of the international low-level radioactive waste landscape from a representative of the International Atomic Energy Agency (IAEA);
- ◆ an IAEA-led panel session focusing on field missions internationally to help Member States safely and securely manage their radioactive sources concentrating on the disused sources and end of life management, as well as repatriation or recycling for higher activity sources when there is funding available — including, but not limited to, the Interregional 9182 project on “Cradle to Grave Management of Sources” and the successful missions and progress to date on this project;
- ◆ revisions to the Nuclear/Radiological Incident Annex to the National Response Framework;
- ◆ conductivity risk assessments for disposal of technologically enhanced naturally occurring radioactive material (TENORM) in solid waste landfills; and,
- ◆ U.S. Nuclear Regulatory Commission (NRC) activities and initiatives addressing a variety of topics including the Part 61 rule and associated draft regulatory analysis, 20.2002 alternate disposal guidance, very low-level radioactive waste, uniform waste manifest,

## Low-Level Radioactive Waste Forum, Inc. *continued*

Greater-than-Class C (GTCC) technical analysis and decommissioning regulations.

*For a complete listing of all agenda sessions, please see the Draft Agenda as posted on the LLW Forum website at [www.llwforum.org](http://www.llwforum.org).*

### **Attendance**

Officials from states, compacts, federal agencies, nuclear utilities, disposal operators, brokers/processors, industry, and other interested parties are encouraged to attend the spring 2018 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.

### **Location and Dates**

The spring 2018 LLW Forum meeting will be held on Monday, April 16 (9:00 am – 5:30 pm) and Tuesday, April 17 (9:00 am – 1:00 pm) at:

Hyatt Regency San Francisco Airport  
1333 Bayshore Highway  
Burlingame, California 94010

The Hyatt Regency San Francisco Airport is conveniently located in Burlingame, situated between downtown San Francisco and near many Silicon Valley industries. Designed for the business and leisure traveler, this San Francisco airport hotel is designed to accommodate both vacationers that want to explore the Bay Area and business executives on the go. The hotel boasts 789 guest rooms including 26 suites, Business Plan rooms and Regency Club level. It features over 69,000 square feet of flexible event space and is located minutes from San Francisco

Airport with a 24-hour shuttle service to the hotel and Hertz rentals car service desk on-site. The hotel has a 24-hour fitness center, heated outdoor pool and several restaurants.

### **Registration**

All persons must pre-register for the meeting and pay any associated registration fees in order to be allowed entry. Registration forms are needed in order to ensure that you receive a meeting packet and name badge. Accordingly, interested attendees are asked to please take a moment to complete the registration form at your earliest convenience and return it to the LLW Forum at the mailing or e-mail address listed at the bottom of the form.

The meeting is free for up to two individuals representing members of the LLW Forum. Additional and non-member registration is \$500, payable by check only to the "LLW Forum, Inc." (Credit card payments are not accepted.)

### **Reservations**

Persons who plan to attend the meeting are strongly encouraged to make their hotel reservations and send in their registration forms as soon as possible, as we have exceeded our block at the last few meetings.

A block of rooms have been reserved for Sunday (April 15) and Monday (April 16) for meeting attendees at the special, discounted rate of \$155.00 (single/double rate) plus tax. A limited number of rooms are available at this rate for Saturday (April 14), Tuesday (April 17) and Wednesday (April 18).

To make a reservation, please go to

<https://aws.passkey.com/go/LLWFORUM18>

You may also make a reservation by calling (888) 421-1442 and ask for a reservation using Group Code LLWF. *Please note that you must*

*ask for a room in the LLW Forum block using Group Code LLWF in order to get the special, discounted rate.*

The deadline for reserving a room at the discounted rate is March 30, 2018.

### **Transportation and Directions**

The Hyatt Regency is located just minutes from the San Francisco International Airport on Interstate 101. Complimentary shuttle service is available through the hotel 24 hours a day. In addition, the Bay Area Rapid Transit (BART) commuter train station with direct service to downtown San Francisco will also be available by shuttle service from the Hyatt Regency.

*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.*

### ***Atlantic Compact/State of South Carolina***

## **Dominion Energy to Acquire Scana Corporation in All Stock Merger**

### ***Plans to Write-Off Abandoned V.C. Summer New Reactors Project***

On January 3, 2017, Dominion Energy Inc. announced that it would acquire utility Scana Corporation in an all-stock deal worth about \$14.6 billion, including debt. Virginia-based Dominion said it would pay Scana's South Carolina Electric & Gas Company (SCE&G) subsidiary customers \$1.3 billion within 90 days of the deal's closure.

News of the merger follows a July 2017 announcement that SCE&G would cease construction of two new nuclear reactors at the V.C. Summer Nuclear Station in Jenkinsville, South Carolina. (See *LLW Notes*, July/August 2017, pp. 7-8.) Shortly thereafter, SCE&G—which is a principal subsidiary of SCANA Corporation (SCANA)—promptly filed a petition with the Public Service Commission of South Carolina seeking approval of its abandonment plan.

SCE&G decided to abandon the V.C. Summer project after considering the additional costs to complete the new nuclear reactors, the uncertainty regarding the availability of production tax credits for the project and the amount of anticipated guaranty settlement payments from Toshiba Corporation (Toshiba). SCE&G's decision was also influenced by other matters associated with continuing construction including the decision of the co-owner of the project, the South Carolina Public Service Authority (Santee Cooper), the state owned electric utility, to suspend construction of the project. Based on these

## States and Compacts *continued*

factors, SCE&G concluded that it would not be in the best interest of its customers and other stakeholders to continue construction of the project.

In November 2017, SCE&G said that it would cut electricity rates in response to concerns from customers who bore costs tied to an abandoned nuclear project. Dominion will also write off more than \$1.7 billion of existing capital and regulatory assets related to the abandoned nuclear plants, the company said. The deal is expected to close this year, the companies said.

### Overview

The agreement calls for significant benefits to SCE&G electric customers to offset previous and future costs related to the withdrawn V.C. Summer Units 2 and 3 project. After the closing of the merger and subject to regulatory approvals, the anticipated benefits include:

- ◆ A \$1.3 billion cash payment within 90 days upon completion of the merger to all customers, worth \$1,000 for the average residential electric customer. Payments would vary based on the amount of electricity used in the 12 months prior to the merger closing.
- ◆ An estimated additional 5 percent rate reduction from current levels, equal to more than \$7 a month for a typical SCE&G residential customer, resulting from a \$575 million refund of amounts previously collected from customers and savings of lower federal corporate taxes under recently enacted federal tax reform.
- ◆ A more than \$1.7 billion write-off of existing V.C. Summer 2 and 3 capital and regulatory assets, which would never be collected from customers. This allows for the elimination of all related customer costs over 20 years instead of over the previously proposed 50-60 years.

- ◆ Completion of the \$180 million purchase of natural-gas fired power station (Columbia Energy Center) at no cost to customers to fulfill generation needs.

In addition, Dominion Energy would provide funding for \$1 million a year in increased charitable contributions in SCANA's communities for at least five years. Moreover, SCANA employees would have employment protections until 2020.

SCANA would operate as a wholly owned subsidiary of Dominion Energy. It would maintain its significant community presence, local management structure and the headquarters of its SCE&G utility in South Carolina.

The transaction would be accretive to Dominion Energy's earnings upon closing, which is expected in 2018 upon receipt of regulatory and shareholder approvals. The merger also would increase Dominion Energy's compounded annual earnings-per-share target growth rate through 2020 to eight percent or higher.

In announcing the acquisition, Dominion Energy Chairman, President and Chief Executive Officer Thomas Farrell II said the following: "We believe this merger will provide significant benefits to SCE&G's customers, SCANA's shareholders and the communities SCANA serves. It would lock in significant and immediate savings for SCE&G customers—including what we believe is the largest utility customer cash refund in history—and guarantee a rapidly declining impact from the V.C. Summer project. There also are potential benefits to natural gas customers in South Carolina, North Carolina and Georgia and to their communities. And, this agreement protects employees and treats fairly SCANA shareholders, many of whom are working families and retirees in SCANA's communities. The combined resources of our two companies make all this possible."

## States and Compacts *continued*

“Dominion Energy is a strong, well-regarded company in the utility industry and its commitment to customers and communities aligns well with our values,” said Jimmy Addison, Chief Executive Officer of SCANA. “Joining with Dominion Energy strengthens our company and provides resources that will enable us to once again focus on our core operations and best serve our customers.”

### **Strategic Combination**

According to Dominion’s press release, the acquisition will “solidify Dominion Energy’s position among the nation’s largest and fastest-growing energy utility companies by adding significantly to its presence in the expanding Southeast markets.” SCANA’s operations include service to approximately 1.6 million electric and natural gas residential and business accounts in South Carolina and North Carolina and 5,800 megawatts of electric generation capacity. SCANA continues to experience strong growth in both customer count (more than 2 percent on average annually at SCE&G and PSNC Energy) and weather-normalized energy sales.

“SCANA is a natural fit for Dominion Energy,” Farrell said. “Our current operations in the Carolinas—the Dominion Energy Carolina Gas Transmission, Dominion Energy North Carolina and the Atlantic Coast Pipeline—complement SCANA’s, SCE&G’s and PSNC Energy’s operations. This combination can open new expansion opportunities as we seek to meet the energy needs of people and industry in the Southeast.”

Once the merger is completed, the combined company would operate in 18 states from Connecticut to California. The company would deliver energy to approximately 6.5 million regulated customer accounts in eight states and have an electric generating portfolio of 31,400 megawatts and 93,600 miles of electric transmission and distribution lines. It also would have a natural gas pipeline network totaling

106,400 miles and operate one of the nation’s largest natural gas storage systems with 1 trillion cubic feet of capacity.

### **Background**

Following the bankruptcy filing of Westinghouse Electric Company, LLC (WEC), SCE&G and Santee Cooper each began a comprehensive process of evaluating the most prudent path forward for the new V.C. Summer nuclear reactors. The project owners worked with WEC and Fluor Corporation, as well as other technical and industry experts, to evaluate the project costs and schedules.

Based on this evaluation and analysis, SCE&G concluded that completion of both new nuclear reactors would be prohibitively expensive. According to SCE&G’s analysis, the additional cost to complete both reactors beyond the amounts payable in connection with the engineering, procurement and construction contract would materially exceed prior WEC estimates, as well as the anticipated guaranty settlement payments from Toshiba. Moreover, in order to qualify for production tax credits under current tax rules, the new reactors would need to be online before January 1, 2021. SCE&G’s analysis concluded that the new reactors could not be brought online until after this date.

SCE&G also considered the feasibility of completing the construction of Unit 2 and abandoning Unit 3 under the existing ownership structure and using natural gas generation to fulfill any remaining generation needs. This option provided a potentially achievable path forward that may have delivered SCE&G a similar megawatt capacity as its 55% interest in the two reactors and provided a long-term hedge against carbon legislation/regulation and against gas price volatility. SCE&G had not reached a final decision regarding this alternative when Santee Cooper determined that it would be unwilling to proceed with continued construction. Consequently, SCE&G determined that it is not in



the best interest of customers and other stakeholders for it to continue construction of one reactor.

Based on the evaluation and analysis, and Santee Cooper's decision, SCE&G has concluded that the only remaining prudent course of action would be to abandon the construction of both Unit 2 and Unit 3 under the terms of the Base Load Review Act (BLRA). Accordingly, normal construction activities at the site were immediately ceased and efforts were shifted toward an orderly transition of winding down and securing the project property. SCE&G planned to use the anticipated payments resulting from the settlement of Toshiba's guaranty to mitigate cost impacts to SCE&G electric customers.

Dominion Energy is one of the largest energy utility companies in the United States, with 16,200 employees and operations in 18 states. It delivers electricity and natural gas to nearly 5 million homes and businesses, and its operations include 25,600 megawatts of electric generating capacity; 66,300 miles of natural gas gathering, transmission, distribution and storage pipelines; 64,200 miles of electric transmission and distribution lines; and, one of the nation's largest natural gas storage systems.

SCANA Corporation—which is headquartered in Cayce, South Carolina—is an energy-based holding company principally engaged, through subsidiaries, in electric and natural gas utility operations and other energy-related businesses.

*For additional information, please contact Ryan Frazier of Dominion at (804) 819-2521 or at C.Ryan.Frazier@dominionenergy.com or Grant Neely of Dominion at (804) 771-4370 or at Grant.Neely@dominionenergy.com or go to www.dominionenergy.com or www.scana.com.*

### *Central Midwest Compact/State of Illinois*

## Joe Klinger Retires from Illinois Emergency Management Agency

### *Jennifer Ricker Appointed as IEMA's Interim Director*

On December 29, 2017, Joe Klinger announced his retirement from the Illinois Emergency Management Agency (IEMA). Effective January 1, 2018, Jennifer Ricker—who has served as Chief of Staff at IEMA since 2009—has been appointed as IEMA's Interim Director.

### **Klinger Statement to IEMA Staff**

The following is Klinger's formal announcement of his retirement to IEMA staff:

After nearly 30 years with the state of Illinois, first with the Illinois Department of Nuclear Safety and for the past 14 years with the Illinois Emergency Management Agency, I am pleased to announce my retirement, effective Dec. 31, 2017. It is time, as my work career spans approximately 50 years. This was a very personal and difficult decision and has been long in the making. I wanted to make sure that certain initiatives were completed and proper personnel in key positions to carry on the stellar legacy of our agency before I made my decision. I could not be more proud of our agency and I have enjoyed immensely the professional opportunities and friendships I have experienced while working here. I feel fortunate to have had the opportunity to contribute to protecting the health and safety of Illinois residents in both the radiation/nuclear and emergency management fields, including my service as

## States and Compacts *continued*

Deputy Director, Interim Director and, most recently, as Acting Director.

Effective January 1, 2018, Jennifer Ricker will be IEMA's Interim Director. Jennifer has served as Chief of Staff at IEMA since 2009, and has overseen many of the agency's critical programs and initiatives during her tenure. In addition, since Nov. 13, 2017, Jennifer shouldered additional responsibilities as IEMA's Acting Deputy Director. Please support Jennifer in this important role as you have me in the past.

