LLW notes

Volume 27, Number 1 January/February 2012

U.S. Nuclear Regulatory Commission

NRC Responds to ACRS on Draft CA BTP

By letter dated February 3, the U.S. Nuclear Regulatory Commission (NRC) responded to input from the Advisory Committee on Reactor Safeguards (ACRS) regarding the staff's draft Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP).

ACRS had previously completed its review of the draft CA BTP at a meeting on December 1, 2011. The Committee's conclusions and recommendations were then transmitted to the Commission via letter dated December 13, 2011.

A copy of NRC's February 3 response may be found on the NRC's public web site at www.nrc.gov under Agencywide Documents Access and Management System (ADAMS) using Accession Number ML120090314.

ACRS Letter

On December 13, 2011, ACRS Chairman Said Abdel-Khalik sent a letter to NRC Chairman Gregory Jaczko regarding the draft CA BTP for disposal of low-level radioactive waste.

Conclusions The ACRS letter contains the following five recommendations and conclusions:

- The draft CA BTP should be issued for public comment after consideration of comments provided by ACRS.
- The guidance provided in the draft CA BTP on alternative approaches provides flexibility to low-level radioactive waste generators and disposal licensees, and is a good first step in improving management of low-level radioactive waste.
- The guidance provided in the draft CA BTP for blending low-level radioactive waste is also a good approach for managing low-level radioactive waste. However, the staff should continue to develop appropriate guidance to ensure that constituents in blended wastes are compatible and will result in satisfactory waste forms.

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

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

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

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Key to Abbreviations

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

Low-Level Radioactive Waste Forum, Inc.

Register for the Spring 2012 LLW Forum Meeting

San Francisco, California on April 23-24, 2012

The Low-Level Radioactive Waste Forum will host its spring 2012 meeting at the Hyatt Regency San Francisco Airport in Burlingame, California. The Southwestern Low-Level Radioactive Waste Compact Commission and the State of California are co-sponsoring the one and one-half day meeting—which will be held on Monday, April 23, and Tuesday, April 24. The Executive Committee will meet on Monday morning.

A meeting bulletin and registration form can be found on the LLW Forum's web site at www.llwforum.org.

Attendance

Officials from states, compacts, federal agencies, nuclear utilities, disposal operators, brokers/ processors, industry, and other interested parties are invited and encouraged to attend. The meeting is 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. It also offers 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.

Agenda

The following topics, among others, are expected to be presented and discussed at the meeting:

- current and future rulemaking activities associated with comprehensive revisions to 10 CFR Part 61;
- efforts to risk-inform the waste classification scheme;
- revision of the draft Branch Technical Position on Concentration Averaging and Encapsulation;
- updating the Low-Level Radioactive Waste Volume Reduction Policy Statement;
- finalizing interim staff guidance on Alternate Disposal and the Site-Specific Performance Assessments;
- implementation of recommendations by NRC's Japan Task Force;
- development of a strategic vision and options for better incorporating risk management concepts into NRC's regulatory programs;
- DOE's GTCC EIS and comments received thereon and other LLW related issues;
- EPA's revision to the nuclear fuel cycle standards in 40 CFR Part 190;
- Blue Ribbon Commission report on low-level radioactive waste management and disposal in the United States;
- import and export rulemaking by the Texas Compact Commission, development of rate setting, and waste acceptance criteria by the Texas Commission on Environmental Quality, and operations at and disposal agreements with Waste Control Specialists;
- Utah's review of Energy*Solutions'* variance request for sealed source disposal, performance assessment for the proposed disposal of depleted uranium, Class A West license amendment, and disposal of waste using Studsvik's SempraSafe process;
- current radioactive and mixed waste program at URENCO USA;
- EPRI's low-level waste research program; and,
- addressing challenges at the U.S. Army Corps of Engineers' FUSRAP sites.

Registration

The meeting is free for members of the LLW Forum. Non-member registration is $500, payable to the "LLW Forum" by check. *(Credit card payments are not accepted.)*

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 Kathy Davis of the Southwestern Compact at the address, e-mail or fax number listed at the bottom of the form.

Hotel Reservations

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

A block of rooms has been reserved for Sunday (April 22) and Monday (April 23) for meeting attendees at the Hyatt Regency San Francisco Airport Hotel at the special, discounted rate of $123/night (single/double rate) plus tax. A limited number of rooms are available at this rate for Saturday, April 21, as well as Tuesday and Wednesday, April 24-25.

To make a reservation, please call the Hyatt Regency San Francisco Airport Hotel directly at (888) 421-1442 and ask for a room in the SWLLRWCC EVENT block. You may also make your reservations online at https://resweb.passkey.com/Resweb.do?mode=welcome_ei_new&eventID=4031598. Please reserve by Monday, March 20, to receive the special, discounted rate.

Transportation

The Hyatt Regency San Francisco Airport Hotel 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 hotel.

To access the meeting bulletin and registration form, please go to www.llwforum.org and scroll down to the first bold paragraph on the Home Page. The documents may also be found on the About Page under the header "Meetings."

For additional information, please contact Todd Lovinger, the LLW Forum's Executive Director, at (202) 265-7990 or at LLWForumInc@aol.com.

Low-Level Radioactive Waste Forum Meetings

2012 and Beyond

The following information on future meetings of the Low-Level Radioactive Waste Forum is provided for planning purposes only. Please note that the information is subject to change.

For the most up-to-date information, please see the LLW Forum's web site at www.llwforum.org.

2012 Meetings

The Southwestern Low-Level Radioactive Waste Compact Commission and State of California will co-host the spring 2012 meeting of the LLW Forum. (See related story, this issue.) The meeting will be held at the Hyatt Regency San

Francisco Airport Facility in Burlingame, California on April 24-25, 2012. The hotel—which is rated AAA Four Diamond Award Winning Service & Accommodations—has 24 hr complimentary shuttle service to and from the airport, as well as shuttle service from the hotel to the Bay Area Rapid Transit (BART) station.

The Central Midwest Interstate Low-Level Radioactive Waste Commission and the State of Illinois have agreed to co-host the LLW Forum's fall 2012 meeting. This will be the third time that the Commission and Illinois have co-hosted a meeting of the LLW Forum since we began operations as an independent, non-profit organization in 2000. The meeting will be held at the Embassy Suites Lakefront Hotel in downtown Chicago on October 11-12, 2012.

2013 Meetings

The Atlantic Interstate Low-Level Radioactive Waste Commission and State of South Carolina will co-host the spring 2013 meeting of the LLW Forum. The meeting will be held at the Francis Marion Hotel in Charleston, South Carolina on March 25-26, 2013.

The State of Utah has agreed to host the fall 2013 meeting of the LLW Forum. The state is currently looking at various facilities in both Salt Lake City and Park City, Utah.

Search for Volunteer Hosts for 2014 Meetings

The LLW Forum is currently seeking volunteers to host both the spring and fall 2014 meetings and those thereafter. Although it may seem far off, substantial lead-time is needed to locate appropriate facilities.

If your state or compact has not hosted a meeting in the past two years, we ask that you consider doing so. If necessary, we may be able to assist you in finding a co-host.

Non-state and non-compact entities are eligible to co-host LLW Forum meetings, so please let us know if your company or organization is interested in doing so.

Anyone interested in potentially hosting or sponsoring a meeting should contact one of the officers or Todd D. Lovinger, the organization's Executive Director, at (202) 265-7990 or at LLWForumInc@aol.com.

Disused Source Working Group Holds Third Meeting

Transmits Comments to NRC re Draft CA BTP

Members of the LLW Forum's Disused Sources Working Group (DSWG) held their third meeting on February 8-9, 2012 in Dallas, Texas. The meeting followed the conclusion of the Health Physics Society's annual meeting at the same hotel.

By letter dated February 20, 2012, DSWG Chair Leonard Slosky sent comments to the U.S. Nuclear Regulatory Commission on the agency's draft Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP). NRC is expected to publish a revised draft CA BTP for stakeholder comment in May 2012.

The DSWG was formed in response to a request from the National Nuclear Security Administration (NNSA) to study the issue of management and disposition of disused sources.

The working group will study both front and back end issues over an18 to 24-month period and will issue a report to the full LLW Forum and NNSA at the conclusion of the process.

Membership

Eight members of the LLW Forum have been appointed to the working group, including:

- Max Batavia of the Atlantic Compact;
- Mike Garner of the Northwest Compact/State of Washington;
- Kathryn Haynes of the Southeast Compact;
- Susan Jablonski of the State of Texas;
- Rusty Lundberg of the State of Utah;
- Alyse Peterson of the State of New York;
- Leonard Slosky of the Rocky Mountain Board; and,
- Stan York of the Midwest Compact.

Todd Lovinger, the LLW Forum's Executive Director, will serve as the Project Director. Gary Robertson, a retired official from the State of Washington, has been retained as a Technical Expertise Consultant.

Agenda

The following items, among others, were discussed as part of the February DSWG meeting agenda:

Wednesday Afternoon

- introduction and announcements (Leonard Slosky, LLW Forum Chair)
- overview of the sited states comments on NRC's draft CA BTP (Gary Robertson, DSWG Consultant)
  - individual responses by category and state
  - areas of concurrence and disparity
  - potential questions and challenges
  - proposed action items to consider recommending to NRC
  - discussion
- overview of NRC's Draft Branch Technical Position on the Import of Non-U.S. Origin Radioactive Sources (Gary Robertson, DSWG Consultant)
  - highlights from the *Federal Register* notice and path forward
  - potential issues or areas of concern
  - discussion
- de-briefing: review, discussion, and preparation for Thursday session (DSWG members and sited state representatives)
  - points of discussion
  - method of presentation
- next steps for working group (DSWG members)
  - where do we go from here?
  - potential invitees for future meetings
- next meeting date, location, and topics (May 2012 in Orlando, Florida)
  - communications with CRCPD re waste panel (Gary Robertson, DSWG Consultant)
  - working group logistics, agenda topics, and other proposals (working group members)
  - any remaining outstanding issues (all attendees)

Thursday Morning

- comments from a representative of HPS (John Hageman, HPS)
  - HPS' papers on disused sealed sources
  - HPS' orphan source position statement
  - discussion
- updates regarding draft CA BTP (Christianne Ridge, NRC; James Kennedy, NRC)
  - overview of comments received during fall 2011 stakeholder workshops
  - overview of comments received from the Advisory Committee on Reactor Safeguards (ACRS)
  - overview of recent changes, modifications and alterations to the draft CA BTP
- status update on draft CA BTP and next steps (James Kennedy, NRC)
  - schedule for release for public comment
  - schedule for finalization of document
  - feedback and direction from Commissioners
- updates regarding draft BTP on the Import of Non-U.S. Origin Radioactive Sources (James Kennedy, NRC)

  - overview of comments received during January 24 stakeholder meeting
  - path forward and schedule for finalization of document

Thursday Afternoon

- comparative analysis of comments from sited states and proposed action items for consideration by NRC, followed by discussion on each item—(Gary Robertson, DSWG Consultant)
  - blending
  - absorbed liquids
  - factor of 10
  - increase in sealed source activity
  - BTP as guidance
  - public outreach
  - benefits to very large generators
  - homogeneous/similar type material
  - "coffee cup" sized items
  - performance assessment
  - alternative approaches
  - enforceability issue
  - NRC/ACRS
  - contaminated material
  - waste acceptance criteria
  - Agreement State compatibility categories
  - proposed action items
- next steps (working group members, sited state representatives and NRC officials)
  - path forward for consideration of sited states' comments by NRC
  - consolidation of comments into written document and NRC guidance regarding form and time frame for so doing

Meetings of the Disused Source Working Group will be limited to working group members and invited guests.

DSWG Letter re Draft CA BTP

The February 20 DSWG letter transmitting comments to NRC on the draft CA BTP states, in part, as follows:

Due to the potential impact of the Draft CA BTP to significantly increase the disposal of sealed sources, the DSWG members undertook a comprehensive review of the Draft CA BTP to develop comments for consideration by the NRC in advance of publication of the document for stakeholder comment on May 31, 2012.

Given the role of the sited states in regulating low-level radioactive waste disposal facilities, DSWG members relied heavily upon input from representatives of the four sited states of South Carolina, Texas, Utah, and Washington in conducting its review of all elements of the Draft CA BTP.