I have agreed to assist with this transition on a contractual basis, so I should have a chance to interact with many of you in the coming weeks. While it has been exciting to be a part of the nationally and internationally recognized programs at IDNS and IEMA for the past three decades, I am looking forward to having more time to work on my other interests, spend more time with family and friends and, in particular, NOT receiving calls in the middle of the night about the latest disaster!

### **Continued Roles Post-Retirement**

Klinger plans to continue to serve as Chair of the Central Midwest Interstate Low-Level Radioactive Waste Compact Commission, as well as serve as the compact commission's designated Director to the Low-Level Radioactive Waste Forum (LLW Forum) and Chair of the LLW Forum Disused Sources Working Group (DSWG). He plans to continue his work in the area of source security and hopes to continue as Chair of the E-34 Committee of the Conference of Radiation Control Program Directors.

*For additional information about the Illinois Emergency Management Agency, please go to [www.illinois.gov/iema](http://www.illinois.gov/iema). For additional information about the Central Midwest Interstate*

*Low-Level Radioactive Waste Compact Commission, please go to [www.cmcompact.org](http://www.cmcompact.org).*

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### ***Northwest Compact/State of Utah***

## **Utah Issues Notice of Proposed Used Oil Rule Change for Public Review and Comment**

On February 2, 2018, the Division of Waste Management and Radiation Control (Division) of the Utah Department of Environmental Quality (DEQ) notified interested stakeholders of a rulemaking action related to proposed used oil rule changes.

The Notice of Proposed Rule (Amendment) to R315-15, *Standards for the Management of Used Oil*, was published in the February 1, 2018 issue (Volume 2018, Number 3) of the Utah State Bulletin at pages 35-42.

*Interested stakeholders can obtain a copy of the Notice of Proposed Rule (Amendment) to R315-15 at [https://rules.utah.gov/publicat/bull\\_pdf/2018/b20180201.pdf](https://rules.utah.gov/publicat/bull_pdf/2018/b20180201.pdf).*

### **Summary of Proposed Rule Changes**

Subsection R315-15-13.3(a) currently states that a person may operate a used oil aggregation point without a registration number if the aggregation point also accepts used oil from household do-it-yourselfers or other generators. Subsection R315-15-13.3(b) then states if an aggregation point accepts used oil from household do-it-yourselfers, it must be registered.

It is the intent of the rule that all facilities that manage used oil from household do-it-yourselfers be registered. The Division is unable to

## States and Compacts *continued*

determine why the contradiction in the rule language exists. Previous versions of the rule do not have the contradiction and the Division was unable to find any documentation making the change. The proposed change to Section R315-15-13.3 will remove the contradiction and return the rule to its original intent.

Additionally, it was recently discovered that facilities involved in the management of used oil have been submitting all financial assurance mechanisms signed in duplicate when only certain mechanisms actually need to be signed in duplicate, others in triplicate and some just single. Research into the issue revealed that Section R315-15-17.1 requires all financial assurance mechanisms to be signed in duplicate. The proposed change to Section R315-15-17.1 will remove the requirement from the rules and facilities managing used oil will follow the requirements of each mechanism regarding the number of signatures needed.

### Submitting Comments

Interested stakeholders may submit comments via email at [dwmrcpublic@utah.gov](mailto:dwmrcpublic@utah.gov). Comments may also be submitted via standard mail to:

Scott Anderson  
Division of Waste Management and  
Radiation Control  
P.O. Box 144880  
Salt Lake City, UT 841114-4880

The public comment period began on February 1, 2018 and will conclude on March 5, 2018.

### Background

On January 11, 2018, the Utah Waste Management and Radiation Control Board (Board) held a regularly scheduled meeting beginning at 1:30 p.m. MT in Salt Lake City, Utah. (*See related story, this issue.*) During the meeting, the Board approved proceeding with the

formal rulemaking for public review and comment with proposed changes to the used oil rules in R315-15-13.3, *Used Oil Aggregation Points*, and R315-15-17.1, *Applicability*.

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](mailto:rlundberg@utah.gov).*

## Modifications Approved re EnergySolutions' Part B Permit

On February 21, 2018, EnergySolutions provided notice of the approval of the modifications to the company's State of Utah-issued Part B Permit. The modifications involved the following changes:

- ◆ 2017-010168: Approval of a Class 1 modification for Revisions to Attachment II-11, *Facility Drawings*

This modification is based on the annual facility drawing update required in Attachment II-11, *Facility Drawings*, of the state-issued Part B Permit.

## States and Compacts *continued*

EnergySolutions' compliance history is available from the facility contact person at the Utah Division of Waste Management and Radiation Control.

*For additional information regarding this modification or requests for review of the modification applications and related documents, please contact Otis Willoughby of the Utah Division of Waste Management and Radiation Control (DWMRC) at (801) 536-0200 or Tim Orton of EnergySolutions at (801) 649-2000.*

## Utah Waste Management and Radiation Control Board Meets

On January 11, 2018, 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 meeting, which was open to the public, was held in Conference Room 1015, Department of Environmental Quality (DEQ) Board Room, in the Multi Agency State Office Building that is located at 195 North 1950 West in Salt Lake City, Utah.

### Agenda

The following items, among others, were on the agenda for the January 2018 Board meeting:

- I. Call to Order
- II. Approval of Meeting Minutes for the November 9, 2017 Board Meeting (*Board Action Item*)
- III. Underground Storage Tanks Update
- IV. Administrative Rules

- A. Approval to file Five-year review notices for Solid Waste Rules R315-301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318 and 320. (*Board Action Item*)

### V. Used Oil Section

- A. Approval to proceed with formal rulemaking and 30-day public comment period for proposed changes to R315-15, *Standards for the Management of Used Oil Rules*. (*Board Action Item*)

### VI. Low-Level Radioactive Waste Section

- A. Proposed Stipulation and Consent Order between the Board and EnergySolutions, LLC. (*Information Item Only*)

### VII. Other Business

- A. Miscellaneous Information Item—Live Streaming of Board Meetings
- B. Scheduling of Next Board Meeting

### VIII. 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](mailto:rlundberg@utah.gov).*

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### *Texas Compact/State of Texas*

## Waste Control Specialists Sold to J.F. Lehman Investment Affiliate

By press release dated January 26, 2018, Waste Control Specialists LLC (WCS) announced the completion of their sale by Valhi, Inc. (Valhi) to J.F. Lehman & Company (JFLCO)—a leading middle-market private equity firm focused on the government, defense, aerospace and maritime sectors.

### **Operations**

WCS operates a comprehensive set of low-level radioactive waste treatment, storage and disposal facilities to service the needs of the United States nuclear industry. The company's disposal facilities in west Texas provide licensed capability for the disposal of Class A, B and C low-level radioactive waste, hazardous waste and byproduct material.

WCS has a strategic partnership with JFLCO portfolio company NorthStar Group Holdings, Inc. (NorthStar)—a leading provider of specialized environmental and technical services for commercial and government end markets—to support U.S. electric utilities in safely decommissioning nuclear power generation sites.

### **Acquisition**

In a separate press release, Valhi stated that it has completed the sale of its WCS subsidiary to JFL-WCS Partners, LLC (JFL Partners)—an entity sponsored by certain investment affiliates of JFLCO—for “consideration consisting of the assumption of all of WCS’ third-party indebtedness and other liabilities.” In addition, according to the Valhi press release, “all financial assurance obligations related to the WCS business, previously provided in part by Valhi and certain of its affiliates, have been assumed by WCS or one or more of its new affiliates.”

Evercore acted as financial advisor, while Jones Day and Pillsbury Winthrop Shaw Pittman acted as legal counsel, to JFLCO in regard to the acquisition. The Carlyle Group’s Credit Opportunities Fund provided debt financing for the transaction.

### **Statements**

Upon announcement of the acquisition, associated company executives issued the following statements:

- ◆ JFLCO Partner Alex Harman stated, “WCS is a unique asset that, together with our recent acquisition of NorthStar Group Services, will allow us to provide a complete and cost-effective decommissioning solution for U.S. nuclear utilities.” Harman further stated, “WCS maintains an industry-leading reputation and provides an essential solution for the safe disposal of specialized waste streams. We are excited to support the long-term success of the business through continued engagement and partnership with industry stakeholders, including strengthening the partnership with NorthStar to deliver a best-in-class nuclear power plant decommissioning solution.”
- ◆ “For the past 20+ years, WCS has provided state-of-the-art disposal capabilities from a

## States and Compacts *continued*

rigorously-monitored, highly-engineered facility,” said Scott State, Chief Executive Officer (CEO) of NorthStar and WCS. “Given the substantial capital investment in the facility, the site maintains significant capacity for growth, and we remain committed to serving our customers as a trusted solutions provider.” In a separate statement, State noted, “WCS strengthens the opportunity for our team to provide a game-changing nuclear decommissioning solution. J.F. Lehman has a proven track record that will help WCS achieve its strategic plan and support its continued growth.” State added, “WCS looks forward to engaging utility and government customers to develop strategic solutions to long-term needs for treatment and disposal of radioactive waste, including a substantial expansion of WCS’ intake of Class A waste for disposal.”

- ◆ Incoming WCS President and Chief Operating Officer (COO) David Carlson stated, “WCS has a very good history of regulatory compliance, safety and service to the nuclear industry that we will continue to build on.”
- ◆ “Through its unique technical competencies and industry leadership, WCS exemplifies many of the values and attributes JFLCO emphasizes in its investment strategy,” commented Glenn Shor, Managing Director at JFLCO. “Our partnership with WCS will ensure that the business has the resources required to support its long-term growth strategy across the government and commercial marketplace.”
- ◆ “WCS has built the nation's state-of-the-art facility for low-level radioactive waste disposal,” stated Valhi CEO Robert Graham. “We believe that this acquisition by J.F. Lehman, together with J.F. Lehman’s NorthStar Group Services portfolio company, will create significant opportunities for growth at WCS.”

### Companies

WCS operates a West Texas facility for the processing, treatment, storage and disposal of a broad range of low-level radioactive and hazardous wastes that includes facilities for both government and commercial generators.

Valhi is engaged in the titanium dioxide products, component products (security products and recreational marine components) and real estate management and development industries.

JFLCO is a leading middle-market private equity firm focused primarily on the government, defense, aerospace and maritime sectors. For more information about J.F. Lehman & Company, please visit [www.jflpartners.com](http://www.jflpartners.com).

### Background

**Proposed Acquisition** On November 19, 2015, in separate press releases, it was announced that Rockwell Holdco had signed a definitive agreement to acquire WCS. (See *LLW Notes*, November/December 2015, pp. 20-21.) Rockwell Holdco is the parent company of *EnergySolutions*—which operates low-level radioactive waste disposal facilities in Tooele County, Utah and Barnwell, South Carolina. Rockwell Holdco is owned by Energy Capital Partners, a private equity firm focused on investing in North America's energy infrastructure.

According to the companies’ press releases, upon closing, Rockwell Holdco would pay \$270 million in cash and \$20 million face amount in Series A Preferred Stock. In addition, Rockwell Holdco would 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 Holdco Board of Directors previously approved the purchase agreement. However, completion of the sale—which was originally expected to close in the first half of 2016—was subject to certain

## States and Compacts *continued*

customary closing conditions as outlined in the transaction agreement. In the meantime, EnergySolutions and WCS continued to operate as independent companies.

**Antitrust Lawsuit** On November 16, 2016, the U.S. Department of Justice (DOJ) filed a civil antitrust lawsuit in the U.S. District Court for the District of Delaware seeking to block the proposed \$367 million acquisition of WCS by EnergySolutions. (See *LLW Notes*, November/December 2016, pp. 25-26.) The United States of America was the plaintiff in the case. The listed defendants included EnergySolutions, Inc.; Rockwell Holdco, Inc.; Andrews County Holdings, Inc.; and, Waste Control Specialists LLC.

DOJ argued that the proposed transaction “would combine the two most significant competitors for the disposal of low level radioactive waste ... available to commercial customers in 36 states, the District of Columbia and Puerto Rico.” In this regard, DOJ asserted that the proposed transaction “would deny commercial generators of ... [low-level radioactive waste]—from universities and hospitals working on life-saving treatments to nuclear facilities producing 20 percent of the electricity in the United States—the benefits of vigorous competition that has led to significantly lower prices, better service and innovation in recent years.”

“Since opening its ... [low-level radioactive waste] disposal facility in 2012, Waste Control Specialists has provided EnergySolutions the only real competition it has ever faced,” said Acting Assistant Attorney General Renata Hesse of the DOJ’s Antitrust Division. “This competition has allowed customers to extract better prices and to receive better and more innovative service in the ... [low-level radioactive waste] disposal industry. If consummated, EnergySolutions’ proposed acquisition of Waste Control Specialists would make EnergySolutions the only option for

customers in nearly 40 states. And this at a time when projects worth billions of dollars are set to be awarded in the coming years.”

At the time of the filing of the lawsuit, DOJ contended that WCS provides the “only true competition” for EnergySolutions. “That competition has led to increased innovation and lower prices for customers,” contended DOJ. “EnergySolutions’ acquisition of Waste Control Specialists would eliminate that competition, with no likelihood of new entry to fill the void.”

**Court Decision** On June 21, 2017, the United States District Court for the District of Delaware issued a Judgment and Order in the civil antitrust lawsuit seeking to block the proposed \$367 million acquisition of WCS by EnergySolutions.

In its order, the district court entered judgment in favor of the plaintiffs and against the defendants, specifically enjoining and restraining the defendants “from carrying out the acquisition of Waste Control Specialists LLC by EnergySolutions, Inc. as memorialized in the merger agreement between Rockwell Holdco, Inc. and Andrews County Holding, Inc. dated November 18, 2015 and any amendments thereto.”

The case — which is listed as *United States of America v. EnergySolutions, Inc.; Rockwell Holdco, Inc.; Andrews Country Holdings, Inc.; and, Waste Control Specialists* — can be found under civil docket number 16-1056-SLR in the United States District Court for the District of Delaware.

*For additional information, please contact Chuck McDonald for WCS at (512) 708-8655; Janet Keckeisen of Valhi at (972) 233-1700; or, Lisa Steffens of J.F. Lehman & Company at (212) 634-1150 or at [lms@jflpartners.com](mailto:lms@jflpartners.com).*

## State of Texas Reduces Disposal Surcharges

In late 2017, the State of Texas agreed to reduce disposal surcharges for a 24-month limited period of time at the Waste Control Specialists (WCS) facilities in Andrews County, Texas.