On February 8-9, 2012, the DSWG met in Dallas, Texas to review the document and associated comments. Two representatives from NRC participated in the meeting, as did officials from NNSA and all four sited states. After a day and a half of detailed presentations and discussion, the DSWG finalized the attached comments on the Draft CA BTP for consideration by the NRC.

On behalf of the DSWG, I want to thank the NRC—including, in particular, James Kennedy and Christianne Ridge—for their assistance during our review of the Draft CA BTP and for the agency's consideration of the DSWG's comments. We believe this is an important document that has potentially significant impacts on the disposal of sealed sources and other low-level radioactive wastes and we sincerely appreciate the opportunity to provide the attached feedback and comments.

For additional information, please contact Todd D. Lovinger, Esq.—DSWG Projector Director—at (202) 265-7990 or at llwforuminc@aol.com.

Northwest Compact/State of Utah

Utah Radiation Control Board Hosts January Meeting

February Meeting Canceled

The Utah Radiation Control Board held a regularly scheduled meeting on January 10, 2012. The meeting—which was open to the public—was held in Conference Room 1015 of the Multi Agency State Office Building at 195 North 1950 West in Salt Lake City, Utah. It was scheduled from 3:00 pm to 5:00 pm.

January 2012 Meeting

The following items, among others, were on the January 2012 meeting agenda:

I. Minutes (Board Action)
   a. Approval of the Minutes from the November 8, 2011 Board Meeting

II. Reappointment of Scott Bird (Board Information)

III. Introduction of new Radiation Control staff (Board Information)

IV. Administrative Rules (Board Action)
   a. Final adoption of changes to the following rules (Utah State Bulletin, Vol. 2011, No. 23):
      i. R313-22, Specific Licenses
      ii. R313-36, Special Requirements for Industrial Radiographic Operations
   b. Five-Year Review Approval:
      i. R313-35, Requirements for X-ray Equipment Used for Non-Medical Applications

V. Radioactive Materials Licensing/Inspection

VI. X-Ray Registration/Inspection

VII. Radioactive Waste Disposal
   a. Energy*Solutions*
   i. Class A West
   ii. Sealed Sources
   iii. License Amendment — Sealed Source Storage
   iv. SempraSafe

VIII. Uranium Mill Licensing and Inspection (Board Information)
   a. Denison Mines – License Renewal
   b. Uranium One – License Extension
   c. Rio Algom — License Amendment

IX. Other Division Issues (Board Information)
   a. Division Activities Report — 4th Quarter Summary
   b. Nuclear Regulatory Commission – Activity Update
      i. Revised Branch Technical Position on Concentration Averaging
   c. Department of Environmental Quality Boards — Legislation Status
   d. Radon Program Update
   e. Lean Six Sigma Implementation Update

X. Public Comment

XI. The Next Scheduled Board Meeting: February 14, 2012 (Tuesday), 3:00 p.m.

February and March 2012 Meetings

The Utah Radiation Control Board canceled its second meeting of the year, which was previously scheduled for February 14, 2012.

The Board's next meeting is scheduled to take place from 3:00 pm to 5:00 pm on March 13, 2012. The meeting will be held in Conference Room 1015 of the Multi Agency State Office Building at 195 North 1950 West in Salt Lake City, Utah.

Background

The Radiation Control 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 Radiation Control Board meeting agendas can be found at http://www.radiationcontrol.utah.gov/Board/minagd/agenda.pdf.

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

Utah House Passes Bill to Reauthorize Radiation Control Act

On February 15, 2012, the Utah House of Representatives passed a bill (SB 132) to reauthorize the Radiation Control Act. The bill had previously passed the Senate on February 6, 2012. No issues or questions were raised during the Senate floor consideration.

The next step is to have the bill enrolled for a final legal review and prepared for the Governor's signature. With the passage of SB 132, it removed the Radiation Control Act from the list of Acts in the Utah Department of Environmental Quality (DEQ) that have a set repeal date. This means that unless a future Legislature acts to reinstate a repeal date, the Radiation Control Act no longer has a set repeal date.

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

Rocky Mountain Compact/State of New Mexico

Public Comment Sought re Draft Environmental Report for International Isotopes' Proposed Uranium Deconversion Facility

On January 9, 2012, the U.S. Nuclear Regulatory Commission announced that the agency is seeking public comment on a Draft Environmental Impact Statement (DEIS) on a proposed facility that would deconvert depleted uranium hexafluoride from the uranium enrichment industry to make it more suitable for disposal. The DEIS contains the staff's preliminary assessment that no large environmental impacts are expected from the proposed facility, which is located in Lea County, New Mexico.

On December 30, 2009, International Isotopes Fluorine Products Inc.—a subsidiary of International Isotopes Inc.—applied for a license to construct and operate the facility. The facility would deconvert depleted uranium hexafluoride from uranium enrichment facilities into fluorine products for commercial use and depleted uranium oxides for long-term stable disposal. The proposed plant would be located 14 miles west of Hobbs, New Mexico.

On February 2, 2012, from 5:30-8:30 p.m. NRC staff will hold a public meeting to present the DEIS and to accept public comment on the report. The meeting will be held at the Lea County Event

Center, which is located at 5101 Lovington Highway in Hobbs. For one hour before the meeting, NRC staff will be available to informally discuss the proposed project and the NRC's environmental review of the application.

NRC will accept written comments on the DEIS through February 27, 2012. Comments may be submitted by email to INIS_EIS.Resource@nrc.gov. They may also be submitted online at www.regulations.gov using Docket ID NRC-40-9086, or mailed to Cindy Bladey, Chief, Rules, Announcements and Directives Branch (RADB), Division of Administrative Services, Office of Administration, Mail Stop: TWB-05-B01M, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

International Isotopes' application and information about the NRC license review process are available on the NRC website at www.nrc.gov. The DEIS is available in the NRC's ADAMS online database by entering Accession Number ML12001A000 in the Content Search box.

Southwestern Compact/State of California

Southwestern Compact Holds February Teleconference Meeting

On February 22, 2012, the Southwestern Low-Level Radioactive Waste Compact Commission hosted a teleconference meeting.

The following items were on the agenda for the meeting:

- call to order
- roll call
- welcome and introductions
- statement regarding due notice of meeting
- discuss and approve updates to amend 2012 LLW Forum conference budget
- public comment
- future agenda items
- next meeting: April 24, 2012 at the Hyatt in Burlingame, California
- adjournment

For additional information, please contact Kathy Davis, Executive Director of the Commission, at (916) 448-2390 or at swllrwcc@swllrwcc.org.

Texas Compact Commission

Texas Compact Commission and Rules Committee Hold Meetings

On January 5, 2012, the Texas Low-Level Radioactive Waste Disposal Compact Commission (the "Commission") held a public meeting on, among other things, issues related to the import and export of low-level radioactive waste.

The agenda and petitions for the meeting can be found at http://tllrwdcc.org/information.html

Commission Meeting Agenda

The agenda for the January 5 meeting was as follows:

- Call to Order
- Determination of Quorum
- Introductions: Commissioners, Elected Officials, Press
- Public Comment Period. (Note: Pursuant to

Article IV, Section Two (c) of the Commission's Bylaws, the Commission [subject to such time constraints as may be established by the Chair] also will provide an opportunity for members of the public to directly address the Commission on each item on the agenda during the Commission's discussion or consideration of the item.)

- Receive a report from the Rules Committee with respect to its deliberations and recommendations with respect to proposed amendments to Rule 675.23, Chapter 675, Part 21, Title 31, Texas Administrative Code; consideration of and possible action to publish for public comment in the Texas Register proposed amendments to Rule 675.23 (Importation of Waste from a Non-Compact Generator for Disposal), Chapter 675, Part 21, Title 31, Texas Administrative Code.

- Discussion and possible action on the following petitions for export:

    a. PETNET
    b. St. Gobain Crystals

- Discussion and possible action with respect to information submitted by Toxco in response to questions on sealed sources resulting in denial of Export petitions at the November, 2011, Compact Commission meeting.

- Presentation of Site status report and outlook from Waste Control Specialists Inc.

- Presentation from Advocates for Responsible Disposal in Texas concerning Compact site use plans and issues.

- Site status report from the Texas Commission on Environmental Quality including discussion of plans for actions on commingling rule change effort.

- Chairman's report on Compact Commission activities.

- Determination of date and location of next meeting.

- Adjourn.

The Commission may meet in Closed Session on any item listed if authorized by the Texas Open Meetings Act, Chapter 551, Texas Government Code.

Rules Committee Meetings

The Commission's Rules Committee recently held the following meetings:

- Rules Committee meeting, December 12, 2011, Noon, Room 1206, Building F, 12100 Park 35 Circle, 78753 on the campus of the Texas Commission on Environmental Quality (TCEQ); and,

- Rules Committee meeting, December 29, 9:00 am, Room 201 S, Building E, 12100 Park 35 Circle, 78753 on the TCEQ campus.

On February 24, 2012, the Rules Committee conducted a public hearing to receive comments on, among other things, proposed rules regarding the procedures and forms for import agreements. The hearing began at 1:00 pm CST and was held in the agenda room at the Texas Commission on Environmental Quality (Room 201-S in Building E) in Austin, Texas.

The Committee's primary focus has been on continuation of work on drafting changes and additions to the Commission's existing rules that are necessary or appropriate with respect to actions of the 82nd Texas Legislature.

The Commission's existing rules may be found in Title 31, Part 21, Chapter 675, Texas Administrative Code.

For additional information, please contact Robert Wilson, Chairman of the Commission, at (512) 820-2930 or at bob.wilson@tllrwdcc.org.

Texas Compact/State of Texas

WCS Responds to TCEQ re Follow-Up Items Prior to Facility Operations

By letter dated January 24, 2012, Waste Control Specialists LLC (WCS) responded to an earlier letter from the Texas Commission on Environmental Quality (TCEQ) regarding the completion of construction of the Compact Waste Disposal Facility (CWF) for the Texas Low-Level Radioactive Waste Disposal Compact. TCEQ's letter, which was dated January 17, 2012, identified three primary construction features that WCS must complete prior to the commencement of operations.

WCS' letter includes a point-by-point response to TCEQ's comments regarding additional items for follow-up prior to the receipt of waste. Responses that are deemed "sensitive information" were sent separately as a confidential submission. WCS' letter states that the company anticipates submitting Amendment 1—which will request conforming changes to the license-approved design—on or about February 6, 2012.

Background

On November 10, 2011, WCS announced the completion of construction of the CWF for the Texas Compact. (See *LLW Notes,* November/December 2011, pp. 22-23.) Pursuant to RML No. R04100, License Conditions 41, 80 and 81, TCEQ is responsible for reviewing the constructed CWF.

As part of the review, from September through December 2011, WCS submitted a series of construction certification reports, specifications, and as-built drawings to TCEQ for the CWF and common area facilities of the land disposal facility. TCEQ staff and technical consultants reviewed these documents "with the primary objective of determining the consistency of construction as represented in the reports with the facilities actually built and the license-approved design." In addition, in December 2011, TCEQ staff and technical consultants visited the land disposal facility "to examine the constructed facilities with regard to completion and accordance with the license-approved engineering design."

TCEQ's Letter

Follow-Up Items After reviewing the documents and conducting the site visit, TCEQ identified a number of items for follow-up actions. Specifically, TCEQ identified the following three primary construction features that must be completed for the CWF prior to operations:

- the North Stormwater Diversion Berm, Ditch, and Spillway;
- CWF Sedimentation Pond Discharge Piping and Pumps; and,
- CWF Disposal Cell lower primary entrance ramp and drainage system in the northeast corner of the cell.

Attachment A to TCEQ'S letter identifies additional items for follow-up prior to the receipt of waste. In the letter, TCEQ requests that WCS provide the agency with updated status on facility related items of Attachment A with a schedule for completion and submission of documentation.

Other Outstanding Items According to TCEQ's letter, review of the construction certification reports and as-built drawings also resulted in the identification of "several features or facilities that had been constructed differently than specified in the license-approved design," as well as "additional items in the reports that were missing, erroneous, poorly-copied, or described temporary equipment that had been put in place." These items can be found in a table in Attachment B to the letter.

"As provided for in RML No. R04100 Amendment No. 11, License Condition 81, deviations from the design and construction in the license-approved design must be explained and submitted for review by the executive director, and deviations may require an amendment of the license," states the letter. "TCEQ requests WCS to submit an administrative amendment application that requests approval of items noted in Attachment B of this letter as being different than the license-approved design." TCEQ will process the administrative amendment application as Amendment No. 14 prior to issuance of the Executive Director's written statement regarding construction conformance.

TCEQ notes that several of the items in Attachment B will require follow-up by WCS within specified periods after facility startup of operations (i.e., after receipt of the Executive Director's written operations authorization). Accordingly, the agency's letter requests that WCS timely address the noted items and submit the requested documentation, most of which will be in the form of revisions to the certification reports and as-built drawings.

Next Steps TCEQ requested that WCS provide "a schedule for the submission of Amendment 14 requesting conforming changes to the license-approved design, review the list of pending items in Attachment A, and updated status of each facility-related item of Attachment A with a schedule of completion."

TCEQ's letter stated that, upon receipt of the requested information, TCEQ will work with WCS through the final items on the CWF construction readiness.

For additional information, please contact Lorrie Council of the TCEQ at (512) 239-6461 or at lorrie.council@tceq.texas.gov.

WCS Response

With regard to the three follow-up items identified by TCEQ, WCS' letter states in part as follows:

North Stormwater Diversion Berm, Ditch, and Spillway "The grading of the berm and concrete overflow weir at the east end of the North Stormwater ditch is completed," states WCS. "The road crossing work is proceeding and should be complete by January 31, 2012." WCS further states that it will provide pictures of the completed work, QA documentation, red-line drawings (including survey data), and "For Certification Report" drawings by February 6, 2012.

CWF Sedimentation Pond Discharge Piping and Pumps "Work on the entire pumping system, piping and flow meter and conveyance line from the CWF Sedimentation Pond is anticipated to be complete by January 31, 2012," states WCS. WCS further states that it will provide pictures of the completed work, QA documentation, red-line drawings (including survey data), and "For Certification Report" drawings by February 6, 2012.

CWF Disposal Cell Lower Primary Entrance Ramp and Drainage System in the Northeast Corner of the Cell "The cell entrance to the ramp crossing of the east stormwater basin and temporary berm has been reconstructed with calich material," states WCS. "The pipe under the crossing has been enlarged from one 12-inch pipe to two 24-inch pipes. In addition, a geomembrane cover has been welded in-place over the sidewalls of the crossing. The specified flap gates have been installed in the stepped elevation red bed bench basins … In addition, WCS determined that storm water on top of the concrete barrier was not flowing freely into the underlying leachate collection system. WCS is upgrading the drainage system through the concrete to facilitate free flow of fluids into the leachate collection system. This work is anticipated to be completed

by February 2, 2012." WCS further states that it will provide pictures of the completed work, QA documentation, red-line drawings (including survey data), and "For Certification Report" drawings by February 6, 2012.

For additional information, please contact Scott Kirk of WCS at (432) 525-8500 or at skirk@valhi.net.

TCEQ Files Rate Application Documents

On January 25, 2012, the Texas Commission on Environmental Quality (TCEQ) filed a Notice of the Low-Level Radioactive Waste Rate Application, Preliminary Decision, and Opportunity for a Contested Case Hearing associated with the Compact Waste Disposal Facility with the Texas Secretary of State in accordance with TCEQ's regulations, § 336.1309 (a)(4).

TCEQ also notified the operator of the Compact Waste Disposal Facility—Waste Control Specialists LLC (WCS)—of the notice package, Notice and the Technical Summary that WCS must provide to Texas Compact waste generators.

TCEQ is charged with establishing the maximum disposal rates that may be collected for the disposal of compact waste under Chapter 336, Subchapter N of the agency's rules.

Additional information can be found on the TCEQ's web site at: http://www.tceq.texas.gov/permitting/radmat/licensing/rates.

Establishing Disposal Rates

TCEQ Rules and Original Application Under TCEQ rules, disposal rates may be based on the cost of operating the disposal facility and a reasonable rate of return—including allowable expenses, the funding of local public projects, the provisions of a revenue requirement comprised of a return of and on its investments, and the payment of other required fees and expenses. Estimated volumes of the various types of low-level waste expected to be disposed at the facility are then used to determine the maximum disposal rates for each type of waste.

The original rate setting application filed by WCS also provides information for consideration by the TCEQ in the determination of an appropriate inflation adjustment, volume adjustment, extraordinary volume adjustment, and relative hazard.

TCEQ's Rate Application Package The TCEQ's rate application package is available for public viewing. It includes a series of interactive spreadsheets that can be found in the Rate Application Package. TCEQ is also providing an accessible version of the Rate Application Package. The costs and revenue requirements are to be entered in the rate application package and then summarized in an embedded worksheet that will be used to help determine proposed maximum disposal rates.

Additional rate-setting application materials must also be submitted as part of the rate application package as required in Title 30 Texas Administrative Code (TAC) Chapters 336 (Radioactive Substance Rules) and 37 (Financial Assurance) to address technical requirements. The requirements and instructions for completing the TCEQ rate application submission are found as buttons on the individual worksheets of the package.

A Disposal Rate Setting Flowchart illustrates the process for establishing the maximum disposal rate for waste generators in accordance with 30 TAC Chapter 336, Subchapter N, "Fees for Low-Level Radioactive Waste Disposal." This flowchart and description are provided to the disposal facility licensee, waste generators, other stakeholders, and the public as an aid to

understanding how the disposal rates would be established by the TCEQ.

Next Steps

The formal disposal rate-setting process will include public notice, consideration of public comment and the opportunity for a contested case hearing, followed by expedited rulemaking.

On February 3, 2012, the Notice of the Low-Level Radioactive Waste Rate Application, Preliminary Decision, and Opportunity for a Contested Case Hearing was published in the *Texas Register*.

The 30-day public comment period and opportunity to request a contested case hearing will end on March 5, 2012.

Background

Interim Disposal Rates On August 25, 2011, TCEQ announced that its Executive Director has established interim disposal rates for commercial low-level radioactive waste at the Compact Waste Disposal Facility. (See *LLW Notes,* July/August 2011, pp. 13-14.)

The Executive Director interim disposal rate establishes a base rate by volume, per cubic foot; by radioactivity, per curie; and surcharges to the base rate related to relative hazard for each waste shipment. Additionally, all waste shipments are subject to state fees.

These interim disposal rates will apply to commercial low-level radioactive waste accepted at the operational Compact Waste Disposal Facility, owned by the State of Texas and operated under license by WCS.

Senate Bill 1504, adopted by the 82nd Texas Legislature, creates the option for the TCEQ Executive Director to set interim disposal rates in advance of the formal disposal rate-setting process. (See *LLW Notes,* May/June 2011, pp. 1, 13-15.)

The interim disposal rates for the Compact Waste Disposal Facility can be found at the following link: http://www.tceq.texas.gov/permitting/radmat/licensing/executive-director-interim-disposal-rate.

Prior Filings On June 1, 2010, WCS filed an application with TCEQ to establish the maximum disposal rates for commercial low-level radioactive waste disposal at its facility in Andrews County, Texas. (See *LLW Notes,* May/June 2010, pp. 19-20.)

The filing included two alternative proposed rate schedules: one reflecting unlimited disposal for generators in the Texas Compact states of Texas and Vermont, and a second based on unlimited disposal by Texas Compact generators and limited disposal by generators from outside of the Texas Compact region.

By letter dated January 28, 2011, WCS submitted a supplemental response to TCEQ's September 1, 2010 Request for Information (RFI) regarding their proposed disposal rate application. (See *LLW Notes,* January/February 2011, pp. 21-23.) In addition, on February 22, 2011, TCEQ received corrections from WCS to their October 15, 2010 submission on the pending disposal rate application.

On March 10, 2011, TCEQ held a public meeting to take comment and provide an update on the agency's review of the pending rate setting application. TCEQ's meeting announcement stated in part as follows: "As a reminder, this public meeting is not occurring as part of the notice and opportunity for contested case hearing referenced in TCEQ rules at Title 30, Texas Administrative Code (TAC) §336.1309. The official notice for comment and opportunity for a contested case hearing will occur at the time the TCEQ Executive Director completes his review of the WCS proposed rate application and publishes a recommended disposal rate schedule."

On April 12, 2011, TCEQ sent a letter to WCS confirming receipt of the company's supplemental responses on and corrections to its pending rate setting application. (See *LLW Notes,* March/April 2011, pp. 29-31.)

In November 2011, WCS filed supplemental application materials because: more than a year has passed since the company filed its original application; some costs that were originally projected are now actual, incurred costs; some additional expenses have been incurred; some information needs to be updated; and, legislation passed in 2011 clarifies some issues and raises some new ones. (See *LLW Notes,* November/ December 2011, pp. 24–26.)

For the calculation of the test year, WCS estimated 45,000 cubic feet of low-level radioactive waste from compact generators and an additional 28,000 cubic feet of low-level radioactive waste from importation—for a total of 73,000 cubic feet of low-level radioactive waste.

WCS is requesting that TCEQ approve the rates contained in its supplemental application materials by expedited rulemaking as the initial maximum disposal rates under section 3336.1309 of the agency's rules.

For additional information, please contact TCEQ Disposal Rate Project Manager, Sage Chandrasoma, at (512) 239-6069 or at s.chandrasoma@tceq.texas.gov.

TCEQ Holds Public Hearing on Proposed Rulemaking re Commingling

On January 12, 2012, the Texas Commission on Environmental Quality (TCEQ) conducted a public hearing in Austin to receive testimony regarding proposed revisions to 30 Texas Administrative Code (TAC) Chapter 336, Radioactive Substance Rules under the requirements of Texas Government Code, Chapter 2001, Subchapter B.

The proposed rulemaking would revise the commission's radiation control rules to implement Senate Bill 1504, 82nd Legislature, 2011. The proposed rulemaking would establish requirements at the licensed low-level radioactive compact waste disposal facility for the disposal of party state compact waste that has been commingled with waste from other sources at a commercial waste processing facility. The proposed rulemaking would also add definitions and prohibit the receipt and disposal of waste of international origin.

The January hearing was structured for the receipt of oral or written comments by interested persons. Individuals were permitted to present oral statements when called upon in order of registration. Open discussion was not permitted during the hearing; however, Commission staff members were available to discuss the proposal 30 minutes prior to the hearing.

Background

The revisions in Texas Health and Safety Code (THSC) §401.207 implemented in this rulemaking address the availability and reservation of disposal capacity in the compact waste disposal for low-level radioactive waste generated in a party state to the Texas Compact and the realities of commercial radioactive waste processing activities where party state compact waste may become commingled with waste from other sources.

Senate Bill (SB) 1504 (2011, 82nd Legislature) revised THSC, §401.207 to require the commission to adopt rules that establish criteria and thresholds by which incidental commingling of party state compact waste and waste from other sources at a commercial processing facility is considered and reasonably limited. SB 1504 also

adds new definitions in THSC, §401.2005 and prohibits the acceptance of waste of international origin in THSC, §401.207. The commission is required to coordinate its rulemaking with the Texas Low-Level Radioactive Waste Disposal Compact Commission, but any criteria and thresholds established by the commission rule are binding on any criteria and thresholds established by the Texas Low-Level Radioactive Waste Disposal Compact Commission.

Other provisions of SB 1504, including the setting of interim disposal rates, commission studies, and imposition of fee surcharges will be implemented by the TCEQ in separate actions.

Summary

The rulemaking proposes in §336.702 new definitions of "commercial processing," "commingle," "incidental," "party state compact waste," "waste from other sources," and "waste of international origin." Because the new provision in THSC §401.207(k) addresses only the *incidental* commingling of party state compact waste with waste from other sources and "incidental" is not defined in statute, the proposal preamble specifically invites comments on what incidental means.