In particular, gross revenue fees for in-compact customers have been cut in half—reduced from a total of 10% to 5%. Gross revenue fees for out-of-compact customers have been reduced from 31.25% to 16.25%.

WCS released the following statement regarding reduced disposal surcharges:

Waste Control Specialists is delighted to inform customers that—for a limited time—the state has significantly reduced its disposal surcharges for those customers currently disposing low-level radioactive waste at the WCS facilities in Andrews County. For both in-compact and out-of-compact generators, this will result in significant cost savings ...

These are significant reductions and already resulting in dramatic cost-savings for our customers. This should encourage our customers to dispose of low-level radioactive waste in our state-of-the-art facility in Andrews County and we are already seeing an uptick in scheduled disposal shipments ...

The new fee structure, which was passed by the Texas Legislature in 2017 and is now in effect, will remain in place through August 31, 2019.

According to WCS, “waste will be taken on a first-come, first-served basis” during the reduced surcharge period. It is unclear as to what will happen at the end of the 24-month window of cost savings.

*For additional information, please contact WCS representative Chuck McDonald at (512) 658-5958 or at [chuck@mcdonaldpr.com](mailto:chuck@mcdonaldpr.com).*

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

## Texas Compact Commission Holds February 2018 Meeting

On February 22, 2018, the Texas Low-Level Radioactive Waste Disposal Compact Commission (Texas Compact Commission) held a regularly scheduled meeting in Austin, Texas.

The meeting began at 9:30 a.m. CDT. It was held in Room E1.028 at the Texas Capitol, which is located at 1100 Congress Avenue in Austin, Texas.

*The formal meeting agenda is available on the Texas Compact Commission’s web site at [www.tllrwdcc.org](http://www.tllrwdcc.org).*

### **Agenda**

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

- ◆ call to order;
- ◆ roll call and determination of quorum;
- ◆ introduction of Commissioners, elected officials and press;
- ◆ public comment;
- ◆ consideration and possible action to finally adopt and publish in the *Texas Register* a new



§675.24 in TAC Title 31, Part 21, Chapter 675 relating to the requirement for certain entities to report on a semi-annual basis the receipt of certain low-level radioactive waste that is not required to be disposed of in the Compact Facility as recommended by the Texas Compact Commission's Rules Committee;

- ◆ consideration of and possible action on applications for importation of low-level radioactive waste from Duke Crystal River and DTE Energy/Fermi 2;
- ◆ receive reports from Waste Control Specialists LLC (WCS) about recent site operations;
- ◆ receive report from Chair on Texas Compact Commission activities including an update on the to-be-formed committee as a result of recent legislation;
- ◆ report from Leigh Ing, Executive Director of the Texas Compact Commission, on her activities relating to workshops and Texas Compact Commission operations;
- ◆ discussion and possible changes of dates and locations of future Texas Compact Commission meetings in 2018; and,
- ◆ adjourn.

## Background

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

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

## *Nuclear Power Plants and Other NRC Licensees*

# News Briefs for Nuclear Power Plants Across the Country

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

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

## **Atlantic Compact/State of South Carolina**

**Westinghouse Fuel Fabrication Facility** On February 6, 2018, the U.S. Nuclear Regulatory Commission (NRC) staff held a public meeting with officials of Westinghouse Electric Co., to discuss the company's progress in complying with an NRC confirmatory order following a 2016 event at the company's Columbia, South Carolina fuel fabrication facility. In May 2016, plant employees discovered an unexpected accumulation of uranium-bearing material in a scrubber system designed to remove such material from a number of plant processes. NRC inspections identified several violations of agency requirements, which were the subject of an Alternative Dispute Resolution (ADR) session. The session with a third-party mediator prompted the issuance of the confirmatory order in August 2017, which called for the company to take a number of corrective actions. During the meeting, Westinghouse officials outlined the actions the company has taken to comply with the confirmatory order and areas identified by the NRC as needing improvement. NRC staff were available after the business portion of the meeting to answer questions from members of the public and the media. *For additional information, please contact Roger Hannah at (404) 997-4417 or Joey Ledford at (404) 997-4416.*

### **Central Midwest Compact/State of Illinois**

**Clinton Nuclear Power Plant** On February 28, 2018, the NRC notified Exelon of its final determination that an inspection finding related to a degraded condition on a safety-related pump at the Clinton nuclear power plant has low to moderate safety significance. The issue was identified during an inspection that was conducted from June 15, 2017 through December 28, 2017. NRC inspectors determined that the plant's failure to identify a condition that could negatively impact the proper operation of a safety pump resulted in its failure. NRC inspectors have verified that the pump has been repaired. Clinton has been under increased NRC oversight since the third quarter of 2017 due to a previous finding of low to moderate safety significance. The finding involved the plant's failure to evaluate the suitability of installing new electrical components on an emergency diesel generator room ventilation fan. The modification resulted in the diesel generator being inoperable for a period of time that exceeded requirements. NRC inspectors reviewed the plant's actions to resolve the issue. Clinton will remain under increased oversight until NRC inspectors conduct independent reviews to verify that Exelon has fully understood the causes for both findings and has taken sufficient action to prevent recurrence. The single-unit plant, operated by Exelon Nuclear Generation Co., is located in Clinton, Illinois—approximately 23 miles southeast of Bloomington, Illinois. *For additional information, please contact Viktoria Mitlyng at (630) 829-9662 or Prema Chandrathil at (630) 829-9663.*

### **Southeast Compact/State of Georgia**

**Vogtle Nuclear Reactor** On February 21, 2018, NRC announced that agency staff is proposing a \$145,000 civil penalty against Southern Nuclear Operating Company for violations at the company's Vogtle nuclear power plant involving plant employees who did not complete required rounds to check equipment and plant conditions,

but provided inaccurate documentation indicating that they had done so. The Vogtle plant is located near Waynesboro, Georgia—approximately 26 miles southeast of Augusta. The violations, identified during an NRC inspection, occurred from August to October 2016. An NRC investigation, completed in August 2017, found that on multiple occasions during the three-month period, at least 13 system operators failed to complete their rounds as required by plant procedures, but entered data into an electronic log indicating they had completed equipment status checks and area inspections. The NRC does not license system operators, yet they provide an important function. The letter from the NRC to the company states, "Outside rounds are conducted for a variety of reasons, including the early identification, trending and correction of degraded, abnormal or undesirable plant conditions. In this case, however, this vital function was intentionally precluded by the deliberate misconduct." Based on the NRC review, there were no actual safety consequences and the agency is unaware of any equipment issues or conditions missed during the time the rounds were not completed. Southern Nuclear has taken a number of corrective actions including procedure revisions; additional training and oversight; and, disciplinary action for the individuals involved. The company has 30 days to either pay the fine or protest. *For additional information, please contact Roger Hannah at (404) 997-4417 or Joey Ledford at (404) 997-4416.*

### **Michigan**

**CTI and Associates, Inc.** On January 5, 2018, NRC announced that the agency had proposed a \$7,000 civil penalty to CTI and Associates Inc. for the failure to control and maintain constant surveillance of a portable gauge that holds licensed radioactive material for use in construction. The company is based in Novi, Michigan. The violation was identified during an NRC inspection in August at a temporary job site in Ann Arbor, Michigan. The NRC determined

an authorized user left one gauge in the back of a pickup truck unsecured and accessible to unauthorized individuals. NRC regulations prohibit access and misuse of licensed materials that could result in an unintended exposure to the public. CTI and Associates took corrective actions, which included suspending the employee involved, conducting audits of all gauge users, unannounced field audits and refresher training to be held at the start of construction season. *A copy of the Notice of Violation is posted on the NRC website at [www.nrc.gov](http://www.nrc.gov). For additional information, please contact Viktoria Mitlyng at (630) 829-9662 or Prema Chandrathil at (630) 829-9663.*

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### ***Waste Management 2018 Conference***

## **LLW Forum to Host Panel 21 for 2018 Waste Management Conference**

The Low-Level Radioactive Waste Forum (LLW Forum) will host Panel 21 titled, *Hot Topics and Emerging Issues in U.S. Commercial Low-Level Radioactive Waste Management*, at the upcoming Waste Management 2018 Conference.

The LLW Forum-organized Panel 21 is scheduled to be held in Room 103AB from 1:50 to 3:05 p.m. on Monday afternoon — March 19, 2018.

*Logistical information and registration forms for the Waste Management 2018 conference are available at [www.wmsym.org](http://www.wmsym.org).*

### **LLW Forum-Organized Panel**

The LLW Forum-organized Panel 21 focuses on emerging issues in U.S. commercial low-level radioactive waste management from the

perspective of active members of the LLW Forum. State, compact, federal and industry officials will share their views on a variety of timely and significant topics related to low-level radioactive waste management, disposal and related issues.

In particular, the LLW Forum-organized panel will include four panelists representing states/compacts, industry and federal agencies providing insight and perspectives on the following:

- ◆ the U.S. Nuclear Regulatory Commission (NRC) Staff Requirements Memorandum (SRM) dated September 8, 2017 on the Part 61 rulemaking initiative and the related draft regulatory analysis;
- ◆ draft revisions to the 20.2002 guidance document for alternative disposal requests;
- ◆ opportunities to enhance approach for regulating very low-level radioactive waste; and,
- ◆ an update on and perspectives regarding the power reactor decommissioning rulemaking.

The panelists will be as follows:

- ◆ John Tappert of the NRC;
- ◆ Dan Shrum of *EnergySolutions*;
- ◆ Susan Jenkins of South Carolina; and,
- ◆ Lisa Edwards of the Electric Power Research Institute (EPRI).

The LLW Forum-organized Panel 21 will be Co-Chaired by LLW Forum Executive Director Todd Lovinger and Past-Chair Leonard Slosky.

The NRC will be hosting a post-conference public meeting on low-level radioactive waste issues in Phoenix on March 23, 2018. The LLW Forum-

organized panel is intended to serve as a precursor to the Friday NRC public meeting.

### **Background**

The 2018 Waste Management symposium will be held at the Phoenix Convention Center in Phoenix, Arizona on March 18-22, 2018. This year's conference theme is Nuclear and Industrial Robotics, Remote Systems and Other Emerging Technologies.

Waste Management 2018 marks the 44th year of the conference and is expected to attract over 2,000 nuclear specialists from over 35 countries, presenting more than 500 papers in over 130 technical sessions.

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

### **Supporting Organizations**

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

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

*For additional information on the Waste Management Conference, please call (480) 557-0263 or email to [shelley@wmarizona.org](mailto:shelley@wmarizona.org).*

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## **NRC Opens Registration for 2018 Regulatory Information Conference**

The U.S. Nuclear Regulatory Commission (NRC) has opened registration for the 30th annual Regulatory Information Conference (RIC), which will be held in North Bethesda, Maryland from March 13-15, 2018. The NRC offices of Nuclear Reactor Regulation and Nuclear Regulatory Research jointly host the conference, which is open to the public.

The deadline for online registration was February 27, 2018.

### **Logistics**

The conference will be held at the Bethesda North Marriott, which is located at 5701 Marinelli Road in North Bethesda. Registration is required but there is no registration fee. Early registration is encouraged; however, onsite registration will also be available. The conference agenda and online registration links—as well as information regarding registration hours, badge protocol, security and new parking garage guidance—are available on the NRC website at [www.nrc.gov](http://www.nrc.gov).

### **Overview**

The conference usually draws a few thousand attendees including industry executives, representatives from state governments, non-governmental organizations, individual community members and representatives from foreign countries. The conference is an

opportunity for attendees to discuss issues related to the safety and security of commercial nuclear facilities and current regulatory activities.

### **Program**

The program will feature NRC Chair Kristine Svinicki as the keynote speaker. Additional program highlights will include plenary sessions with NRC Commissioners Jeff Baran and Stephen Burns. NRC's Executive Director for Operations, Victor McCree, will also deliver remarks. Other technical sessions will address significant domestic and international issues including cybersecurity, risk-informed analysis, advanced and small modular reactors, spent fuel research activities, recent reactor material issues and the reactor oversight process.

*For additional information, please contact Ivonne Couret of the NRC at (301) 415-8200.*

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### ***Health Physics Society (HPS)***

## **Health Physics Society Holds 2018 Mid-Year Meeting**

***Annual Meeting to be Held in  
Cleveland, Ohio from July 15-19, 2018***

The Health Physics Society (HPS) recently held its 2018 mid-year meeting at the Hilton City Center Hotel in Denver, Colorado from February 4-7, 2018.

The 2018 HPS annual meeting will be held at the Huntington Convention Center in Cleveland, Ohio from July 15-19, 2018.

### **Mid-Year Meeting**

The 2018 mid-year HPS meeting was held at the Hilton City Center Hotel in Denver, Colorado from February 4-7, 2018.

**Plenary Session** The Plenary Session began with a presentation entitled, "Radiation Protection Research Needs—HPS Task Force Takes the Reins," by HPS President Eric Abelquist. During the presentation, Abelquist discussed the importance of this topic on the vitality of health physics academic programs and the preservation of radiation program expertise. He also provided an update on the progress made since the Radiation Protection Research Needs Workshop held in Oak Ridge, Tennessee in June 2017. Additionally, Mike Boyd presented a talk titled, "Meeting the U.S. EPA's Need for Radiation Professionals." Boyd's presentation discussed the importance of health physicists to state and federal agencies, as well as the role they serve in carrying out radiation protection programs.

The focus of the second half of the Plenary was on radioactive waste. Leonard Slosky, Past-Chair of the Low-Level Radioactive Waste Forum (LLW Forum) and Executive Director of the Rocky Mountain Low-Level Waste Board, provided insightful commentary on the current issues facing the low-level radioactive waste compacts including the low-level radioactive waste disposal landscape, improved management of disused sources and more. Scott Kirk presented the talk titled, "Innovative Solutions to Better Risk-Inform the Disposition of Low-Level Radioactive Waste." This presentation addressed solutions that have emerged to provide a disposal pathway for low-level radioactive waste. It also addressed recent actions that more closely align with dispositioning waste based on the risk posed to public health as opposed to the origins of the waste and the way they are defined in federal legislation.

**Technical Program** The technical program included talks on environmental, medical/dosimetry, homeland security and operational health physics. In addition, the Power Reactor Section developed a special session for this meeting. Held on Wednesday morning, the session featured information on the Delivering the Nuclear Promise initiative, a status update on new

nuclear power plant construction and discussion on instruments, surveys and more. In all, approximately 70 talks and posters made up this year's technical program.

**Waste Management Symposium** As part of the HPS mid-year meeting, the National Council on Radiation Protection and Measurements (NCRP) convened a special symposium on *Emerging Issues in Radioactive Waste Management*. The symposium was held on Monday afternoon and Tuesday morning of the meeting and featured a full lineup of talks covering a broad range of radioactive waste topics including NORM/TENORM, Fukushima, 10 CFR Part 61 and discussion on current events from industry.

This is the third year of the NCRP collaboration with the HPS mid-year meeting, consistent with the NCRP mission to support radiation protection by providing independent scientific analysis, information and recommendations that represent the consensus of leading scientists. The NCRP Program Area Committee (PAC) 5 – Environmental Radiation and Radioactive Waste organized the special symposium. PAC 5 membership includes representatives from government agencies, higher education and private industry.

*Additional information and the full technical program for the HPS mid-year meeting can be found on the organization's website at <http://hpschapters.org/2018midyear/program/>.*

### **Annual Meeting**

The Hilton Cleveland will serve as the headquarters hotel for the HPS annual meeting. The Westin Cleveland Downtown will serve as the overflow hotel.

*Persons interested in hosting a special session should contact Annual Meeting Task Force Chair Zach Tribbett at [HPSprogram@burkinc.com](mailto:HPSprogram@burkinc.com).*

*For discounted hotel rates at the Hilton headquarters hotel, please go to <https://aws.passkey.com/event/49500610/owner/14238363/home>.*

### **LLW Position Statement**

In July 2017, the HPS issued a revised position statement titled, “Low-Level Radioactive Waste Management.” (See *LLW Notes*, November/December 2017, pp. 16-18.) In so doing, HPS notes that the document should be considered an adjunct to its previous position statement and is not a stand-alone document.

The revision that the HPS issued in July 2017 includes the following positions:

- ◆ Position 1: The goal of managing low-level radioactive waste (LLW) is to ensure the safety of workers and the public and to protect the environment. To achieve this goal, disposal, not long-term storage, is the best and safest long-term approach.
- ◆ Position 2: The HPS believes that accessible disposal options should be available to waste generators nationwide.
- ◆ Position 3: Risk-informed waste disposal requirements for radioactive materials should be based on sound science and consistent with the risk posed to public health; requirements should not be based on waste origins and statutory definitions.

### **Organizational Background**

The Health Physics Society (HPS), formed in 1956, is a scientific organization of professionals who specialize in radiation safety. Its mission is to support its members in the practice of their profession and to promote excellence in the science and practice of radiation safety.

Today its members represent all scientific and technical areas related to radiation safety,

including academia, government, medicine, research and development, analytical services, consulting and industry in all 50 states and the District of Columbia. The Society is chartered in the United States as an independent nonprofit scientific organization and, as such, is not affiliated with any government or industrial organization or private entity.

*For additional information, please see the HPS website at [www.hps.org](http://www.hps.org).*

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## *U.S. Congress*

# NRC Proposes FY 2019 Budget to Congress

On February 12, 2018, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency is proposing a \$971 million Fiscal Year (FY) 2019 budget, including funding for the Office of the Inspector General (OIG).

The budget includes 149 fewer full-time equivalent (FTE) employees than the FY 2018 annualized continuing resolution budget. The budget focuses on continued agency efforts to enhance effectiveness and efficiency. It also supports the agency's safety and security strategic goals and objectives.

The budget request is nearly \$60 million higher than the prior year budget, as it includes \$10 million to develop a regulatory infrastructure for advanced reactors technologies and \$48 million for work related to the proposed deep geological repository at Yucca Mountain, Nevada.

Since the NRC recovers approximately 90 percent of its budget from licensee fees, sent directly to the U.S. Treasury, the resulting net appropriation request is \$155 million. "Through our continued focus on operational and administrative efficiency

improvements, the agency's budget has decreased more than \$80 million, including a reduction of more than 500 FTE, since 2014" said Chief Financial Officer Maureen Wylie. "This budget reflects our commitment to fiscal responsibility."

Details of the budget request include:

- ◆ Funding for 3,247 FTEs, including the OIG, with reductions in staffing linked to the near completion of work associated with the Fukushima Near-Term Task Force. This includes efficiency gains in the Reactor Oversight Process, as well as one plant to be decommissioned and continued savings in corporate support FTE;
- ◆ Funding of \$474.8 million for nuclear reactor safety, as well as \$183.7 million for nuclear materials and waste safety. This includes \$48 million to support activities for the proposed Yucca Mountain deep geological repository for spent fuel and other high-level radioactive waste. It also includes \$299.6 million for corporate support.
- ◆ Funding of \$12.6 million for the OIG, an independent office that conducts audits and investigations to ensure the efficiency and integrity of NRC programs to promote cost-effective management. The OIG's budget also includes funding for auditing and investigation services for the Defense Nuclear Facilities Safety Board (DNFSB).

The budget briefing slides and the Congressional Budget Justification are available on the NRC website at [www.nrc.gov](http://www.nrc.gov). A limited number of hard copies of the report will be available from the Office of Public Affairs.

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

***Advisory Committee on Reactor Safeguards (ACRS)***

**Advisory Committee on Reactor Safeguards Elects 2018 Leadership**  
*Confirms Meeting Schedule*

On January 2, 2018, it was announced that the Advisory Committee on Reactor Safeguards (ACRS) of the U.S. Nuclear Regulatory Commission (NRC) has elected Michael Corradini as Chair, Peter Riccardella as Vice Chair and Matthew Sunseri as Member-at-Large.

**Overview**

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

**Membership**

The following is a complete listing of the ACRS membership:

- ◆ Michael Corradini, Chair, is Professor in the Department of Engineering Physics at the University of Wisconsin, Madison, Wisconsin;
- ◆ Peter Riccardella, Vice Chair, has more than 45 years' experience working on the structural integrity of nuclear power plant components;
- ◆ Matthew Sunseri, Member-at-Large, is an independent nuclear industry consultant with over thirty-five years of experience in the safe operation of large commercial reactors;
- ◆ Ronald Ballinger is a professor of nuclear science, materials science and engineering and is head of the H.H. Uhlig Corrosion Laboratory at the Massachusetts Institute of Technology (MIT);
- ◆ Charles Brown, Jr. is the Senior Advisor for Electrical Systems for BMT Syntek Technologies, Inc. of Arlington, Virginia;
- ◆ Margaret Sze-Tai Y. Chu is a consultant to international and domestic clients on nuclear waste management, nuclear fuel cycle analysis, nonproliferation technologies and nuclear materials management;
- ◆ Vesna Dimitrijevic has more than 40 years of experience in the area of Probabilistic Risk Assessment (PRA), development and application;
- ◆ Walter Kirchner most recently served as an institutional liaison manager for Argonne National Laboratory following, analyzing and advising Laboratory leadership on science and technology policy and programmatic developments in the Administration, U.S. Department of Energy (DOE), other federal agencies and Congress;
- ◆ Jose March-Leuba is the principal of MRU, which specializes on measurements, regulatory and uncertainty analysis, and an Associate Professor in the nuclear engineering department of the University of Tennessee, Knoxville;
- ◆ Dana Powers is a Retired Senior Scientist for Sandia National Laboratories in Albuquerque, New Mexico;
- ◆ Harold Ray is a Retired Chief Executive Vice President of Southern California Edison Company from Rosemead, California;
- ◆ Joy Rempe is the Principal of Rempe and Associates, LLC, of Idaho Falls, Idaho;



- ◆ Gordon Skillman is an independent consultant in nuclear power plant design and operation with over 50 years of commercial nuclear power experience; and,
- ◆ John Stetkar is the Principal of Stetkar and Associates in Hot Springs, Arkansas.

Member biographies, as well as the confirmed ACRS 2018 full committee meeting schedule, can be found on the ACRS webpage of the NRC website at [www.nrc.gov](http://www.nrc.gov).

*For additional information, please contact Ivonne Couret at (301) 415-8200.*

### NRC Seeks to Fill Open ACRS Position

On January 18, 2018, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency is seeking a qualified candidate for appointment to its Advisory Committee on Reactor Safeguards (ACRS). Resumes were accepted through February 20, 2018.

The ACRS is an advisory group that provides independent technical review of, and advice on, matters related to the safety of existing and proposed nuclear facilities, as well as on the adequacy of proposed reactor safety standards. It also advises the Commission on issues in health physics and radiation protection.

For this position, a candidate must have extensive experience in nuclear power plant light water reactor severe accident behavior, accident source terms and advanced reactor systems. Best-qualified candidates must also have at least 20 years of broad experience and a distinguished record of achievement in one or more areas of nuclear science and technology or related engineering disciplines.

Consistent with the requirements of the Federal Advisory Committee Act, the Commission seeks a candidate with a diverse background, so membership on the Committee is fairly balanced in terms of the points of view and functions to be performed. Candidates will undergo a thorough security background check to obtain the security clearance that is mandatory for all ACRS members.

*For additional information, please contact Holly Harrington of the NRC at (301) 415-8200.*

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### *U.S. Department of Energy (DOE)*

### Trump Announces Intent to Nominate Anne White to Lead DOE's Office of Environmental Management

On January 3, 2018, the White House announced President Donald J. Trump's intent to nominate Anne White of Michigan to be Assistant Secretary of Energy for the Office of Environmental Management at the U.S. Department of Energy (DOE).

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

“She has industry-recognized credentials in technical skills that lead to sound, technically underpinned, cost effective solutions,” stated the announcement. “She has extensive hands on in

## Federal Agencies and Committees *continued*

the field experience at many of the Environmental Management sites for which she will have responsibility.”

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

Since June 2017, James Owendoff has been serving as the Acting Assistant Secretary for Environmental Management. In this role, Owendoff has focused on more timely decisions on cleanup projects.

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

*For additional information, please contact Douglas Tonkay, Director of the U.S. Department of Energy’s Office of Disposal, at (301) 903-7212 or at [Douglas.Tonkay@em.doe.gov](mailto:Douglas.Tonkay@em.doe.gov) or go to [www.energy.gov](http://www.energy.gov).*

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*(Continued from page 1)*

that the NRC staff should consider. All comments will be considered and the results of the scoping study will be documented in a publicly available report, which will inform the Commission of the staff’s recommendation for addressing VLLW disposal.

All comments that are to receive consideration in the VLLW Scoping Study must be submitted electronically or in writing. Respondents are asked to consider the background material (see below) when preparing their comments. In responding, commenters are encouraged to provide specific suggestions and the basis for

suggestions offered. Specifically, the NRC staff requests comment on the following questions:

1. The United States does not have a formal regulatory definition of VLLW. What should the NRC consider in developing its own regulatory definition for VLLW? Is there another definition of VLLW that should be considered? Provide a basis for your response.
2. The existing regulatory framework within 10 CFR 61.55 divides low-level radioactive waste into four categories: Class A, Class B, Class C and GTCC. Should the NRC revise the waste classification system to establish a new category for VLLW? What criteria should NRC consider in establishing the boundary between Class A and VLLW categories?
3. The NRC’s alternative disposal request guidance entitled, “Review, Approval, and Documentation of Low-Activity Waste Disposals in Accordance with 10 CFR 20.2002 and 10 CFR 40.13(a),” which is undergoing a revision, allows for alternative disposal methods that are different from those already defined in the regulations and is most often used for burial of waste in hazardous or solid waste landfills permitted under the Resource Conservation and Recovery Act (RCRA). Should the NRC expand the existing guidance to include VLLW disposal or consider the development of a new guidance for VLLW disposal? Why or why not?
4. If the NRC were to create a new waste category for VLLW in 10 CFR Part 61, what potential compatibility issues related to the approval of VLLW disposal by NRC Agreement States need to be considered and addressed? How might defining VLLW affect NRC Agreement State regulatory programs in terms of additional responsibilities or resources?

## Federal Agencies and Committees *continued*

5. Following the Low-Level Radioactive Waste Policy Amendments Act of 1985, states formed regional compacts for the disposal of low-level radioactive waste. If the NRC were to create a new waste category for VLLW, does it fall within regional compact authority to control VLLW management and disposal? How might defining VLLW affect regional compacts in terms of additional responsibilities or resources?
6. U.S. Environmental Protection Agency (EPA)-imposed waste analysis requirements for facilities that generate, treat, store and dispose of hazardous wastes are defined in 40 CFR Parts 264 through 270. How would NRC incorporate and apply waste analysis requirements for VLLW at RCRA Subtitle C and D facilities? Should the NRC impose concentration limits and/or treatment standards for VLLW disposal?
7. Are there any unintended consequences associated with developing a VLLW waste category?
8. What analytical methods/tools should be used to assess the risk of disposing of VLLW at licensed low-level radioactive waste disposal facilities or RCRA Subtitle C and D facilities —i.e., generic or site-specific?
9. How should economic factors be considered in the VLLW scoping study?

### Submitting Comments

Interested stakeholders may submit comments by any of the following methods:

- ◆ Federal Rulemaking website: Go to <http://www.regulations.gov> and search for Docket ID NRC-2018-0026. Address questions about NRC dockets to Jennifer Borges at (301) 287-9127 or at [Jennifer.Borges@nrc.gov](mailto:Jennifer.Borges@nrc.gov).

- ◆ Mail comments to: May Ma, Office of Administration, Mail Stop: OWFN-2-A13, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

### Obtaining Information

Interested stakeholders should refer to Docket ID NRC-2018-0026 when contacting the NRC about the availability of information for this action. Stakeholders may obtain publicly-available information related to this action by any of the following methods:

- ◆ Federal Rulemaking website: Go to <http://www.regulations.gov> and search for Docket ID NRC-2018-0026.
- ◆ NRC's Agencywide Documents Access and Management System (ADAMS): Publicly-available documents may be obtained online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at (800) 397-4209, (301) 415-4737, or by email to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov).
- ◆ NRC's PDR: Copies of public documents may be examined and purchased at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

### Background

In 2007, following developments in the national program for low-level radioactive waste disposal, as well as changes in the regulatory environment, the NRC conducted a strategic assessment of its regulatory program for low-level radioactive waste. The results of this assessment were published in late 2007 in SECY-07-0180,

## Federal Agencies and Committees *continued*

“Strategic Assessment of Low-Level Radioactive Waste Regulatory Program.” The strategic assessment identified the need to coordinate with other agencies on consistency in regulating low activity waste (LAW) disposal and to develop guidance that summarizes disposition options for low-end materials and waste.