The rulemaking proposes in §336.745 implements THSC, §401.207(k) to prohibit the disposal of LLRW that contains party state waste that has been commingled at a commercial processing facility, except as provided in §336.745. Under §336.745(b), the commingled waste cannot be disposed if the radioactivity of the waste from other sources exceeds 5% of the total activity of the waste from other sources. The preamble will specifically solicit comments on this limitation based on the radioactivity content. Proposed §336.745(c) will prohibit the disposal of commingled waste unless the commingling was incidental to the processing of the waste at a commercial processing facility. In order to ensure that waste that has been commercially processed meets the requirements with respect to commingling, under proposed §336.745(d), the licensee will be required to submit a report to the executive director that identifies the generator of the waste; the processor of the waste; the processing methods; and the volume, physical form, and activity of the processed waste. The licensee and the processor must certify whether party state compact waste has been commingled with low-level radioactive waste from other sources. If party state compact waste has been commingled with waste from other sources, the report must identify each generator of the waste from other sources, certify that the activity content of the waste from other sources does not exceed 5% of the total activity, and certify that the commingling of the waste was incidental to the processing of the party state compact waste. Proposed new §336.747 implements THSC, §401.207, which prohibits the acceptance of waste of international origin.

For additional information, please contact Susan Jablonski, Director of the Radioactive Materials Division at TCEQ, at (512) 239-6466 or at susan.jablonski@tceq.texas.gov.

Texas Compact/State of Vermont

New Vermont Alternate Appointed to Texas Compact Commission

On November 30, 2011, Governor Peter Shumlin (D) of Vermont appointed Jane O'Meara Sanders, Ph.D., as new Alternate Commissioner to the Texas Low-Level Radioactive Waste Disposal Compact Commission (the "Commission"). Sanders, whose term will expire on January 31, 2013, replaces Elizabeth Bankowski.

There are eight Commissioners in total—six from Texas and two from Vermont—appointed by the respective Governors of each state. The current

Vermont Commissioners are Peter Bradford and Richard Saudek.

Texas Appointments

In September 2011, Texas Governor Rick Perry (R) appointed new state members to the Commission with staggered terms, as per the terms of recently passed legislation. Two of the members, Robert Wilson and Richard Dolgener, were previous Commissioners. The other four were new appointments.

Robert Wilson was designated to serve as Chair of the Commission. Milton Lee was subsequently designated to serve as Vice-Chair.

For additional information, see LLW Notes, September/October 2011, pp. 15-16.

Background

Pursuant to the terms of SB 1605, which was passed by the Texas Legislature and signed into law by Governor Perry earlier this year, the term of office of the previous Commissioners expired on September 1, 2011 — the date the bill became effective.

The law further provided that the Governor was then to appoint host state Commissioners with staggered terms, two each expiring on September 1, 2013; September 1, 2015; and, September 1, 2017. (See *LLW Notes,* May/June 2011, pp. 1, 13-15.)

By letter dated August 21, 2011, Michael Ford resigned as Chairman of the Commission. (See LLW Forum memo dated September 2, 2011.) In his letter, Ford expresses his support for the directives set out in the recently passed legislation and offers his assistance to support the transition to new leadership.

For additional information, please contact Bob Wilson, the Commission's Chair, at (512) 472-7600 or at bob.wilson@tllrwdcc.org. Additional information may also be obtained on the Commission's web site at http://tllrwdcc.org/information.html.

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.

Central Interstate Compact/States of Kansas and Louisiana

Wolf Creek Nuclear Plant On March 6, 2012, the U.S. Nuclear Regulatory Commission (NRC) held a public meeting to discuss the results of an Augmented Inspection conducted at the Wolf Creek nuclear power plant following a loss of off-site power. On January 13, plant officials declared an Unusual Event—the lowest of four NRC emergency categories—after the failure of a main generator electrical breaker, followed by an unexplained loss of power to a startup transformer. This caused the switchyard to be de-energized, which removed the plant's connection to the electrical grid. All safety systems responded as expected and emergency diesel generators automatically powered safety-related equipment. The Unusual Event was terminated about three hours later after offsite power was partially restored. The plant is located near Burlington, Kansas.

River Bend Nuclear Plant On January 9, 2012, NRC proposed a $140,000 civil penalty against Entergy Operations, Inc. at the River Bend Station due to control room operators accessing the internet without authorization and failure by the utility to take timely corrective actions once the issue was identified. Control room operators are directly responsible for monitoring the reactor and other important plant systems to ensure that it is operated safely. Plant procedures require operators to remain attentive and focused on their work. Between January and April 2010, nine operators deliberately violated these procedures and accessed the internet from the plant's control room while on duty. NRC inspectors were notified of the issue and launched an investigation in July 2010. Based on all of the information gathered, the agency determined that the licensee did not take prompt corrective actions to effectively address the larger safety culture issues raised by the operators' actions. River Bend is located 24 miles northwest of Baton Rouge, Louisiana.

Accurate NDE &Inspection Accurate NDE & Inspection has agreed to make changes to its training and record-keeping programs under an agreement with the NRC that includes a $13,500 civil penalty. The company, which uses radioactive materials for non-destructive testing and inspection activities, is located in Broussard, Louisiana. NRC conducted an inspection of the company's licensed activities in response to an event that occurred on March 15, 2011, when a company employee using an X-ray camera attempted to retrieve a sealed capsule containing a small quantity of radioactive Iridium-192 that detached from a metal cable that is unwound and used to take X-ray photographs for inspection purposes. The employee attempted to retrieve the disconnected cable without notifying the radiation safety officer as required by NRC and State of Louisiana regulations. As a result, the capsule fell into the Gulf of Mexico and was lost. NRC identified five apparent violations as documented in a July 2011 inspection report. The company chose to resolve the matter using the agency's alternative dispute resolution process in which a neutral mediator assists parties in reaching an agreement. As a result, the company agreed to pay the civil penalty; establish a comprehensive training program designed to deter future willful violations of NRC regulations; and, use an independent third party to verify the effectiveness

of its training programs for new and existing employees.

Central Midwest Compact/State of Illinois

Byron Nuclear Plant On January 31, 2012, NRC began a Special Inspection to review the circumstances surrounding the loss of offsite power that led to a Unit 2 reactor shutdown the day before at the Byron nuclear power plant. The special inspection team will look into how plant equipment responded to the loss of offsite power; review the sequence of events, evaluate the facts and circumstances, and review the plants actions regarding the incident; and, review the plant's evaluation of what happened, their plan for addressing the cause of the event, and the implementation of corrective actions. Unit 2 remains in a safe and stable shutdown condition and the diesel generators continue to supply power to the plant as planned for this type of incident. There was a release of steam from the non-nuclear side of the plant with trace amounts of tritium. This type of steam release is used by nuclear power plants to release pressure in order to maintain the plant in stable condition. Doses to the public from this type of release are significantly below even the most stringent federal protective limits and, therefore, do not pose a risk to public health and safety. The two-unit plant is operated by Exelon Generation Company and is located in Byron, Illinois—approximately 17 miles southwest of Rockland.

Midwest Compact/States of Ohio and Minnesota

Davis-Besse Nuclear Plant On January 5, 2012, NRC held a public meeting to discuss its independent inspection of the Davis-Besse nuclear power plant shield building and its conclusion that the building is capable of performing its safety functions. At the meeting, First Energy Nuclear Operating Company (FENOC), which operates the plant, explained how they concluded that the shield building is functional for continued use. In October 2011, FENOC informed NRC that, while conducting work to replace the Davis-Besse reactor vessel head, utility workers had identified cracks in the shield building—a 2.5 foot thick reinforced concrete building surrounding a 1.5 inch thick steel containment vessel that encloses the reactor. The two buildings are separated by a 4.5 foot hollow space. NRC concluded its review of the shield building in December 2011. NRC determined that FENOC had provided reasonable assurance that the shield building is capable of performing its safety functions. However, the agency issued a Confirmatory Action Letter to FENOC detailing the company's commitment to take certain actions to monitor and ensure that the cracks in the shield building do not adversely impact safety going forward. The plant is located in Oak Harbor, Ohio—approximately 40 miles southeast of Toledo.

Prairie Island Nuclear Plant On January 5, 2012, NRC responded to an Alert—the second lowest emergency level in the agency's emergency classification system—that was declared at the Prairie Island Nuclear Generation Plant due to a chemical spill. Two NRC resident inspectors responded to the site and followed the event in consultation with NRC staff at the Region III Office in Lisle, Illinois. Workers at the plant discovered a sodium hypochlorite leak, commonly known as chlorine bleach, in a building where the chemical is used to treat water from the river used to cool plant equipment. The leak was immediately isolated in a berm around the building and a chemical crew went onsite to clean up the leak. There was no radiation release and no impact to plant workers or the public from the incident. Both units continued to operate at full power and were not affected. The two-unit plant is operated by Northern States Power Company – Minnesota and is located in Welch, Minnesota—approximately 26 miles southeast of Minneapolis.

Northwest Compact/State of Washington

Columbia Nuclear Plant On January 9, 2012, NRC officials met with staff from Energy Northwest to discuss initiatives being

implemented to improve the performance of the Columbia Generating Station. During the meeting, which was open to the public, conferees discussed the status of performance improvement initiatives at the plant. The Columbia Generating Station is located near Richland, Washington.

Southeast Compact/States of Alabama and Florida

Browns Ferry Nuclear Plant On January 26, 2012, NRC staff held a public meeting at the Browns Ferry nuclear power plant to discuss the results of the second phase of NRC supplemental inspections performed as a result of a "red" inspection finding at the plant. The "red" finding was issued because of the failure of a low pressure coolant injection valve at the plant last fall. That valve is part of a system that would be used for core cooling during certain accident scenarios and its inoperable state could have led to core damage had a series of unlikely events occurred. The valve has since been repaired. Under the NRC's oversight process, a "red" finding has "high safety significance" and results in increased NRC inspection and oversight of the facility. The increased NRC oversight at Browns Ferry includes a broad set of supplemental inspections to evaluate safety, organizational and programmatic issues at the plant. During the January meeting, officials discussed the second phase of the three-phase supplemental inspection. The third phase is expected to begin later this year. The inspections include a more extensive review of programs and processes than those conducted as part of the NRC's baseline inspection program. The facility's safety culture is also being assessed. The three-unit Browns Ferry plant is located near Athens, Alabama—approximately 32 miles west of Huntsville.

Turkey Point Nuclear Plant On February 21, 2012, NRC staff met with officials from Florida Power and Light Company (FPL) to discuss apparent violations of NRC requirements related to the company's failure to properly maintain the Turkey Point nuclear power plant's onsite emergency response facility. Specifically, on two different occasions in 2010 and 2011, plant personnel disabled portions of the TSC ventilation system, which would have left the facility unstable during a radiological emergency had one occurred. The failure to properly maintain the TSC ventilation system has been preliminarily determined by NRC to be a "white" finding of low to moderate safety significance. FPL aslso failed to inform the NRC of the TSC's inoperability, an apparent violation of agency requirements. That violation is being evaluated using NRC's traditional enforcement process and could result in a civil penalty because it impeded the regulatory process. The Turkey Plant is located approximately 25 miles south of Miami near Homestead, Florida. *An NRC inspection report with information on the issue is available through the NRC's web site at www.nrc.gov/reading-rm/adams.html using ML120260599.*

Southwestern Compact/State of California

San Onofre Nuclear Generating Station On January 31, 2012, a water leak prompted operators to shut down the Unit 3 reactor at the San Onofre nuclear generating station as a precaution. Although the leak was not large enough to require the plant to declare an emergency, the seaside plant was taken off line while investigators tried to determine what happened. Some of the tubes that carry pressurized radioactive water were damaged during the incident, according to an NRC spokesperson. The tubes are part of equipment that is virtually new, having been installed in 2010. Radioactive gas that leaked from the tube in the plant's steam generator was vented into the auxiliary building. The radiation was detected by monitors in that building, which is separated from the sealed structure that houses the reactor. Because the auxiliary building is not sealed, it is possible that a small amount of radiation escaped into the atmosphere. However, according to officials, plant workers and the public were not endangered. The San Onofre plant, which is operated by Southern California Edison, is located approximately 45 north of San Diego.

Universal Product Concepts, Inc. On January 13, 2012, NRC announced that the agency had issued a $7,000 fine to Universal Product Concepts, Inc. of Chino, California, for importing and distributing smoke detectors containing radioactive material without the required licenses. NRC found that the company imported more than 19,400 smoke detectors, containing the radioactive material americium-241, and distributed them to another company without meeting NRC's importation requirements and without first obtaining a distribution license required under NRC regulations. Smoke detectors are exempt from regulation once they are initially distributed, so retailers and consumers do not need a license to own them. However, the initial distribution must be made pursuant to an NRC license to ensure that the devices meet safety requirements. Smoke detectors contain a small amount (not more than 1 micocurie) of americium-241 encapsulated in foil. The radioactive material ionizes a small chamber within the device and triggers an alarm when smoke passes through the chamber. Universal Product Concepts had contacted NRC prior to importing the devices, and was aware of the regulatory requirements, but did not follow through by obtaining the necessary licenses before importing and distributing the devices.