In 2016, the NRC staff conducted a programmatic assessment of the low-level radioactive waste program to identify and prioritize tasks that the NRC could undertake to ensure a stable, reliable and adaptable regulatory framework for effective low-level radioactive waste management. The results of this assessment were published in October 2016 in SECY-16-0118, “Programmatic Assessment of Low-Level Radioactive Waste Regulatory Program.” The programmatic assessment identified the need to perform a LAW scoping study as a medium priority.

In International Atomic Energy Agency (IAEA) Safety Guide No. GSG- 1, “Classification of Radioactive Waste,” the IAEA defines VLLW as waste that does not meet the criteria of exempt waste, but does not need a high level of containment and isolation and is therefore suitable for disposal in a near surface landfill type facility with limited regulatory control. The NRC currently does not have a formal regulatory definition for VLLW, nor has it adopted the IAEA definition. However, the NRC uses the term VLLW consistent with the international regulatory structure. In general, the NRC considers VLLW as material containing some residual radioactivity, including naturally occurring radionuclides that may be safely disposed of in hazardous or municipal solid waste landfills.

The LAW scoping study, which was later renamed the VLLW scoping study, will combine several tasks initially defined in the 2007 strategic assessment into one. These tasks include:

- ◆ coordinating with other agencies on consistency in regulating LAW;

- ◆ developing guidance that summarizes disposition options for low-end materials and waste; and,
- ◆ promulgating a rule for disposal of LAW.

As part of the scoping study, the NRC will also evaluate regulatory options that would define the conditions under which LAW, including mixed waste, could be disposed of in Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste facilities.

Consistent with SECY-16-0118, the NRC is conducting this VLLW Scoping Study, which will consider disposal of waste as defined by 10 CFR Part 61 as the isolation, by emplacement in a land disposal facility, of radioactive wastes from the biosphere that is inhabited by man and that contains his food chains. As such, the scoping study will not address non-disposal related disposition pathways including unrestricted release, clearance, reuse or recycle of materials.

The purpose of the VLLW scoping study is to identify possible options to improve and strengthen the NRC’s regulatory framework for the disposal of the anticipated large volumes of VLLW associated with the decommissioning of nuclear power plants and waste that might be generated by alternative waste streams that may be created by fuel reprocessing or a radiological event. Additionally, the NRC plans to evaluate regulatory options that could define the conditions under which VLLW, including mixed waste, could be disposed of in RCRA hazardous waste facilities.

*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](mailto:Maurice.Heath@nrc.gov).*

## NRC Seeks Public Comment re Development of Regulatory Basis for Alternative Means of Disposal of GTCC and Transuranic Waste

On February 14, 2018, the U.S. Nuclear Regulatory Commission (NRC) issued a *Federal Register* notice announcing that the agency is seeking stakeholder participation and involvement in identifying the various technical issues that should be considered in the development of a regulatory basis for the disposal of Greater-than-Class C (GTCC) and transuranic radioactive waste through means other than a deep geologic disposal, including near surface disposal. (See 83 *Federal Register* 6,475 dated February 14, 2018.)

As part of the process, the NRC is requesting that interested stakeholders respond to specific questions contained in the *Federal Register* notice. Comments are due by April 16, 2018. Comments considered after this date will be considered if it is practical to do so, but the NRC is only able to ensure consideration of comments received on or before the deadline.

On February 22, 2018, NRC held a public meeting regarding concerns associated with the disposal of GTCC and transuranic waste, as well as about the agency's plans to conduct a very low-level radioactive waste (VLLW) scoping study to identify possible options to improve and strengthen the NRC's regulatory framework for the disposal of the anticipated large volumes of VLLW associated with the decommissioning of nuclear power plants and material sites, as well as waste that might be generated by alternative waste streams that may be created by operating reprocessing facilities or a radiological event. (See *related story, this issue.*) The meeting was held from 9:00 a.m. to 3:00 p.m. in the auditorium

at the agency's headquarters in Rockville, Maryland. Interested stakeholders were able to participate via webinar or teleconference.

### Discussion

On December 22, 2015, in Staff Requirements Memorandum (SRM)–SECY–15–0094, “Historical and Current Issues Related to Disposal of GTCC Low Level Radioactive Waste (LLRW),” the Commission directed the NRC staff to develop a regulatory basis for disposal of GTCC and transuranic waste through means other than a deep geologic disposal (including near surface disposal) within six months of the completion of the final rule for Part 61 of title 10 of the *Code of Federal Regulations*, “Low-Level Radioactive Waste Disposal.” (See *LLW Notes*, January/February 2017, p. 26.) The Commission also directed the staff to conduct a public workshop during the development of the regulatory basis to receive input from stakeholders. On September 8, 2017, in SRM–SECY–16–0106, “Final Rule: Low-Level Radioactive Waste Disposal,” the Commission revised its earlier directions regarding the development of the GTCC and transuranic waste regulatory basis. (See *LLW Notes*, September/October 2017, pp. 1, 21–23.) Specifically, the Commission directed the staff to develop the regulatory basis six months after the publication of the supplemental proposed rule for the 10 CFR Part 61 rulemaking.

The NRC staff is in the initial phase of implementing the Commission's directions in SRM–SECY–15–0094 and SRM–SECY–16–0106. According to the NRC, “[t]he process of potentially amending the NRC's regulations is very thoughtful and deliberative because it can have significant impacts on members of the public, [s]tates, licensees and other stakeholders.” The regulatory basis describes the various scientific, technical and legal issues associated with a potential rulemaking. Therefore, as a part of the initial steps in implementing the Commission's directions, the staff has planned a

public meeting with stakeholders to identify the various technical issues that should be considered in the development of a regulatory basis for the disposal of GTCC and transuranic waste. The staff is also requesting that stakeholders respond to specific listed questions contained in the *Federal Register* notice that was issued on February 14, 2018. When this initial phase is completed, staff plans to develop a regulatory basis, which will be provided for public review. Staff plans to hold public meetings on the draft regulatory basis as well. Once all of the foregoing is completed, the staff will develop a final regulatory basis.

### Specific Request for Comment

The NRC is seeking stakeholder participation and involvement in identifying the various technical issues that should be considered in the development of a draft regulatory basis for the disposal of GTCC and transuranic radioactive waste through means other than a deep geologic disposal, including near surface disposal. To assist in this process, the NRC staff is requesting that interested stakeholders respond to the questions below. In addition, the NRC staff has conducted some initial technical analyses to assist its understanding of potential hazards with near surface disposal of GTCC and transuranic wastes, which are contained in draft “*NRC Staff Analyses Identifying Potential Issues Associated with the Disposal of Greater-Than-Class C Low-Level Radioactive Waste.*” The draft analyses should assist in providing responses to the following questions:

1. What are the important radionuclides that need to be considered for the disposal of the GTCC and transuranic wastes?

The U.S. Department of Energy (DOE) has described three broad categories of GTCC wastes, including a range of transuranic radionuclides, in its “Final Environmental Impact Statement for the Disposal of Greater-than-Class C (GTCC) Low-Level Radioactive

Waste and GTCC-Like Waste.” (See *LLW Notes*, November/December 2017, pp. 1, 23-28.) The three categories are entitled activated metals, sealed sources and other wastes. The attributes (i.e., radionuclide concentrations, heat generation and waste form) vary significantly between the three categories. Certain waste streams represent a very specific waste form (i.e., stainless steel for most activated metals; very concentrated amounts in sealed sources) that may require specific treatment to mitigate potential safety, security and criticality concerns. Some waste streams may contain sufficient quantities of specific radionuclides that will present a significant thermal output and/or gas generation through radiolysis. Still other waste streams may contain a significant quantity of fissile radionuclides (i.e., some isotopes of uranium and plutonium). The NRC is interested in identifying those radionuclides that could be important for evaluating the safety and security of storage associated with the operational period at a disposal facility and the post-closure period (including inadvertent intruder protection). Additionally, the NRC is interested in obtaining available data and information to support the characteristics of GTCC and transuranic wastes.

2. How might GTCC and transuranic wastes affect the safety and security of a disposal facility during operations (i.e., pre-closure period)?

The presence of sufficient quantities of high activity radionuclides and/or fissile radionuclides in GTCC and transuranic wastes may impact the design and operational activities associated with a disposal facility prior to disposal. The NRC is interested in identifying those design and operational activities at a disposal facility that may be impacted by GTCC and transuranic wastes. For example, the requirements in 10 CFR Part 73 would require licensees to develop

## Federal Agencies and Committees *continued*

safeguards systems to protect against acts of radiological sabotage and to prevent the theft or diversion of Special Nuclear Material (i.e., transuranic waste such as plutonium, uranium-233 or uranium enriched in the isotopes uranium-233 or uranium-235) if a sufficient amount of Special Nuclear Material were present above ground at the disposal facility.

3. How might GTCC and transuranic wastes affect disposal facility design for post-closure safety including protection of an inadvertent intruder?

The NRC is considering disposal units (i.e., a single trench, borehole and vault) that would contain a single category of waste (i.e., sealed sources) as well as disposal units that contain a mixture of all three waste types. However, the NRC believes the best approach for understanding the issues would be to assume that waste within a disposal unit would be separated by the waste category and not be commingled. Such an approach could provide a clear understanding of the issues associated with how a specific waste category might affect disposal facility design. Certain waste streams associated with GTCC and transuranic wastes have larger inventories and concentrations of radionuclides than was typically considered at low-level radioactive waste disposal facilities. For example, certain GTCC and transuranic wastes in sufficient quantities have the potential for significant thermal output that could affect degradation processes within a disposal unit and hydrogen gas generation through radiolysis that could also affect degradation processes of the waste package and waste form. Additionally, waste streams associated with GTCC and transuranic wastes may have fissile materials that require facilities to be designed to limit the potential for a criticality event or limit the amount of fissile material that can be disposed. There is a potential balance between security/safety and economic feasibility of design, construction and

operation. The NRC would like to hear from the stakeholders on these aspects as well. The information provided on economic feasibility would be in concert with the NRC's strategies on examining the cumulative effects of potential regulatory actions. The NRC is interested in identifying the various scenarios that should be considered in evaluating the post-closure safety for the disposal of GTCC and transuranic waste—especially scenarios associated with specific issues and concerns that may not have been previously considered for commercial disposal facilities (i.e., synergistic effects of the thermal output on geochemical processes affecting release of radionuclides).

### Submitting Comments

Interested stakeholders may submit comments by any of the following methods:

- ◆ Federal Rulemaking website: Go to <http://www.regulations.gov> and search for Docket ID NRC-2017-0081. Address questions about NRC dockets to Carol Gallagher at (301) 415-3463 or at [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov).
- ◆ Email Comments to: Email comments to [Rulemaking.Comments@nrc.gov](mailto:Rulemaking.Comments@nrc.gov). If you do not receive an automatic email reply confirming receipt, then contact the NRC at (301) 415-1677.
- ◆ Fax comments to: Fax comments to Secretary, U.S. Nuclear Regulatory Commission, at (301) 415-1101.
- ◆ Mail comments to: Mail comments to Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.
- ◆ Hand deliver comments to: Comments may be hand delivered to the NRC at 11555 Rockville Pike, Rockville, Maryland 20852 between 7:30 a.m. to 4:15 p.m.

## Federal Agencies and Committees *continued*

Interested stakeholders are reminded to please include Docket ID NRC 2017-0081 in the subject line of any comment submission.

### Obtaining Information

Interested stakeholders should refer to Docket ID NRC-2017-0081 when contacting the NRC about the availability of information for this action. Stakeholders may obtain publicly-available information related to this action by any of the following methods:

- ◆ Federal Rulemaking website: Go to <http://www.regulations.gov> and search for Docket ID NRC-2017-0081.
- ◆ NRC's Agencywide Documents Access and Management System (ADAMS): Publicly-available documents may be obtained online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at (800) 397-4209, (301) 415-4737, or by email to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov).
- ◆ NRC's PDR: Copies of public documents may be examined and purchased at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

### Background

The NRC's "Licensing Requirements for Land Disposal of Radioactive Waste" are provided in 10 CFR Part 61. Section 10 CFR 61.2, "Definitions," provides that waste as used in Part 61 means those low-level radioactive wastes containing source, special nuclear or byproduct material that are acceptable for disposal in a land disposal facility. The definition also indicates that low-level radioactive waste means radioactive

waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel or byproduct material as defined in paragraphs (2), (3), and (4) of the definition of byproduct material in § 20.1003.

The Statements of Consideration (SOC) for the 10 CFR Part 61 proposed rule explained that not all waste may be suitable for disposal in the near surface. Specifically, Section IV, "Purpose and Scope," of the SOC indicates that, while 10 CFR Part 61 was intended to deal with the disposal of most low-level radioactive waste defined by the Low-Level Radioactive Waste Policy Act, the 10 CFR Part 61 waste classification system identified some low-level radioactive wastes that are not suitable for disposal under its regulatory framework and alternative methods would have to be used.

In § 61.55, "Waste classification," the NRC developed a classification system for waste for near surface disposal, which categorizes waste as Class A, B or C. This provision also describes waste that is not generally acceptable for near-surface disposal, whose disposal methods must be more stringent than those specified for Class C waste. This waste is referred to as GTCC waste.

Nuclear power reactors, facilities supporting the nuclear fuel cycle and other facilities and licensees outside of the nuclear fuel cycle generate the GTCC waste. This class of wastes include:

- ◆ plutonium-contaminated nuclear fuel cycle wastes;
- ◆ activated metals;
- ◆ sealed sources; and,
- ◆ radioisotope product manufacturing wastes – i.e., wastes "occasionally generated as part of manufacture of sealed sources, radiopharmaceutical products and other



materials used for industrial, education, and medical applications.”

Transuranic waste is not included in the § 61.2 definition of low-level radioactive waste. In a 1988 amendment to the Atomic Energy Act of 1954, as amended, a definition for transuranic was added. Transuranic waste is defined as “material contaminated with elements that have an atomic number greater than 92, including neptunium, plutonium, americium, and curium, and that are in concentrations greater than 10 nanocuries per gram [(nCi/g)], or in such other concentrations as the [U.S.] Nuclear Regulatory Commission may prescribe to protect the public health and safety.” Transuranic waste is a byproduct of nuclear research and power production and is primarily produced from spent fuel recycling, medical isotope production or nuclear weapons fabrication. The waste may consist of rags, tools and laboratory equipment contaminated with organic and inorganic residues.

The identification and evaluation of regulatory concerns associated with land disposal of GTCC and transuranic waste will largely depend on the characteristics of the wastes (i.e., isotopes, concentrations and volumes of waste) and physical and chemical properties. The variable characteristics of the waste can influence the decision regarding the appropriate regulatory approach to use for management and disposal of these wastes. Overly conservative assumptions for the inventory and characteristics could significantly limit disposal options, whereas, overly optimistic assumptions with respect to characteristics could lead to a disposal facility that may not provide adequate protection of public health and safety and security.

*For additional information, please contact Cardelia Maupin of the NRC’s Office of Nuclear Material Safety and Safeguards (NMSS) at (301) 415–4127 or at [Cardelia.Maupin@nrc.gov](mailto:Cardelia.Maupin@nrc.gov).*

## NRC Hosts Public Meeting re Very Low-Level Radioactive Waste Scoping Study and Disposal of Greater-than-Class C Waste

On February 22, 2018, the Office of Nuclear Material Safety and Safeguards (NMSS) of the U.S. Nuclear Regulatory Commission (NRC) hosted a public meeting to discuss the Very Low-Level Radioactive Waste (VLLW) Scoping Study and concerns associated with the disposal of Greater-than-Class C (GTCC) waste. (*See related story, this issue.*)

### Logistics

The public meeting was held in the auditorium at the agency’s headquarters in Rockville, Maryland. It was held from 9:00 a.m. to 3:00 p.m. on February 22, 2018.

Interested stakeholders were able to participate via webinar or teleconference.

The meeting was transcribed.

### Agenda

The agenda for the NRC public meeting on the VLLW Scoping Study and the disposal of GTCC and transuranic waste was as follows:

- ◆ 8:30 a.m. – 9:00 a.m.: Registration and Badging
- ◆ 9:00 a.m. – 9:15 a.m.: Facilitator Opening Comments (NRC)
- ◆ 9:15 a.m. – 9:30 a.m.: NRC Welcome/ Opening Remarks (NRC)

## Federal Agencies and Committees *continued*

- ◆ 9:30 a.m. – 12:00 p.m.: Very Low-Level Radioactive Waste Scoping Study Discussion/Public Comments/Questions (NRC/Public)
- ◆ 12:00 p.m. – 1:00 p.m.: *Break*
- ◆ 1:00 p.m. – 3:00 p.m.: Greater-than-Class C Waste Discussion/Public Comments/Questions (NRC/Public)
- ◆ 3:00 p.m.: Closing Remarks/Adjournment (NRC)

*Copies of the Public Meeting Announcement and Agenda can be found on the Publics Meeting page of the NRC website at [www.nrc.gov](http://www.nrc.gov).*

### **Background**

VLLW Scoping Study: On February 14, 2018, NRC issued a *Federal Register* notice announcing the agency's plans to conduct a VLLW scoping study to identify possible options to improve and strengthen the NRC's regulatory framework for the disposal of the anticipated large volumes of VLLW associated with the decommissioning of nuclear power plants and material sites, as well as waste that might be generated by alternative waste streams that may be created by operating reprocessing facilities or a radiological event. (See 83 *Federal Register* 6,619 dated February 14, 2018.)

As part of the process, the NRC is seeking stakeholder input and perspectives. Respondents are asked to consider specific questions posed by the NRC staff and other federal agencies in the *Federal Register* notice. (See related story, *this issue*.) Comments are due by May 15, 2018. Comments considered after this date will be considered if it is practical to do so, but the NRC is only able to ensure consideration of comments received on or before the deadline.

GTCC and Transuranic Waste Disposal: On February 14, 2018, the NRC issued a *Federal Register* notice announcing that the agency is

seeking stakeholder participation and involvement in identifying the various technical issues that should be considered in the development of a regulatory basis for the disposal of GTCC and transuranic radioactive waste through means other than a deep geologic disposal, including near surface disposal. (See 83 *Federal Register* 6,475 dated February 14, 2018.)

As part of the process, the NRC is requesting that interested stakeholders respond to specific questions contained in the *Federal Register* notice. (See related story, *this issue*.) Comments are due by April 16, 2018. Comments considered after this date will be considered if it is practical to do so, but the NRC is only able to ensure consideration of comments received on or before the deadline.

*For additional information on the NRC public meeting, please contact Cardelia Maupin at (301) 415-2312 or Maurice Heath at (301) 415-3137.*

## Common Violations Cited During First Two Years of 10 CFR Part 37

### *Physical Protection of Category 1 and 2 Quantities of Radioactive Material*

On January 22, 2018, the U.S. Nuclear Regulatory Commission (NRC) issued Regulatory Information Summary (RIS) 2018-01, *Common Violations Cited During First 2 Years of 10 CFR Part 37, "Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material."*

### **Intent**

The NRC issued RIS 2018-01 in order to:

- ◆ provide an overview of the requirements of Part 37 of Title 10 of the Code of Federal

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Regulations (10 CFR) Part 37, “Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material,” and highlight differences from the security orders issued prior to the promulgation of 10 CFR Part 37;

- ◆ provide an overview of the NRC’s staff assessment of the effectiveness of 10 CFR Part 37;
- ◆ inform addressees of common violations that the NRC has identified during inspections conducted to verify compliance with the requirements of 10 CFR Part 37, in order to raise awareness of these particular violations and reduce their occurrence; and,
- ◆ remind addressees of resources available to answer questions and clarify issues regarding rule implementation.

The NRC provided RIS 2018-01 to Agreement States for their information and for distribution to their licensees, as appropriate. However, no specific action or written response is required.

### Summary of Issue

Overview of 10 CFR Part 37: The basic physical protection requirements of 10 CFR Part 37 include:

- ◆ background checks to ensure that individuals with unescorted access to Category 1 and Category 2 radioactive materials are trustworthy and reliable;
- ◆ control of personnel access to areas where Category 1 and Category 2 materials are stored and used;
- ◆ security programs to detect, assess and respond to actual or attempted unauthorized access events;

- ◆ coordination and response planning between the licensee and local law enforcement;
- ◆ coordination and tracking of Category 1 and Category 2 materials shipments; and,
- ◆ security barriers to discourage theft of portable devices that contain Category 1 and Category 2 material.

In developing the rule, the NRC considered, among other things, lessons-learned during implementation of the orders, stakeholder comments received on the proposed rule and the draft implementation guidance. In RIS 2018-01, NRC provided a few examples, which are not intended to be all-inclusive, where 10 CFR Part 37 requirements differ from the orders. As noted, regulations in 10 CFR Part 37 impose the following requirements:

- ◆ licensees must conduct training to ensure that individuals implementing the security program understand their assigned duties and responsibilities;
- ◆ licensees must implement an annual testing and maintenance program for intrusion alarms, associated communication systems, and other physical systems used to secure or detect unauthorized access to ensure such equipment is capable of performing its intended function when needed; and,
- ◆ licensees must develop a written security plan and associated procedures demonstrating compliance with requirements of 10 CFR Part 37.

NRC Assessment of the Effectiveness of 10 CFR Part 37: On December 16, 2014, the President of the United States signed the *Consolidated and Further Continuing Appropriations Act, 2015* (Public Law 113-235), which required the NRC to evaluate the effectiveness of the requirements of 10 CFR Part 37 and determine whether those requirements are adequate to protect “high-risk

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radiological material.” The legislation also directed the evaluation to consider inspection results and event reports from the first two years of implementation of the rule’s requirements for NRC licensees.

In order to address the congressional mandate, the NRC conducted extensive assessment activities involving the review of nine areas of interest. A few noteworthy areas are:

- ◆ the analysis of 10 CFR Part 37 inspection results from the first 2 years of rule implementation;
- ◆ the review of events from the nuclear material events database and security incident database; and,
- ◆ the consideration of comments, questions and recommendations provided during stakeholder outreach efforts.

The report to Congress, *Effectiveness of Part 37 of Title 10 of the Code of Federal Regulations*, is available on the NRC public Web site and can be found in the Agencywide Documents Access and Management System (ADAMS) under Accession No. ML16347A398. The report of the evaluation, *Summary of NRC Staff Program Review of 10 CFR Part 37*, can be found on the NRC’s public Web site at <https://www.nrc.gov/security/byproduct/10-cfr-part-37-program-review.html>.

The overall results of the program review activities confirmed that 10 CFR Part 37 provides a strong regulatory framework to ensure the security of Category 1 and Category 2 radioactive materials. However, as a result of NRC inspections and the program review, the NRC staff identified areas where licensees’ compliance with 10 CFR Part 37 and communications with licensees can be enhanced. Specifically, as a result of the analysis of inspection results, the NRC identified the need for further outreach to licensees to ensure implementation of all the

aspects of 10 CFR Part 37 that differ from the orders that preceded the rule.

Common Violations Identified During NRC Inspections: On March 19, 2014, the NRC began conducting inspections and enforcement of 10 CFR Part 37 for NRC licensees and Agreement State licensees operating under reciprocity in areas within NRC jurisdiction. When inspections began, the NRC formed a dedicated subgroup within its internal enforcement program, referred to as the Security Issues Forum (SIF), to discuss various questions and situations regarding implementation of 10 CFR Part 37. The purpose of the SIF was to resolve issues and to ensure consistent inspection and enforcement of the requirements across the NRC. In addition, the SIF identified areas where the existing guidance could be supplemented to improve licensees’ understanding of, and compliance with, 10 CFR Part 37.

As part of the program review of 10 CFR Part 37, the NRC staff reviewed inspection reports performed in the first two years of 10 CFR Part 37 implementation for NRC licensees (i.e., from March 2014 to March 2016) and documented the results. The majority of inspections (i.e., 184 inspections or 72 percent) resulted in no violations. The NRC staff assessed the quantity, type and severity of findings issued against the rule to identify trends that may be indicative of a need to enhance the rule, guidance or take other action such as issuance of a generic communication or conducting of training.

The analysis of the inspection findings and associated violations identified that, in many cases, licensees did not demonstrate an understanding of the difference between the requirements of 10 CFR Part 37 and the orders that preceded it. Specifically, the NRC identified that — despite outreach efforts — some licensees erroneously concluded that 10 CFR Part 37 codified the requirements of the security-related orders and therefore, compliance with the orders was adequate to demonstrate compliance with

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10 CFR Part 37. For example, 10 CFR Part 37 requires licensees to develop, document and implement security plans and access authorization programs that satisfy specific requirements set forth by the rule. The orders did not require this level of documentation. This lack of understanding resulted in a substantial number of violations related to the development and documentation of security plans and procedures, as well as documentation related to the access authorization program. Instances such as these accounted for over 60 percent of the total cited violations — with more than 25 percent of the total cited violations representing failures to adequately document program requirements in procedures. The two most frequent violations of the rule were violations related to procedures under the following subsections:

- ◆ 10 CFR 37.23(f), which requires that licensees develop, implement and maintain written procedures for implementing access authorization program requirements of Subpart B; and,
- ◆ 10 CFR 37.43(b)(1), which requires that licensees develop and maintain written procedures that document how the requirements of 10 CFR 37 Subpart C and the security plan are met.

Most of the violations identified during inspections, including the failure to fully document compliance with 10 CFR Part 37, were Severity Level IV.

Of the total violations cited against NRC licensees during the first two years of 10 CFR Part 37 implementation, the majority of violations (i.e., 90 percent) were Severity Level IV. The remaining 10 percent of violations were Severity Level III. No Severity Level I or II violations were cited.

The Severity Level III violations generally spanned across 10 CFR Part 37. Six violations related to 10 CFR 37.43(d), “Protection of

Information,” where licensees did not implement the requirements associated with protecting their security plan, implementing procedures and the list of individuals with unescorted access against unauthorized disclosure. The NRC inspectors found that some licensees did not fully consider how their networked computer systems were managed by information technology (IT) staff. Licensees were using password protection to gain access to their networked system, but did not realize that IT personnel could bypass these measures and gain access to their network.

When reviewing 10 CFR Part 37 inspection results specific to physical protection of Category 1 and Category 2 material, the staff identified six violations of 10 CFR 37.49(a)(3), “Monitoring and detection,” which requires licensees to establish a means to detect unauthorized removal of material from the security zone. In these cases, the licensees were under the impression that the physical protection system in place to monitor, detect and assess unauthorized access to the material, which was also a requirement of the security-related orders, would be sufficient to demonstrate compliance with 10 CFR 37.49(a)(3). The NRC inspectors found that the licensee could quickly detect unauthorized access; however, the licensee did not have a separate means that would detect unauthorized removal of the material.

Although this was not a finding during the past two years of inspections, the NRC staff highlighted the requirements of 10 CFR 37.25(c), “Reinvestigations.” Under 10 CFR 37.25(c), licensees are required to conduct a reinvestigation every ten years for an individual with unescorted access to Category 1 or 2 quantities of material. The reinvestigation due date is not linked to the effective date of the 10 CFR Part 37 rule. The 10-year time period is based on the date an individual was first granted unescorted access to Category 1 or 2 materials. For example, if an individual was granted unescorted access to Category 2 material in December 2007, this individual’s reinvestigation must be conducted by December 2017.