Texas Compact/State of Texas

Comanche Peak Nuclear Plant On March 6, 2012 NRC staff will meet with officials from Luminant Generation Company to discuss enhancements to the fire protection program at the Comanche Peak nuclear power plant. During the meeting, which is open to public observation, conferees will discuss the status of planned equipment modifications at the plant.

State of Michigan

Palisades Nuclear Plant On February 14, 2012, NRC announced that the agency issued three violations to the Palisades nuclear power plant. One violation, which is for a "substantial safety significance," relates to a September 25, 2011 electrical fault caused by personnel at the site which resulted in a reactor trip, the loss of half the control room indicators, and actuation of safety systems that were not warranted by actual plant conditions. This made the reactor trip more challenging for the operators and increased the possibility of a serious event occurring. NRC conducted a Special Inspection and determined the plant failed to have adequate work procedures for the electrical panel maintenance work to ensure that the job was done successfully. The other two violations, which are for a "low to moderate safety significance," are related to a coupling failure in the service water system. They system is comprised of three motor driven pumps which provide cooling to safety-related equipment such as containment air coolers and diesel generators. Last August, one of the service water pumps failed due to a cracking in one of the couplings. This was a repeat of a previous equipment failure that occurred in 2009. NRC conducted a Special Inspection and determined that the plant failed to prevent recurrence of the cracking condition and failed to completely consider the properties of the steel used in a past modification of the couplings. The violations will result in additional NRC inspections and oversight of the facility. The Palisades plant, which is operated by Entergy Nuclear Operations, is located in Covert, Michigan—approximately 50 miles west of Kalamazoo.

State of New York

Nine Mile Point Nuclear Plant On December 23, 2011, NRC announced that the agency approved a request by Nine Mile Point Nuclear Station, LLC (NMPNS) to increase the generating capacity of Unit 2 at the Nine Mile Point nuclear power plant. The power uprate authorizes an increase of 15 percent (approximately 521 megawatts thermal) and equates to an expected increase in electrical output of about 158 megawatts electric. NMPNS is implementing the uprate during its upcoming refueling outage. NRC staff determined that NMPNS could safely increase the reactor's output primarily by carrying

out significant upgrades to several plant systems and components, including the feedwater pumps as well as the high-pressure turbine. NRC staff also reviewed the licensee's evaluations showing the plant's design can safely handle the increased power level. NRC's safety evaluation focused on several areas, such as the nuclear steam supply systems, instrumentation and control systems, electrical systems, accident evaluations, radiological consequences, operations and training, testing, and technical specification changes. NRC staff also performed audits of analyses supporting the power uprate, including independent calculations and evaluations of selected areas. Nine Mile Point is located in Scriba, New York—approximately 6 miles northeast of Oswego.

Indian Point Nuclear Plant On February 1, 2012, NRC announced that the agency denied the majority of requests for exemptions from fire protection requirements at Indian Point Units 2 and 3. Entergy filed the exemption requests by letter dated March 6, 2009. NRC decided, however, that most of the requests to substitute operator manual actions (OMAs) for fire protection features do not meet NRC's criteria. For Indian Point Unit 2, NRC is denying the use of OMAs for 24 of the 30 fire zones requested. At Unit 3, the agency is rejecting the use of OMAs for 18 of the 20 fire zones requested. Entergy has implemented compensatory measures in these fire zones. They will remain in effect until the company completes its corrective actions. The Indian Point nuclear power plant is located in Buchanan, New York.

Fitzpatrick Nuclear Plant On January 26, 2012, NRC issued an order to Entergy Nuclear Operations confirming actions that the company is required to implement at the James A. Fitzpatrick nuclear power plant. The actions are intended to address multiple violations involving radiation protection technicians at the Scriba, New York plant and are in addition to steps already taken at the site. The violations, which were identified by the NRC's Office of Investigations, stem from failures by the technicians to perform or properly execute their duties. Details of the additional actions to be taken by Entergy in response to the violations were determined through the NRC's Alternative Dispute Resolution (ADR) process and were contained in a Confirmatory Order issued by the agency. The violations, which were identified during three separate investigations conducted at the plant in 2009 and 2010, include: failure by technicians to perform required respirator fit testing on multiple occasions from 2006 to 2009; a failure to maintain accurate documentation of completed respirator fit tests during the same period; a failure to perform and/or accurately document independent verification of certain valve positions after the valves were manipulated between September 2007 and December 2009; a failure to document a personal contamination event on at least one occasion; a failure to perform a contamination survey prior to the removal of an item from the plant's radiologically controlled area; and a failure to carry out daily radiological surveys, on multiple occasions from 2006 to 2009, of a reactor building airlock. No health and safety impacts on workers were identified as a result of these safety violations.

State of North Carolina

Brunswick Nuclear Plant On December 30, 2011, NRC announced that staff determined that fuel oil tank rooms serving the Brunswick nuclear plant's emergency diesel generators were not properly protected from possible flooding. Specifically, the violation involved the failure to identify and correct conditions in the fuel oil tank rooms that made them susceptible to flooding during hurricanes. Emergency diesel generators are used to power cooling systems for the reactors if the plant should lose offsite power. The finding of "low to moderate safety significance" will result in increased inspection of the facility. The two-unit Brunswick plant is operated by Carolina Power and Light Company (CPL) near South Port, North Carolina—approximately 30 miles south of Wilmington.

Exelon-Constellation

Exelon-Constellation Merger Approved

Indirect Transfer of Five Nuclear Plant Licenses

On February 16, 2012, the U.S. Nuclear Regulatory Commission has approved the proposed merger between Exelon Corporation and Constellation Energy Group, Inc. (CEG)—including the indirect transfer of operating licenses for five commercial nuclear power plants and two spent fuel storage installations.

The merger would result in Exelon indirectly owning 50.01 percent of Constellation Energy Nuclear Group (CENG), which is jointly owned by CEG and EDF, Inc., a subsidiary of Electricité de France SA. CENG currently holds operating licenses for five nuclear power plants including Calvert Cliffs 1 and 2, Nine Mile Point 1 and 2, and R.E. Ginna, as well as independent spent fuel storage installations at Calvert Cliffs and R.E. Ginna. EDF will continue to own the remaining 49.99 percent of the facilities. Existing Exelon licenses will not be affected.

In May 2011, Exelon and CENG requested NRC consent to the merger. Approvals have been granted by the New York Public Service Commission, the Public Utility Commission of Texas, and the U.S. Department of Justice. The merger must still be approved, however, by the Federal Energy Regulatory Commission and the Maryland Public Service Commission.

The indirect transfer of the licenses will not result in any physical changes to the facilities or any changes to the conduct of operations. The on-site organizations and plant staffs, including senior managers, will remain essentially unchanged by the license transfers. NRC staff determined that Exelon Corporation meets the agency's financial and technical qualifications requirements. Staff further concluded that public health and safety will not be adversely affected by the license transfers.

US Ecology Idaho

Westinghouse Authorized to Use US Ecology Disposal Site in Boise, Idaho

On October 27, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued a letter, Safety Evaluation Report and license amendment to Westinghouse Electric Company (WEC) authorizing WEC to dispose of 30,000 cubic yards of low-activity radioactive materials at US Ecology Idaho's hazardous waste disposal facility near Grand View, Idaho. Shortly thereafter, on November 29, 2011, the Idaho Department of Environmental Quality (IDEQ) concurred that the material met the Idaho site's waste acceptance criteria and was acceptable for disposal. The material contains low concentrations of enriched uranium, Tc-99 and other radioactive isotopes associated with nuclear fuel manufacturing and reprocessing.

The NRC and IDEQ approvals allow for alternate disposal, under 10 CFR §20.2002, of specified low-activity radioactive materials from the Hematite Decommissioning Project (HDP) including certain waste containing source, byproduct, and special nuclear material. The HDP—which is located near Festus, Missouri—manufactured nuclear fuel assemblies for the U.S. Navy and fuel for nuclear power plants from 1956 to 2001. In 2001 fuel manufacturing ceased and the facility license was amended to allow decommissioning. Activities at the HDP generated various radioactive wastes including varying levels of enriched uranium. The primary waste types expected to be shipped from HDP to US Ecology Idaho include soil and miscellaneous debris such as empty bottles, floor tile, rags, drums, bottles, glass wool, lab glassware, and air filters.

Under the terms of its contract with WEC, US Ecology will provide rail transportation from the HDP site using its own fleet of gondola railcars and disposal at US Ecology Idaho. Shipments to US Ecology Idaho began on January 19th, 2012.

In 2010 US Ecology Idaho also received NRC approval and IDEQ concurrence to dispose of low-activity decommissioning waste from the Pacific Gas & Electric Humboldt Bay nuclear power plant (HBPP) near Eureka, California. Material from HBPP was received at US Ecology Idaho throughout 2011. Both the Westinghouse and Pacific Gas & Electric projects are expected to continue for several years.

US Ecology Idaho is a RCRA Subtitle C hazardous waste disposal facility permitted by the Idaho Department of Environmental Quality (IDEQ) to receive low activities of radioactive waste under the terms of its radioactive materials Waste Acceptance Criteria. The facility is located near Grand View, Idaho in the Owyhee Desert of southwestern Idaho. Low activity radioactive material is disposed of in an U.S. Environmental Protection Agency standard triple-lined, engineered disposal cell.

US Ecology, Inc., through its subsidiaries, provides radioactive, hazardous, PCB and non-hazardous industrial waste management and recycling services to commercial and government entities throughout North America. Headquartered in Boise, Idaho, the company is one of the oldest radioactive and hazardous waste services companies in North America.

For additional information, please contact Chad Hyslop at (208) 319-1604 or chyslop@usecology.com.

Perma-Fix Expands Capabilities with SEC Acquisition

With the acquisition of Safety and Ecology Corporation (SEC), Perma-Fix has expanded its capabilities to offer radiological and industrial hygiene instrumentation rental, repair and calibration. Located in Knoxville, Tennessee, Perma-Fix' Instrumentation Laboratory comprises one of the country's largest commercial instrument inventories, as well as the largest routine calibration capacity available. The company's instruments are available for weekly or monthly rental at affordable rates.

"Perma-Fix frequently develops new technologies to more efficiently measure and record radiation while solving problems for clients," states the company in its February 23 press release. "We offer professional consultation for custom instrumentation, application and development. We also provide specialty instrumentation services that respond to today's nuclear industry trend toward D&D and environmental remediation support."

Perma-Fix also states that all calibrations are performed to the requirements of ANSI N323A, 1997 unless otherwise requested. Perma-Fix Instrumentation Services operates under SEC's Tennessee Department of Environment and Conservation, Division of Radiological Health, Radioactive Material License numbers R-47161 and R-47209. SEC is a subsidiary of Perma-Fix Environmental Services, Inc.

For additional information, please go to Perma-Fix' web site at www.perma-fix.com/services/instrumentation.aspx.

Advisory Committee on Medical Uses of Isotopes (ACMUI)

ACMUI Selects New Member

Holds February Teleconference Meeting

On January 10, 2012, the U.S. Nuclear Regulatory Commission's Advisory Committee on the Medical Uses of Isotopes (ACMUI) announced the selection of Darice Bailey as the State Government Representative.

Bailey is a health physicist currently serving as the manager of the Radioactive Materials Group at the Texas Department of State Health Services, Radiation Control Program in Austin, Texas. She is responsible for the oversight of inspection and enforcement for more than 2,000 licensees. She also serves as a member of the state's radiological emergency response team.

In other business, the ACMUI convened a teleconference meeting on Feb. 7, 2012, to discuss the Permanent Implant Brachytherapy Subcommittee Report.

The ACMUI advises NRC on policy and technical issues that arise in the regulation of the medical use of radioactive materials.

For additional information, please see the ACMUI web page on the NRC's web site at www.nrc.gov.

ACRS Meets in January and February 2012

Appoints New Member and Leaders

The U.S. Nuclear Regulatory Commission's Advisory Committee on Reactor Safeguards (ACRS) held public meetings on January 19-20, 2012and February 9-11, 2012 in Rockville, Maryland.