## Federal Agencies and Committees *continued*

Enclosure 1 to RIS 2018-01 provides a more detailed description of the violations commonly observed in inspections conducted for NRC licensees during the first two years of rule implementation. In addition, the NRC reviewed the issuance of post-March 2016 violations in hopes of identifying situations not captured by the March 2014 to March 2016 data analysis. One case was identified that involved a licensee that was not transporting their own portable device, but instead was preparing a shipment to another licensee and did not fully apply Subpart C for radioactive material when stored interim to transport. The material was stored on the vehicle in its shipping configuration within a locked fenced area owned by the licensee. The licensee did not provide a means to continuously monitor the area (10 CFR 37.47(a)); a means to detect unauthorized removal of the material (10 CFR 37.49(a)(1)); and, failed to disable the trailer containing material when not under the direct control and constant surveillance of the licensee (10 CFR 37.53). This resulted in a Severity Level III violation.

Available NRC Resources for Implementation of 10 CFR Part 37: The NRC published several communications to support implementation of the rule, including issuance of two significant guidance documents, described below:

- ◆ *NUREG-2155, Revision 1, Implementation Guidance for 10 CFR Part 37, Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material:* NUREG-2155 contains regulatory citations for the requirements in 10 CFR Part 37; a series of frequently asked questions and answers relevant to each citation; and, a plain language explanation of the intent of the regulation.
- ◆ *NUREG-2166, Physical Security Best Practices for the Protection of Risk-Significant Radioactive Material:* NUREG-2166 provides guidance to licensees on how to create a physical protection program and how to document their security plan.

During the course of the program review of 10 CFR Part 37, the NRC staff also identified that many licensees were unaware of the existing documents issued by the NRC that describe the differences between the security-related orders and 10 CFR Part 37 and provide guidance to support Part 37 implementation. In order to facilitate licensee awareness of the availability of these resources, Enclosure 2 to RIS 2018-01 provides the list of guidance documents available to licensees and identifies their location on the NRC website. The NRC website contains implementing guidance and additional helpful information to be considered by licensees when developing and implementing an effective physical protection program that complies with 10 CFR Part 37. These guidance documents include acceptable methods for licensees to demonstrate compliance with the commonly cited requirements discussed in RIS 2018-01. The NRC updates this website as needed and recommends that licensees review this information periodically. NRC has also established a dedicated email resource at [Part37.Resource@nrc.gov](mailto:Part37.Resource@nrc.gov) for stakeholders to ask questions and provide comments directly to the NRC staff members involved. Interested stakeholders are encouraged to use this resource to ask any questions regarding the implementation of 10 CFR Part 37. Any questions regarding licensing, inspection and/or compliance with 10 CFR Part 37 regulations should be directed to the appropriate NRC office with responsibility for these programs.

### **Background**

The NRC took steps to strengthen the security of Category 1 and Category 2 quantities of radioactive materials after the terrorist attacks of September 11, 2001. Initially, the NRC issued a series of orders requiring implementation of additional security measures as an interim solution until a public rulemaking process could establish additional security requirements.

Subsequently, on March 19, 2013 — after incorporating lessons learned by the NRC and the Agreement States in implementing the orders, as well as extensive stakeholder input — the NRC published a final rule amending its regulations to establish security requirements for the use and transport of Category 1 and Category 2 quantities of radioactive material (78 *Federal Register* 16,922).

The objective of the rule is to provide reasonable assurance of the security of Category 1 and Category 2 quantities of radioactive material by protecting these materials from theft, diversion or sabotage. To achieve this objective, the rule established generally applicable physical security requirements for the possession and use of Category 1 and Category 2 quantities of radioactive material. The NRC licensees were required to comply with 10 CFR Part 37 by March 19, 2016. All Agreement States issued compatible requirements for their licensees on or before the March 2016 deadline.

*For additional information, please contact Adelaide Giantelli in the NRC's Office of Nuclear Material Safety and Safeguards (NMSS) at (301) 415-7562 or at [adelaide.giantelli@nrc.gov](mailto:adelaide.giantelli@nrc.gov).*

## Control of Security-Related Sensitive Unclassified Non-Safeguards Information re Source, Byproduct and Special Nuclear Material

On December 26, 2017, the U.S. Nuclear Regulatory Commission (NRC) issued a revision to Regulatory Information Summary (RIS) 2005-31, *Control of Security-Related Sensitive Unclassified Non-Safeguards Information Handled by Individuals, Firms and Entities Subject to NRC Regulation of the Use of Source, Byproduct and Special Nuclear Material*.

### **Intent**

The NRC issued RIS 2005-31, Revision 1, in order to:

- ◆ inform licensees and others of the screening criteria that the NRC uses to identify and protect security-related sensitive information in documents generated by the NRC and in documents developed by licensees and others, particularly those received by the NRC;
- ◆ encourage licensees and others to identify security-related sensitive information in documents submitted to the NRC by using specified marking procedures and screening criteria; and,
- ◆ encourage licensees and others that may possess security-related sensitive information to control the information in order to limit the risk that the information might fall into the hands of those who would use it for malevolent acts.

No specific action or written response is required.

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### Overview

The NRC's sensitive unclassified non-safeguards information (SUNSI) policy addresses information that can reasonably be foreseen to harm the public interest, the commercial or financial interests of an entity, the conduct of NRC and federal programs or the personal privacy of individuals if lost, misused or modified. It also includes security-related information.

If practical, licensees and others that submit documents to the NRC should avoid including any security-related sensitive information to permit the release of the document to the public in its entirety. However, if that is not practical, the following steps will help ensure that sensitive information is not released:

- ◆ **Screening of Licensee-Generated Documents:** To ensure that any security-related sensitive information in submitted documents is not made publicly available in the Agency-wide Documents Access and Management System (ADAMS), the NRC is encouraging licensees and other entities to screen submittals in accordance with specified criteria. In addition, to ensure that licensees and other entities identify and control security-related sensitive information in their documents, the NRC is encouraging them to develop implementing procedures to screen documents that might have sensitive security-related information in order to identify and control the information appropriately. The goal is to limit the risk that the information might fall into the hands of those who would use it for malevolent acts.
- ◆ **Cover Letter:** If a cover letter that does not itself contain sensitive information is used to transmit a document(s) that contains security-related sensitive information, the cover letter should clearly state this. Furthermore, the cover letter should have a statement that indicates that once its sensitive attachments

are removed, the cover letter itself may be handled as an uncontrolled document.

However, if the cover letter itself contains security-related sensitive information, it cannot be decontrolled.

- ◆ **Marking Documents That Contain Security-Related Sensitive Information:** The marking "Security-Related Information—Withhold under 10 CFR 2.390" should be included at the top center of every page. If submitting both a public and a nonpublic version of the same document, licensees and other entities should "black out" the sensitive information in the public version or withhold the sensitive information with a notation that it was withheld on the basis that it is "security-related information." Alternately, security-related sensitive information may be segregated from the main body of the document and included only in attachments to the submittal. In this scenario, only the attachments that contain security-related sensitive information would be marked for withholding from public disclosure. If this approach is used, the public version does not need to be marked as containing security-related sensitive information. Additional information on suggested handling and methods of submitting security-related sensitive information can be found in Enclosure 1 to RIS 2005-31, Revision 1.

### Protection of Security-Related Sensitive Information

Documents that contain security-related sensitive information should be protected from public disclosure using methods similar to those for protecting proprietary information. To the extent practical, any existing documents that contain security-related sensitive information that licensees or other entities have previously made available to the public should be withdrawn from public access. Licensees and other entities should have sufficient internal controls to prevent release of information to limit the risk that sensitive



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security-related information could be released to someone with malevolent intent. In addition to the points enumerated above, other methods to prevent the inadvertent release of security-related sensitive information include restricting access to electronic recordkeeping systems that contain such information; controlling the reproduction, distribution and destruction of potentially sensitive records; and, releasing sensitive information only to those individuals who have a need to know the information to perform their jobs and who are made aware of the security-related nature of the information.

Certain categories of security-related sensitive information under 10 CFR Part 37, “Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material,” must be protected pursuant to 10 CFR 37.43(d) and 37.77(f).

Much of the NRC’s information is readily available to the public through the NRC’s web site and ADAMS. In addition, the agency may release other information to the public in response to formal or informal requests. Although the NRC developed these security-related sensitive information-screening criteria with the principles of the Freedom of Information Act (FOIA) in mind, a review for security-related sensitive information does not substitute for a FOIA review. The NRC will continue to review and process FOIA requests under 10 CFR 2.390(d)(1), independently from the security-related sensitive information review process.

### **Background**

The NRC traditionally has given the public access to a significant amount of information about the facilities and materials the agency regulates. Openness has been and remains a cornerstone of the NRC’s regulatory philosophy. The Atomic Energy Act of 1954 (as amended), subsequent legislation and various NRC regulations have given the public the right to participate in the licensing and oversight process for NRC

licensees. To participate in a meaningful way, the public must have access to information about the design and operation of regulated facilities and use of nuclear materials. However, the NRC and other government agencies have always withheld some information from public disclosure for reasons of security, personal privacy or designation as proprietary information (commercial or trade secret protection).

Following the terrorist attacks of September 11, 2001, the NRC has found it necessary to be more judicious in determining what information to voluntarily release so that it does not inadvertently provide assistance to those who might use certain information for malevolent acts. The NRC has issued orders, advisories and rules; taken specific actions on the security of its licensed facilities; and, assessed and revised its policies and practices for making information available to the public. On October 25, 2004, the NRC temporarily suspended public access to documents in ADAMS. Subsequently, the NRC screened those documents to determine whether they contained security-related sensitive information. Based on this screening, the NRC returned a large number of documents to public access in ADAMS. This screening process continues as requests for specific documents are received, as the NRC creates new documents and as the agency receives new documents from licensees and other entities.

The NRC has continued to presumptively withhold some categories of documents from routine public release. In SECY-04-0191, “Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure” (October 19, 2004), and SECY-05-0101, “Withholding from Public Disclosure Sensitive Unclassified Information Concerning Materials Licensees and Certification Holders” (October 7, 2005), the staff proposed to withhold certain information on fire protection and emergency planning and response to ensure that information that could reasonably be expected to be useful to a potential adversary was

not made public. The Commission approved the initial withholding of this information and the review of the information for release in response to requests such as those made under FOIA. In SECY-15-0032, “Reviewing Documents for Public Release Using Sensitive Unclassified Non-Safeguards Information Guidance” (March 6, 2015), the staff proposed to discontinue this policy and instead apply the SUNSI policy to review, release and withhold fire protection and emergency preparedness documents. On June 15, 2015, the Commission approved this proposal in its Staff Requirements Memorandum (SRM) to SECY-15-0032. The advice in RIS 2005-31, Revision 1, reflects that change.

To facilitate the screening process for the public release of information, the NRC developed screening criteria and issued two RIS’s that pertain to nuclear reactors for conducting its reviews. On November 7, 2005, the NRC issued RIS 2005-26, “Control of Sensitive Unclassified Non-Safeguards Information Related to Nuclear Power Reactors,” for assessing whether documents associated with reactor licensees should be made publicly available. On December 23, 2015, the NRC issued RIS 2015-17, “Review and Submission of Updates to Final Safety Analysis Reports, Emergency Preparedness Documents, and Fire Protection Documents,” to remind licensees of the review and submission requirements of 10 CFR 2.390, “Public Inspections, Exemptions, Requests for Withholding,” on information that may be withheld from public disclosure.

As part of related efforts in the nonreactor arena, the NRC has developed criteria for identifying security-related sensitive information that the staff encourages licensees to screen out or to mark and protect as sensitive information—particularly before those licensees that handle source, byproduct or special nuclear material submit documents to the NRC.

The advice in RIS 2005-31, Revision 1, and its enclosures does not apply to classified

information, safeguards information or safeguards information—modified handling that by law must be withheld from the public.

*For additional information, please contact Andrea Kock, Acting Director Division of Material Safety, State, Tribal and Rulemaking Programs in the NRC’s Office of Nuclear Material Safety and Safeguards (NMSS), at (301) 415-2368 or at [andrea.kock@nrc.gov](mailto:andrea.kock@nrc.gov).*

## NRC Presents FY 2018-2022 Strategic Plan to Congress and President

On February 12, 2018, the U.S. Nuclear Regulatory Commission (NRC) announced the publication of the agency’s updated Strategic Plan for Fiscal Years (FY) 2018-2022.

The document provides a blueprint for the NRC to plan, implement and monitor work needed to achieve the agency’s mission for the next four years. It establishes strategic goals, long-term strategies and performance expectations. It also provides a basis for the agency’s annual budget and performance plans.

The NRC issued its first Strategic Plan in September 1997 and is required to update it every four years. The FY 2018-2022 edition was submitted to Congress and the President.

### Overview

The updated strategic plan, covering the period FY 2018–2022, provides an overview of the NRC’s responsibilities and lays out the objectives, strategies and key activities that will be used to achieve the agency's strategic goals.

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The NRC's strategic goals and objectives remain essentially unchanged from the previous (FY 2014-2018) Strategic Plan and they correlate to the agency's central regulatory functions.

The updated Strategic Plan includes a new vision statement, which emphasizes that the NRC staff are guided by the Principles of Good Regulation — independence, clarity, openness, reliability, and efficiency — in carrying out regulatory activities. The plan also contains general updates and editorial enhancements.

The agency sought both staff and public comment on the draft plan. The input was considered, summarized and provided to the Commission in developing the final plan.

### Strategic Goals

The updated Strategic Plan for FY 2018-22 identifies the agencies strategic goals to:

- ◆ ensure the safe use of radioactive materials; and,
- ◆ ensure the secure use of radioactive materials.

The NRC's two strategic goals are the results the agency must achieve to successfully carry out its mission and are the foundation for the rest of the plan. Each strategic goal has supporting objectives and strategies. The objectives reflect the outcome the agency is trying to achieve and the NRC's role in achieving it and are supported by specific strategies. The objectives also provide the basis for performance goals and indicators to help the agency monitor and understand progress.

### Strategic Objectives

The updated Strategic Plan for FY 2018-22 lists the following strategic objectives:

- ◆ prevent, mitigate, and respond to accidents and ensure radiation safety;

- ◆ ensure protection of nuclear facilities and radioactive materials; and,
- ◆ ensure protection of classified and controlled unclassified information.

### Security Strategies

There are seven security strategies listed in the updated Strategic Plan for FY 2018-22 including:

- ◆ Security Strategy 1: Maintain and further risk-inform the current regulatory framework for security using information gained from operating experience, lessons learned, external and internal assessments, technology advances and changes in the threat environment.
- ◆ Security Strategy 2: Maintain effective, consistent and risk-informed oversight of licensee performance with respect to meeting NRC security requirements.
- ◆ Security Strategy 3: Maintain material security through the National Materials Program in partnership with the safety programs administered by the Agreement States.
- ◆ Security Strategy 4: Proactively identify, assess and address threats, vulnerabilities and security risks.
- ◆ Security Strategy 5: Support U.S. national security interests and nuclear nonproliferation policy objectives consistent with the NRC's statutory mandate through cooperation with domestic and international partners.
- ◆ Security Strategy 6: Ensure material control and accounting for special nuclear materials.
- ◆ Security Strategy 7: Ensure that programs for the handling and control of classified and controlled unclassified information are effectively implemented at the NRC and at licensed facilities.

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### Safety Strategies

There are eight safety strategies listed in the updated Strategic Plan for FY 2018-22 including:

- ◆ Safety Strategy 1: Maintain and enhance the NRC's regulatory programs, using information gained from domestic and international operating experience, lessons learned and advances in science and technology.
- ◆ Safety Strategy 2: Further risk-inform the current regulatory framework in response to advances in science and technology, policy decisions and other factors including prioritizing efforts to focus on the most safety-significant issues.
- ◆ Safety Strategy 3: Enhance the effectiveness and efficiency of licensing and certification activities to maintain both quality and timeliness of licensing and certification reviews.
- ◆ Safety Strategy 4: Maintain effective and consistent oversight of licensee performance with a focus on the most safety-significant issues.
- ◆ Safety Strategy 5: Maintain material safety through the National Materials Program in partnership with Agreement States.
- ◆ Safety Strategy 6: Identify, assess and resolve safety issues.
- ◆ Safety Strategy 7: Ensure the NRC maintains its readiness to respond to incidents and emergencies involving NRC-licensed facilities and radioactive materials and other events of domestic and international interest.
- ◆ Safety Strategy 8: Verify that nuclear facilities are constructed and operated in accordance with permits and licenses and that the environmental and safety regulatory

infrastructure is adequate to support the issuance of new licenses.

### Background

The NRC is an independent agency established by the Energy Reorganization Act of 1974 that began operations in 1975 as a successor to the licensing and regulatory activities of the Atomic Energy Commission.

The NRC's mission is to license and regulate the nation's civilian commercial, industrial, academic and medical uses of nuclear materials to provide reasonable assurance of adequate protection of public health and safety and to promote the common defense and security and to protect the environment.

The NRC is headed by five Commissioners appointed by the President of the United States, with the advice and consent of the U.S. Senate, to serve staggered 5-year terms. The President designates one of the Commissioners to serve as Chairman.

The NRC's scope of responsibility includes the regulation of commercial nuclear power plants; research and test reactors; nuclear fuel cycle facilities; medical, academic, and industrial uses of radioactive materials; the decommissioning of these facilities and sites; and, the transport, storage and disposal of radioactive materials and wastes.

The agency issues licenses for civilian uses of radioactive materials, oversees the licensees, and certifies standard nuclear reactor designs and spent fuel storage casks and transportation packages.

The agency also licenses the import and export of radioactive materials; participates in international nuclear activities, including multilateral and bilateral safety and security activities; and, works closely with its international counterparts to enhance nuclear safety and security worldwide.

*The NRC's updated Strategic Plan for Fiscal Years (FY) 2018-2022 can be found on the agency's website as NUREG-1614, Volume 7.*

*For additional information, please contact Holly Harrington of the NRC at (301) 415-8200.*

## NRC Proposes Annual Fees for FY 2018

On January 25, 2018, the U.S. Nuclear Regulatory Commission (NRC) announced that the agency is seeking public comment on proposed changes to its regulations for the fees it will charge applicants and licensees for fiscal year 2018. Comments were accepted from interested stakeholders through February 26, 2018. (See 83 *Federal Register* 3,407 dated January 25, 2017.)

The fees in the proposed rule would recover \$826.7 million, approximately 90 percent of the agency's budget, as required by the Omnibus Budget Reconciliation Act of 1990, as amended. About \$289.4 million of the fees would recover the cost of specific services to identifiable applicants and licensees under 10 CFR Part 170. The remaining \$537.3 million would be billed as annual fees under 10 CFR Part 171.

The FY 2018 proposed fee rule is based on the FY 2018 Congressional Budget Justification, as adjusted. The final rule will be based on the NRC's actual appropriation, and the agency will update the final fee schedule as appropriate.

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

## NRC Issues Information Notice re Spent Fuel Cask Loading Operations

On February 21, 2018, the U.S. Nuclear Regulatory Commission (NRC) released Information Notice (IN) 2018-01, *Noble Fission Gas Releases During Spent Fuel Cask Loading Operations*.

### Purpose

NRC issued IN 2018-01 to inform addressees of operating experience related to noble fission gas releases during spent fuel loading operations, and of the importance of adequate fuel selection and maintaining fuel qualification test records to demonstrate that either the spent fuel cladding continues to serve its design function or that follow-up actions are needed.

The addressees may review the information within the IN for applicability to their facilities or dry storage system (DSS) designs and consider actions, as appropriate. IN 2018-01 requires no action or written response on the part of an addressee.

### Description of Circumstances

Several licensees under 10 CFR Part 72 have experienced noble fission gas releases during spent fuel loading operations. In all but one case, the licensees were able to rely on a combination of fuel selection records, qualification tests and root-cause analyses to demonstrate that, despite the release, the spent fuel conditions were maintained within the bounds of its design-bases safety analyses.

IN 2018-01 includes discussion of various events that provide a sampling of the operating experience associated with noble fission gas releases during spent fuel loading operations at

the Millstone Power Station, Unit 2; Calvert Cliffs Nuclear Power Plant, Unit 1; and, Arkansas Unit One, Units 1 and 2.

### **Discussion**

Licensees that experience noble fission gas releases during spent fuel cask loading operations may determine follow-up actions based on a review of fuel selection records, results from root-cause or apparent-cause analyses or other relevant operating experience. A licensee may evaluate whether the design-bases fuel temperature limits were exceeded or whether the fuel was inadvertently exposed to oxidizing species that compromised cladding integrity. The guidance in NUREG-1536, Revision 1, states that if fuel oxidation occurred, it may lead to a configuration not adequately analyzed for radiation dose rates or criticality safety. Additionally, the guidance further states that the release of fuel fines or grain-sized powder into the inner cask environment from ruptured fuel may be a condition outside of the approved design bases.

The NRC staff recognizes that no fuel qualification test method is 100 percent accurate and that quantifying reliability is difficult because of the low failure rate of modern fuel (about 0.001 percent). Nevertheless, a licensee's evaluation of operating experience may identify limitations of a given technique and appropriate actions consistent with the licensees' approved site procedures and QA program are recommended. Such actions may include revising operating procedures to limit the use of certain techniques, depending on the type of fuel or sensitivity limits of the instrumentation, as well as assessing the need for secondary characterization.

Releases of detectable gases, such as Kr-85, may also be an indication of a substantive release of tritium, which is not readily detectable by plant radiation monitoring instruments or routinely used portable survey instruments. The release of this gas could have implications for occupational workers, as well as members of the public.

Regulations in 10 CFR 20 Subpart C require summing of internal and external doses. Regulations in 10 CFR 20 Subpart D require monitoring and control of gaseous effluents. Regulations in 10 CFR 20 Subpart F require performance of adequate surveys. Fuel bundles containing burnable boron poison may contain higher quantities of tritium than bundles not containing boron poisons. Since personal dosimetry devices may not respond to gases such as tritium, the licensee may evaluate the need for bioassay of workers involved with these transients at the time of the event.

### **Background**

As required by 10 CFR 72.122(h)(1), the spent fuel cladding is to be protected against degradation that leads to gross ruptures or the fuel must be otherwise confined such that degradation of the fuel during storage will not pose operational safety problems with respect to its removal from storage. In addition, per 10 CFR 72.122(l), the DSS must be designed to allow ready retrieval of the spent fuel, which may be on an assembly basis in accordance with the approved design bases. In transportation, the chemical and physical form of the spent fuel must be accurately specified, the geometric form of the package contents must not be substantially altered during normal conditions of transport and the package is to be proper for the contents to be shipped. Therefore, for undamaged and intact assemblies, the fuel cladding serves a design function in both DSS's and transportation packages for assuring that the spent fuel configuration remains within the bounds of the reviewed safety analyses. If the fuel is classified as damaged, a separate canister (i.e., can for damaged fuel) that confines the assembly to a known volume may be used to provide this assurance. NUREG-1536, Revision 1, provides NRC staff guidance on fuel classification and definitions of breached spent fuel rods, pinhole leaks, hairline cracks and gross cladding breaches.

## Federal Agencies and Committees *continued*

The technical specifications of the license or certificate of compliance (CoC) generally define the allowable cladding condition for the spent fuel contents, and the nomenclature may vary from system to system. For example, the terms “intact” and “undamaged” have both been used historically to describe cladding without any known gross cladding breaches. Users of DSS’s and transportation packages are required to comply with the license or CoC by selecting and loading the appropriate fuel. Additionally, they must maintain records that reasonably demonstrate that loaded fuel was adequately selected, in accordance with their approved site procedures and quality assurance (QA) program.

Licensees may consider several methods, either singular or in combination, to demonstrate that fuel cladding does not contain gross breaches including review of reactor operator records, visual inspection and fuel qualification testing.

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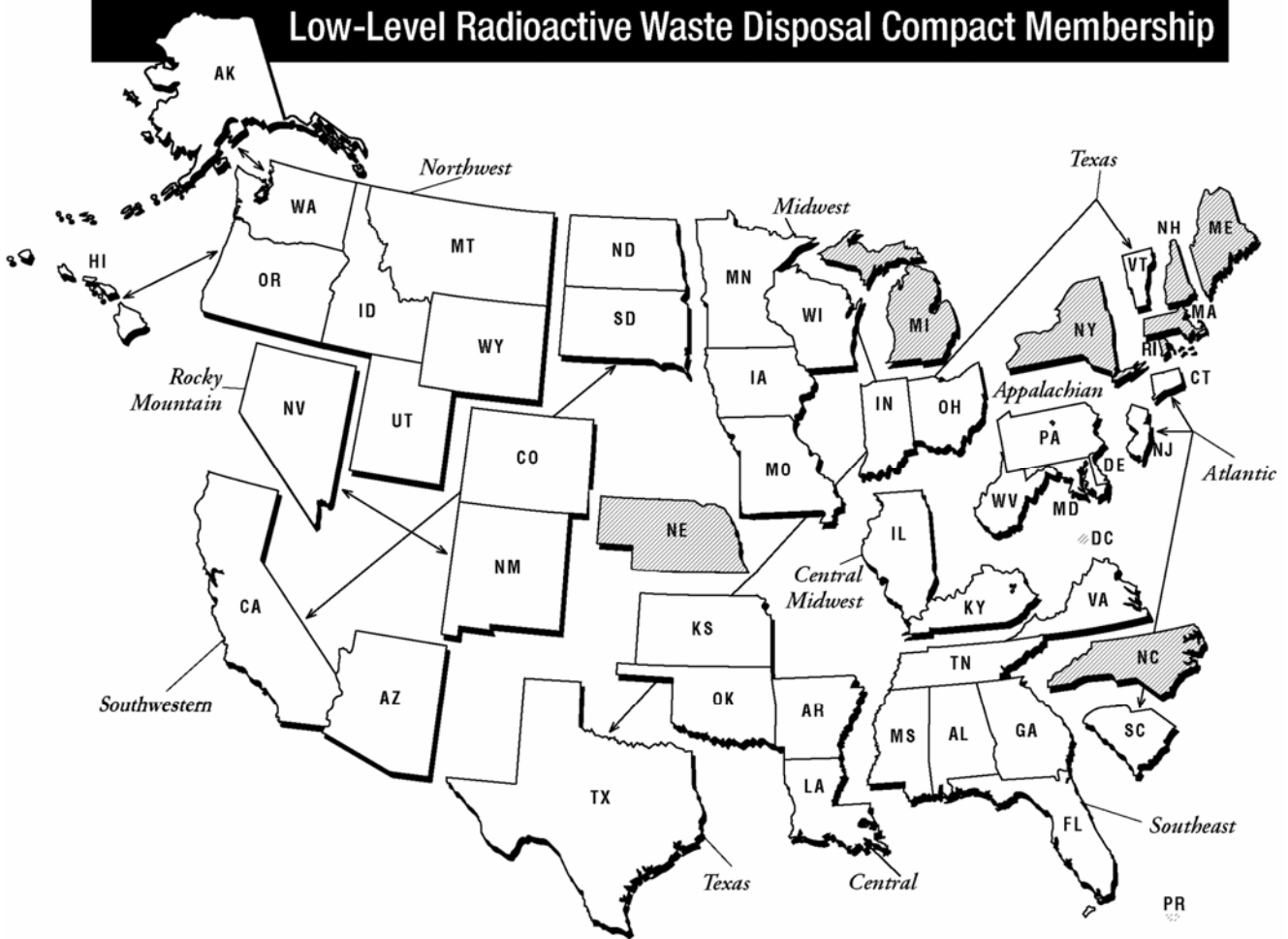
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# Low-Level Radioactive Waste Disposal Compact Membership



## Appalachian Compact

Delaware  
Maryland  
Pennsylvania  
West Virginia

## Atlantic Compact

Connecticut  
New Jersey  
South Carolina

## Central Compact

Arkansas  
Kansas  
Louisiana  
Oklahoma

## Central Midwest Compact

Illinois  
Kentucky

## Northwest Compact

Alaska  
Hawaii  
Idaho  
Montana  
Oregon  
Utah  
Washington  
Wyoming

## Midwest Compact

Indiana  
Iowa  
Minnesota  
Missouri  
Ohio  
Wisconsin

## Rocky Mountain Compact

Colorado  
Nevada  
New Mexico

*Northwest accepts Rocky Mountain waste as agreed between compacts*

## Southeast Compact

Alabama  
Florida  
Georgia  
Mississippi  
Tennessee  
Virginia

## Southwestern Compact

Arizona  
California  
North Dakota  
South Dakota

## Texas Compact

Texas  
Vermont

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