The ACRS also posted its 2012 schedule on the NRC's website. The meetings are scheduled for the following dates: March 8-10, April 12-14, May 10-12, June 6-8, July 11-13, September 6-8, October 4-6, November 1-3 and December 6-8, 2012.

January 2012 Meeting

The following items, among others, were on the agenda for the January 2012 meeting:

- Turkey Point, Units 3 and 4, extended power uprate application;
- proposed revision to 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors;"
- draft final report on the biennial ACRS review of the NRC Safety Research Program; and,
- augmented inspection team report on North Anna.

February 2012 Meeting

During the February 2012 meeting, the ACRS heard presentations and held discussions regarding the implementation of the Japan task force recommendations. The Japan task force was chartered to undertake a review of NRC's processes and regulations to determine if the Commission should make additional improvements in regulations and to give recommendations for policy direction.

New Member and Leaders

NRC has appointed Stephen Schultz to ACRS for a four-year term. Schultz is a nuclear engineering consultant in Charlotte, North Carolina. He retired from Duke Energy Corporation after 33 years of leading technical engineering services teams in the nuclear utility business. As a consultant to the International Atomic Energy Agency, he developed guidance on reactor technology assessment and selection for near-term deployment.

ACRS has elected J. Sam Armijo, John Stetkar and Harold Ray to leadership positions on the Committee. Armijo formerly served as the vice-chairman and now serves as the chairman of the ACRS. Stetkar formerly served as member-at-large and now serves as the vice-chairman of the ACRS. Ray is the newly elected member-at-large.

Background

The ACRS advises the Commission, independently from the NRC staff, on safety issues related to the licensing and operation of nuclear power plants and in areas of health physics and radiation protection. Portions of ACRS meetings may be closed to discuss proprietary information, as well as organizational and personnel matters.

Complete agendas for ACRS meetings are available on the NRC web site at http://www.nrc.gov/reading-rm/doc-collections/acrs/agenda/2011/.

U.S. Department of Energy/U.S. Nuclear Regulatory Commission/ Electric Power Research Institute

New Seismic Model to Refine Hazard Analysis at Nuclear Plants

On January 31, 2012, the Electric Power Research Institute (EPRI), the U.S. Department of Energy (DOE), and the U.S. Nuclear Regulatory Commission (NRC) released a new seismic study that will help nuclear facilities in the central and eastern United States reassess seismic hazards. The "Central and Eastern United States Seismic Source Characterization for Nuclear Facilities" model and report is the culmination of a 4-year effort among the participating organizations, and replaces previous seismic source models used by industry and the government since the late 1980s.

Upon release of the study, NRC announced that the agency is requesting that nuclear power plants re-evaluate seismic hazards using this information as well as other guidance. This work is part of the agency's implementation of lessons learned from events at the Fukushima Daiichi nuclear power plant following the March 2011 earthquake and tsunami in Japan. The new seismic model will be used by nuclear power plants in the central and eastern United States for these re-evaluations, in addition to being used for licensing of new nuclear facilities.

The project gathered and analyzed an expanded data set—including historical earthquake and geological data for the entire study region from 1568 through 2008—using a rigorous, peer-reviewed assessment process. National and international experts from industry, government, academia, and various research organizations were engaged to develop the model.

The model can be used to calculate the likelihood of various levels of earthquake-caused ground motions. Calculations with the new model are expected to result in a higher likelihood of a given ground motion compared to calculations done using previous models. These calculations, however, are not equivalent to a nuclear power plant's overall risk. Plant operators must combine the information from the new model with a plant's design and safety features to determine site-specific risks.

As part of the project, the new seismic model was compared to previous models by calculating seismic hazards at seven test sites. The sample calculations indicate that the largest predicted ground motions could occur in the vicinity of repeated large magnitude earthquake sources, such as New Madrid, Missouri and Charleston, South Carolina.

The report and model are available at http://www.ceus-ssc.com.

(Continued from page 1)

- The staff's approach to protect an inadvertent intruder from exposure to disposed low-level radioactive waste uses generic, stylized bounding calculations that assume a fixed set of conditions to judge the acceptability of disposal of low-level radioactive waste. This approach does not consider site-specific physical or design features that would impact the likelihood of inadvertent intrusion. The use of stylized scenarios should be replaced with an approach that takes into consideration site specific geohydrological features, depth of burial, waste characteristics, engineered disposal features, and their degradation over time.

- If the staff believes that 10 CFR Part 61 constrains the use of a more risk-informed, performance-based treatment of intruder scenarios, then ACRS recommends using the same scenarios used to develop 10 CFR Part 61 without creating additional unrealistic scenarios to determine allowable concentrations or amounts of low-level radioactive waste to be disposed.

Discussion In its December 2011 letter, ACRS provides comments on four main topics in the draft CA BTP including guidance on alternative approaches, guidance on blending of low-level radioactive waste, guidance on encapsulation of low-level radioactive waste, and updates to the intruder scenarios.

Guidance on Alternative Approaches: ACRS notes that the draft CA BTP removes the restrictive Alternative Provision section from the 1995 version and provides applicable "look up" guidance for users of the draft CA BTP on alternative ways to address site-specific considerations to meet the draft CA BTP provisions. According to ACRS, NRC staff stated that they will include additional examples to demonstrate the use of the Alternative Approaches section of the draft CA BTP including factors such as likelihood of intrusion, large component disposal, and encapsulation of sealed sources. ACRS states in its letter that this approach will provide greater flexibility than the guidance in the 1995 version.

Guidance on Blending: The draft CA BTP provides a method to average radionuclide concentrations of radioactive materials contained in packages of "blended" LLRW to assess conformance with the protection requirements for a hypothetical inadvertent intruder. ACRS believes that the draft CA BTP removes several unnecessary conservatisms from its 1995 version. For example, the draft CA BTP removes the factor of 10 constraint for blending wastes and the exceptions previously in place for homogeneous wastes.

The draft CA BTP also provides guidance by which to evaluate radioactive material

homogeneity in wastes for the purpose of protecting inadvertent intruders (e.g., resident farmers, homesteaders, and others) from exposure scenarios consistent with those evaluated during the promulgation of 10 CFR Part 61. In this regard, ACRS finds that NRC staff's approach is consistent with Commission direction to revise the CA BTP regarding the circumstances under which large-scale blending would be acceptable.

The ACRS letter states that blending involves mixing of potentially large volumes of multiple classes of waste, which when aggregated will be classified as a lower class of waste. This process is intended to create blended wastes that will meet Class A requirements. According to ACRS, however, care must be taken to assure that the final waste product will have appropriate physical and chemical characteristics so that the waste will meet all requirements for the entire period of performance. As an example, ACRS points out that the blending resins of different forms may create or result in a final waste form with undesirable chemical characteristics, such as gas generation, that are not intended, or physical characteristics that cause the waste form to behave in undesirable ways.

According to ACRS, blending waste forms to achieve class reduction and or volume reduction should be preceded by tests or other actions to ensure that the final waste form has the required chemical and physical characteristics.

Guidance on Encapsulation: The draft CA BTP provides additional guidance on encapsulation of wastes, specifically to address disposal of sealed sources. The limits on the disposal of these sources are driven by the consideration of inadvertent intruders.

The December 2011 letter states ACRS' belief that the scenarios used to develop the limits on the encapsulation of sealed sources in the draft CA BTP are overly conservative. They are based on postulated future intrusion by persons with no knowledge regarding the disposed radioactive materials. These intruders are assumed to be unable to recognize or determine that they are on a radioactive waste disposal facility. ACRS finds, however, that they do not take into consideration important elements such as the depth of burial.

In addition, ACRS finds that the scenarios are inconsistent with the scenarios used in the development of 10 CFR Part 61, which ACRS believes are also overly conservative.

In regards to the inability of intruders to recognize the presence of a radioactive waste disposal site, ACRS points out that in the Environmental Impact Statement (EIS) supporting 10 CFR Part 61, the intruder scenario most relevant to the encapsulated source is intruder discovery (exposure to an individual who digs into the waste, realizes something is wrong and ceases his excavation activities). ACRS notes, however, that the scenario used to calculate the limits in the draft CA BTP—where an item of waste, such as a sealed source, is discovered and carried away—was not considered likely in the EIS.

ACRS states that it is possible to consider new waste streams using the same assumptions as in 10 CFR Part 61 without creating additional stylized scenarios to determine allowable concentrations or amounts of disposed low-level radioactive waste. Accordingly, if NRC staff believes 10 CFR Part 61 constrains the use of a more risk-informed, performance-based treatment of intruder scenarios in the draft CA BTP, then ACRS recommends using the same scenarios used to develop 10 CFR Part 61.

Improving the Intruder Scenarios Evaluated in the Draft CA BTP: The ACRS letter states that the EIS supporting 10 CFR Part 61 considered three intrusion events. The events were characterized as "intruder construction (exposure to workers constructing a house at the site), intruder agriculture (exposure to individuals living in the house constructed and consuming food grown onsite), and intruder discovery (exposure to an individual who digs into the waste, realizes

something is wrong and ceases his excavation activities)."

ACRS believes, however, that the use of a limited number of predefined stylized scenarios that presume an intruder would make direct contact with buried wastes does not realistically account for site-specific features that affect either the likelihood or the consequences of an intrusion event. As a result, ACRS recommends that these scenarios should be replaced with an approach that takes into consideration site-specific geohydrological features, depth of burial, waste characteristics, engineered disposal features, and their degradation over time.

In addition, ACRS finds that the approach to developing intruder scenarios in the draft CA BTP does not account for improvements in management practices made since promulgation of 10 CFR Part 61 that make intrusion less likely. According to ACRS, current disposal facilities have collected large perpetual care funds that provide for monitoring and maintenance over much longer periods of time than originally assumed. In addition, ACRS states that record-keeping and information management technology have improved to the extent that there is little chance of a complete loss of information about the locations of low-level radioactive waste disposal facilities. ACRS believes that these institutional controls make inadvertent intrusion very unlikely.

In addition, ACRS finds that the draft CA BTP does not account properly for radioactive decay and the distribution of the remaining radioactive materials in the disposal facility as a function of time. After 300 years, states ACRS, most radionuclides in a typical low-level radioactive waste inventory would have decayed to insignificant levels, leaving behind an inventory containing mainly U-238, C-14, I-129, Tc-99, and Ni-63. Accordingly, ACRS recommends that guidance considering radioactive decay should be part of the draft CA BTP.

The ACRS letter acknowledges that NRC staff explained that the current institutional control requirements of the rule (§61.59) constrain their assumptions in conducting the analysis that supports the draft CA BTP. Specifically, the analysis supporting 10 CFR Part 61 bounds the calculation for protecting the intruder by assuming institutional controls are not relied on at the end of the control period. The EIS supporting 10 CFR Part 61 states that the "NRC does not assume that the government fails at the end of the 100-year institutional control period, but rather that the government ceases active control over access to the site. The rule does not presuppose collapse or failure of government, but rather places a restriction on the character of radioactive material disposable by near surface disposal that serves to relieve government of the burden of actively excluding persons from the site in perpetuity."

Accordingly, if NRC staff believes 10 CFR Part 61 constrains the use of a more risk-informed, performance-based treatment of intruder scenarios in the draft CA BTP, then ACRS recommends using the same scenarios used to develop 10 CFR Part 61.

Additional Considerations Regarding Inadvertent Intrusion: In its December 2011 letter, ACRS recommends that the relative importance of protection of the intruder versus the other performance objectives should be reconsidered. In this regard, ACRS believes that the protection of the intruder as described in the 10 CFR Part 61 performance objective (§61.42) which states, "Design, operation, and closure of the land disposal facility must ensure protection of any individual inadvertently intruding into the disposal site and occupying the site or contacting the waste at any time after active institutional controls over the disposal site are removed," should not overshadow the other performance objectives of 10 CFR Part 61 in any analyses conducted to support implementation of the rule. According to ACRS, these include:

- protection of the general population from release of the radioactive materials over the period of performance (§61.41);
- protection of workers from unnecessary occupational exposure (§61.43); and,
- stability of the disposal site after closure (§61.44).

ACRS references its report on 10 CFR Part 61 rulemaking dated September 22, 2011 to reiterate its position that the use of overly conservative scenarios "for inadvertent intrusion into presumably abandoned, unmarked, and unsecured [low-level radioactive waste] disposal facilities can change the focus of the facility design from the protection of the health and safety of the public during the period of operation of the facility (and a reasonable period thereafter), to the protection of hypothetical intruders many thousands of years in the future."

NRC Response

On February 3, 2012, NRC Executive Director for Operations R.W. Borchardt sent a response to ACRS Chairman Abdel-Khalikregarding Committee's earlier correspondence on the draft CA BTP for disposal of low-level radioactive waste.

Overview In response to the general sentiments contained in the ACRS letter, NRC states as follows:

"We appreciate the Committee's in-depth review of the draft revised [CA] BTP, as well as the support for a number of the proposed positions in the revised [CA] BTP. These positions include the addition of the Alternative Approaches section and the new guidance on blending of certain low-level radioactive waste (LLRW) streams. The Committee has also recommended that the staff's generic positions be replaced by an approach that takes into consideration site-specific analyses performed by licensees. The staff agrees that site-specific analyses may be beneficial, but believes that licensees should continue to have an option to use the generic positions in the [CA] BTP, if they so choose. The generic positions in the current and draft revised [CA] BTP allow for the classification of LLRW, without the burden of performing a special analysis."

Discussion In its February 2012 letter, NRC provides the following responses to the five conclusions and recommendations contained in ACRS' earlier correspondence.

Revised CA BTP Should be Issued for Public Comment: NRC's letter states that, as recommended, the draft CA BTP will be revised and issued for public comment after consideration of the ACRS recommendations. "The staff intends to acknowledge and identify the ACRS's views on the revised [CA] BTP in the announcement for the public comment period," states NRC.

Guidance on Alternative Approaches Provides Flexibility and is a Good First Step in Improving LLRW Management: Again, NRC's letter expresses appreciation for ACRS' support of the inclusion of a new section on Alternative Approaches in the draft CA BTP. "The Alternative Approaches section was added to the revised BTP to provide licensees and Agreement States with NRC guidance for proposing site- and waste-specific alternatives to the "look-up" positions in the [CA] BTP," states NRC. "While these generic positions do not require individual approval, and therefore are easy-to-use and efficient, they are also conservative to compensate for the broad range of site- and waste-specific features that may be encountered." NRC also states that it believes that this new section is performance-based in that it enables licensees to use more than one approach to achieve the performance objective of protecting an inadvertent intruder.

"The [CA] BTP's generic positions and the Alternative Approaches are different and intended to complement each other," states NRC. "The Alternative Approaches specifically allow

consideration of site- and waste-specific features, such as depth of burial, waste characteristics, and engineered disposal features, to demonstrate that an inadvertent intruder can be protected."

As an example, NRC points to the generic guidance for encapsulation and disposal of Cs-137 sealed radioactive sources in the draft CA BTP, which provides that sources less than 130 Ci can be disposed of without further review. If a source's activity exceeds the generic limits (130 Ci for Class C disposal of Cs-137 sources), however, the draft CA BTP provides alternative approaches for licensees to use. "The use of site- or waste-specific factors would require a licensee to develop a technical justification and to seek regulatory approval of higher activity limits," states NRC.

Staff Should Continue to Develop Guidance to Ensure that Constituents in Blended Waste are Compatible and Will Result in Satisfactory Waste Forms: "The staff continues to improve the bases for the blending positions while continuing to work to ensure there are no unintended consequences," states NRC. "The staff appreciates the ACRS' comment and agrees that the waste constituents and their effect on final waste forms is an important issue that requires further consideration for the revisions to the [CA] BTP."

Use of Stylized Scenarios to Protect an Inadvertent Intruder Should be Replaced with an Approach that Takes into Consideration Site-Specific Geohydrological Features, Depth of Burial, Waste Characteristics, Engineered Disposal Features, and Degradation Over Time:NRC's letter states that the staff agrees with the ACRS' recommendation that site- and waste-specific features (such as depth of burial and waste characteristics) should be taken into account in protecting the inadvertent intruder and defining positions for averaging low-level radioactive waste for purposes of waste classification, where necessary. However, the letter states that staff believes that the look-up provisions that are based on generic, stylized scenarios should continue to be included in the revised draft CA BTP in an effort to offer licensees a choice in how they demonstrate protection of an inadvertent intruder and use of appropriate concentration averaging techniques. "If a disposal facility licensee wishes to use site- or waste-specific information to justify averaging methods different from the generic guidance in the [CA] BTP, as the ACRS has suggested, the Alternative Approaches section of the revised [CA] BTP explicitly acknowledges that possibility and provides guidance for site-specific approaches," states NRC's letter. "The staff believes that the [CA] BTP should give licensees a choice, because both approaches can provide for the necessary protection of an inadvertent intruder.

NRC further explains its position as follows:

"In preparing this revised [CA] BTP, the staff has focused on improving the existing guidance contained in the 1995 [CA] BTP. The positions in the 1995 [CA] BTP and the revised draft are based on generic radiation exposure scenarios that are different from those used in developing the 10 CFR 61.55 waste classification tables. The staff believes that additional scenarios, beyond those considered in the development of the 10 CFR 61.55 tables, should be considered to ensure protection of intruders from hot spots in the waste. In the staff's proposed revisions, the staff has made the scenarios more realistic than those used in the 1995 [CA] BTP. These revisions will enable the safe disposal of, for example, larger activity sealed sources that are not now recommended for Part 61 disposal because the 1995[CA] BTP is more conservative."

Recommendation to Use the Same Scenarios Used to Develop Part 61 Without Creating Additional Unrealistic Scenarios to Determine Allowable Concentrations or Amounts of LLRW to be Disposed: If NRC staff believes that 10 CFR Part 61 constrains the use of a more risk-informed, performance-based treatment of

intruder scenarios, then ACRS recommends that staff apply the same scenarios used to develop 10 CFR Part 61 without creating additional unrealistic scenarios to determine allowable concentrations or amounts of low-level radioactive waste to be disposed. In the February 2012 response, however, NRC contends that staff believes that the proposed scenarios are appropriate to set generic limits for specific waste streams that were not fully evaluated in developing 10 CFR Part 61, such as encapsulated small gamma-emitting items. "These scenarios are not unlike design basis accidents used in the nuclear reactor program," states NRC. "The scenarios used to set the 10 Part 61.55 disposal concentration limits are based on the assumption that waste is either: (1) soil-like and unrecognizable; or (2) intact and recognizable as being hazardous within 6 hours of discovery."

NRC further explains its position as follows:

"The consequences of accidents involving small gamma-emitting sealed radioactive sources were a factor leading to the development of another scenario for the 1995 [CA] BTP, in which a small piece of gamma-emitting material is intact, but not recognizable as being hazardous. The staff believes this approach is needed to protect 'a person who might occupy the disposal site after closure and engage in normal activities … or other pursuits in which the person might be unknowingly exposed to radiation from the waste' (10 CFR 61.2). Another factor in the use of the additional generic scenarios is that they provide a basis for constraining the amount of averaging that is performed for hot spots, which enhances regulatory stability by limiting the amount of waste that could change waste classification under a revised [CA] BTP."

Other Issues In its December 2011 letter, ACRS included the discussion of other issues related to intruder protection, such as reliance on funding for perpetual control of sites and the relative importance of intruder protection in comparison with other 10 CFR Part 61 performance objectives. In the February 2012 response, NRC points out that the Commission directed staff to consider a comprehensive revision to 10 CFR Part 61. (See related story, this issue.) NRC's response further states that staff will consider the other issues raised by ACRS when developing the staff's analysis of alternatives and issues associated with revising 10 CFR Part 61.

Background

On April 7, 2010, NRC staff transmitted SECY-10-0043, "Blending of Low-Level Radioactive Waste," with a recommendation that the Commission adopt a risk-informed, performance-based approach to low-level radioactive waste blending. (See *LLW Notes,* March/April 2010, pp. 1, 25-29.) In a Staff Requirements Memorandum (SRM) dated October 13, 2010, the Commission approved the staff's plan and directed that the staff develop a draft CA BTP addressing the circumstances under which large-scale blending would be acceptable. (See *LLW Notes,* September/October 2010, pp. 1, 27-28.) This SRM also directed the ACRS to review the draft CA BTP prior to being issued for public comment.

ACRS reviewed the document during its recent meeting on December 1-3, 2011. In addition, ACRS' Radiation Protection and Nuclear Materials Subcommittee also reviewed the draft CA BTP and associated issues on October 4, 2011. These meetings included discussions with staff of the NRC and the U.S. Department of Energy.

The draft CA BTP can be found on the NRC's public web site at www.nrc.gov under Agencywide Documents Access and Management System (ADAMS) at ML112061191.

The ACRS letter can be found on NRC's web site under ADAMS at ML11343A221.

The NRC response can be found on the NRC's web site under ADAMS at ML120090314.

NRC Publishes Commission Paper on Draft Final Policy Statement re Volume Reduction and LLRW Management

On January 25, 2012, the U.S. Nuclear Regulatory Commission published a Commission Paper on the Draft Final Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management (SECY-12-0003). The Commission Paper is dated January 9, 2012.

The revised statement specifies that licensees should consider all waste management strategies, not only volume reduction, when determining how to manage low-level radioactive waste.

SECY-12-0003 and associated documents can be found on the NRC's web site at www.nrc.gov under ADAMS via accession documents ML113400160, ML113400177, ML113400182, ML113400195, and ML113400201.

Revised Policy Statement

Historical Basis The proposed revisions to the policy statement on volume reduction of low-level radioactive waste, which were originally published at 76 *Federal Register* 50,500 (August 15, 2011), recognize progress licensees have made in reducing the volume of low-level radioactive waste generated during operations since the current policy statement was issued in 1981.

According to NRC, widespread use of volume reduction practices, which have been encouraged by nuclear industry groups, has resulted in a significant reduction in the amount of low-level radioactive waste produced by licensees. NRC notes that the high cost of disposal, and lack of disposal access, have also contributed to the use of volume reduction techniques.

Substantive Content The revised policy statement clarifies that volume reduction has certain advantages, such as preserving disposal space, but it is only one of a number of techniques that licensees can use to safely and responsibly manage low-level radioactive waste. The revised policy statement explicitly acknowledges that other factors can be used by licensees in determining how best to manage their low-level radioactive waste.

Consistent with the direction in the SRM for SECY-93-323, "Withdrawal of Proposed Rulemaking to Establish Procedures and Criteria for On-Site Storage of Low-Level Radioactive Waste After January 1, 1996," the revised policy statement also reaffirms that disposal of low-level radioactive waste is the preferred management option.

The specific changes to the revised policy statement are as follows:

- changes the title to "Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management;"
- deletes outdated "advanced" technologies (e.g., evaporation);
- recognizes progress made in reducing waste volumes since the policy statement was first issued 30 years ago;
- recognizes volume reduction is only one aspect of low-level radioactive wastemanagement;
- affirms that disposal is considered the safest and most secure long-term management approach; and,
- suggests licensees consider all means available to manage low-level radioactive waste in a manner that is secure and protects public health and safety, such as: waste minimization; short-term storage and decay; long-term storage; use of the alternate disposal provision in 10 CFR 20.2002; use of waste

processing technologies; and, use of licensed disposal facilities.

Response to Comments In a memorandum dated June 24, 2011, NRC staff informed the Commission of its intent to publish, in the *Federal Register* for public comment, the proposed revision to the Policy Statement on Low-Level Waste Volume Reduction. The draft Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management was published in the *Federal Register* on August 15, 2011. In September 2011, NRC extended the comment period through October 14, 2011. (See *LLW Notes,* September/October 2011, pp. 1, 29-30.)

Ten separate comment letters were received from stakeholders and the interested public. Based on the staff's consideration of written comments, the staff concluded that several minor changes should be made to the draft Policy Statement that was published for public comment. For instance, a commenter stated that waste management practices (e.g., waste minimization and long-term storage) should be listed in a hierarchy of preferential order. Staff did not actually agree with this comment, but added a statement that the waste management practices were listed "in no particular order and thus not indicating any NRC preference."

Recommendation SECY-12-0003 states that NRC staff recommends that the Commission approve the draft final Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management for publication in the *Federal Register*.

Background

In 1981, NRC published a policy statement regarding the reduction of low-level radioactive waste that addressed:

- the need for a volume reduction policy;
- suggested volume reduction techniques;
- that NRC would take expeditious action on requests for licensing of volume reduction systems; and,
- the need for waste generators to minimize the quantity of waste produced.

The 1981 policy statement was issued in response to a General Accounting Office report that recommended that NRC take this step to help preserve disposal facility space. At the time of issuance of the policy statement, disposal space was scarce since two of the three operating disposal sites had been threatening to close, and one had recently reduced the annual amount authorized for disposal by half. In addition, volume reduction techniques were not yet in widespread use.

On April 7, 2010, NRC staff published SECY-10-0043, "Blending of Low-Level Radioactive Waste" and addressed the 1981 policy statement in response to stakeholder comments that large-scale blending may not be consistent with the policy statement because it would enable licensees to avoid the use of an available volume reduction technology. In the blending paper, staff stated in Option 2 as follows:

"The staff believes that the Policy Statement could be updated to recognize the progress that has been achieved, and to acknowledge that other factors may be used by licensees in determining how best to manage their LLRW. Specifically, the Policy Statement could be revised to acknowledge that volume reduction continues to be important, but that risk-informed, performance-based approaches to managing waste are also appropriate in managing LLRW safely and that volume reduction should be evaluated in this light."

In the Staff Requirements Memorandum for SECY-10-0043, the Commission approved Option 2, which included the staff's proposed changes noted above. Consequently, NRC published for public comment a revised Policy

Statement on Volume Reduction and Low-Level Radioactive Waste Management.

For additional information, please contact Donald Lowman of the NRC's Office of Federal and State Materials and Environmental Management Programs at (301) 415-5452 or at donald.lowman@nrc.gov.

NRC Issues SRM on Part 61 Limited Rulemaking (DU Rule)

On January 19, 2012, the U.S. Nuclear Regulatory Commission issued a Staff Requirements Memorandum (SRM) that approves expanding the current limited-scope revision to Part 61 regarding site-specific analysis to bring a clearer risk-informed approach to Part 61.

Direction in Commission's SRM

"The Commission agrees that there is value in considering, through extensive interactions with stakeholders, whether the risk-informed approaches below should be incorporated into the current rulemaking," states the SRM. "Such revisions may obviate the need for a second protracted rulemaking."

The Commission directed staff to provide an expanded proposed rule to the Commission within 18 months which includes the following issues, along with staff's analysis of the issues and stakeholder feedback and the pros and cons of the specific revisions:

- Allowing licensees the flexibility to use ICRP dose methodologies in a site-specific performance assessment for the disposal of all radioactive waste.

- A two-tiered approach that establishes a compliance period that covers the reasonably foreseeable future and a longer period of performance that is not a priori and is established to evaluate the performance of the site over longer timeframes. The period of performance is developed based on the candidate site characteristics (waste package, waste form, disposal technology, cover technology, and geo-hydrology) and the peak dose to a designated receptor.

- Flexibility for disposal facilities to establish site-specific waste acceptance criteria based on the results of the site's performance assessment and intruder assessment.

- A compatibility category for the elements of the revised rule that establish the requirements for site-specific performance assessments and the development of the site-specific waste acceptance criteria that ensures alignment between the States and Federal government on safety fundamentals, while providing the States with the flexibility to determine how to implement these safety requirements.

In its January 19 SRM, the Commission states that it reserves judgment on the form these elements should take in any final rule, until the proposals have undergone staff evaluation and have benefited from stakeholder engagement and public comment as part of the rulemaking process. The SRM further states that staff should immediately notify the Commission if it appears that there may be a health and safety concern at any time during the rulemaking timeframe. If any significant challenges which would substantially extend the rulemaking timeline beyond 18 months are encountered, the SRM directs that staff should notify the Commission and provide a proposed path forward.

In establishing a period of compliance, the SRM states that staff should balance all of the principles in the National Academy of Public Administration's June 1997 report, previous agency guidance, the approaches of international and domestic agencies, and the technical

considerations associated with disposal of long-lived waste.

In terms of scope, the SRM states that changes considered as part of the current rulemaking should be limited to revisions to address the four above-identified issues. "Staff should, separate from any actions resulting from this SRM, continue to engage stakeholders to pursue the possibility of the other risk-informed revisions to 10 CFR Part 61 outlined in SECY-10-0165," states the SRM. "Recognizing that the path forward on the issues outlined in SECY 10-0165 depend in part on the final content of the limited rulemaking, the notation vote paper providing the staff's recommendations on which, if any, of the risk-informed revisions in SECY-10-0165 should be implemented should be submitted to the Commission after completion of the limited rulemaking."

Individual Voting Records

The Commissioner's detailed comments on the proposed revisions to 10 CFR Part 61 can be found in their individual voting records. The following is a brief overview of the individual voting records. Persons interested in greater detail should review the records in their entirety.

- Chairman Jaczko, who approved in part and disapproved part, expressed concern about the addition of 18 months to the timeframe for developing the proposed rule. Jaczko calculated that a final rule is not likely to go into effect until 2018 or later. Given the associated safety concerns, Jaczko argued that large quantities of depleted uranium should not be disposed of until a final rule is in place. "The staff should work with the Office of General Counsel," states Jaczko, "to determine what actions should be taken by the agency to prevent such disposal until the rule is finalized."

- Commissioner Svinicki also approved in part and disapproved in part. Specifically, she approved expansion of the current rulemaking to encompass (1) establishment of compliance period that covers the reasonably foreseeable future and does not adopt an *a priori* period of performance, and (2) provides flexibility for disposal facilities to establish site-specific waste acceptance criteria based on the results of the site's performance assessment and intruder assessment, as an alternative compliance strategy to the current classification system. For these limited expansions, Svinicki believed that the staff should provide a rule to the Commission within 12 months of the SRM. Svinicki disapproved expansion of the rulemaking, at this time, to require the use of the most "up-to-date" ICRP dose methodologies. "I understand from the staff that this could have the potential to significantly prolong the duration of the development of the proposed rule," writes Svinicki. "I think that the development of the proposed rule should not be further delayed in order to accommodate this particular revision."

- Commissioner Ostendorff approved expanding the current 10 CFR Part 61 rulemaking beyond a limited scope to further risk-inform the staff's approach. Since the proposed rule has not been issued for public comment and he has not had the benefit of the staff's formal analysis of the issues addressed in the SRM, Ostendorff reserved judgment on whether the items discussed in the SRM should be included in the final rule. Noting that changes to 10 CFR Part 61 to address the safe disposal of depleted uranium and blended waste have been ongoing for over 3 years, Ostendorff cautioned against significantly extending the timeline for the current rulemaking. He asserted that staff should, separately, continue to pursue the possibility of other risk-informed revisions to 10 CFR Part 61 in the future. In terms of the period of compliance, Ostendorff supported a two-tiered approach with a period of compliance and longer term evaluation. Ostendorff stated that

he does not have sufficient stakeholder and staff feedback to make a decision on the appropriate compatibility categorization, but he believes that the staff's proposal on this issue "should ensure alignment between the states and federal government on safety fundamentals, while providing the states with the flexibility to determine how to implement these safety requirements."

- Commissioners Magwood and Apostolakis initiated this revision to the rulemaking, which is considered to be a "yes" vote, and did not file individual votes.

Stakeholder Meeting re 10 CFR Part 61 Site-Specific Analysis Rulemaking

March 2, 2012 in Phoenix, Arizona

On March 2, 2012, the U.S. Nuclear Regulatory Commission held a meeting to discuss proposed changes to the requirements in 10 *Code of Federal Regulations* Part 61 and gather information from the public regarding those changes. The meeting was held at the Marriott Renaissance Hotel in downtown Phoenix, Arizona.

Phoenix Meeting

During the Phoenix meeting, NRC staff engaged stakeholders and members of the public on possible changes to the Part 61—including the expansion of the current limited rulemaking as directed by the Commission on January 19, 2012.

Stakeholders and other members of the public were invited to participate in the March 2 meeting by asking questions throughout the meeting.

Participants from the NRC staff included members of the Office of Federal and State Materials and Environmental Management Program.

Additional information is available at http://www.wmsym.org/index.php?option=com_content&view=article&id=267&Itemid=213.

For additional information, please contact NRC staff members Michael Lee at (301) 415-6887 or at Mike.Lee@nrc.gov or Tarsha Moon at (301) 415-6745 or at Tarsha.Moon@nrc.gov.

Background

A few months ago, NRC Commissioners Magwood and Apostalakis sponsored a Commission Action Memorandum (COM), titled "COMWDM-11-0002/COMGEA-11-0002," dated November 03, 2011, that proposed a new direction for the Site Specific Analyses rulemaking.

In response, on January 19, 2012, the Commission issued a Staff Requirements Memorandum that adopted the proposals in the COM and directs the staff to expand the scope of the Site Specific Analyses rulemaking. (See related story, this issue.) The SRM also directs the staff to engage stakeholders and other members of the interested public to discuss and finalize the agency's approach to address the revision and to provide the Commission with a revised proposed rule within 18 months of the SRM date.

The staff is preparing an updated regulatory basis to support this expanded rulemaking effort.

The November 3 COM may be found on the NRC's web site at www.nrc.gov using ADAMS Accession No. ML113070543.

The January 19 SRM may be found on the NRC's web site at www.nrc.gov using ADAMS Accession No. ML120190360.

For additional information, please contact Andrew Carrera of the NRC's Office of Federal and State Materials and Environmental Management at (301) 415-1078 or at andrew.carrera@nrc.gov.

NRC Issues First-Ever Combined Licenses for Vogtle Site

On February 9, 2012, the U.S. Nuclear Regulatory Commission concluded its mandatory hearing on Southern Nuclear Operating Company's (SNC) application for two Combined Licenses (COL) at the Vogtle site in Georgia. If issued, a COL provides authorization to construct and, with conditions, operate a nuclear power plant at a specific site and in accordance with laws and regulations.

On February 10, 2012, NRC staff issued the licenses for Vogtle Units 3 and 4.

Commission Vote

By a 4 to 1 vote, the Commission found the staff's review adequate to make the necessary regulatory safety and environmental findings, clearing the way for the NRC's Office of New Reactors to issue the COLs. The Commission imposed a condition on the COLs requiring inspection and testing of squib valves—important components of the new reactors' passive cooling system.

NRC Chairman Gregory Jaczko voted against the Vogtle license, saying he wanted a binding commitment from the company that it would make safety changes prompted by the Japan disaster. "We've given them a license," said Jaczko. "They have not given us any commitment they will make these changes in the future." Despite his opposition to the license, Jaczko called the vote "historic" and a culmination of years of work by SNC and the NRC.

COL Issuance

The COLs authorize SNC to build and operate two AP1000 reactors at the Vogtle site, which is adjacent to the company's existing reactors. Since April 2010, NRC construction inspectors have been on-site, examining SNC's activities to prepare the plant's foundation under a Limited Work Authorization that was issued by the NRC on August 26, 2009.

SNC hopes to begin operating the $14 billion reactors at its Vogtle site—which is located approximately 26 miles southeast of Augusta, Georgia—as soon as 2016. If built, the reactors would constitute the nation's first new nuclear power plants in a generation. NRC last approved construction of a nuclear plant in 1978.

Background

SNC submitted its COL application on March 28, 2008. The company then supplemented the application on October 2, 2009. The NRC's Advisory Committee on Reactor Safeguards (ACRS) independently reviewed aspects of the application that concern safety, as well as a draft of the staff's Final Safety Evaluation Report (FSER). In a report dated January 24, 2011, the ACRS provided the results of its review to the Commission. On March 24, 2011, the NRC completed its environmental review and issued a Final Supplemental Environmental Impact Statement for the VogtleCOLs. The NRC completed and issued the FSER on Aug. 9, 2011.

On December 30, 2011, the NRC certified Westinghouse's amended AP1000 design. The AP1000 is a 1,100 megawatt electric pressurized-water reactor that includes passive safety features that would cool down the reactor after an accident without the need for electricity or human intervention.

COL Application Reviews Continue

The U.S. Nuclear Regulatory Commission (NRC) continues to process Combined License (COL) applications. If issued, a COL provides authorization to construct and, with conditions, operate a nuclear power plant at a specific site and in accordance with laws and regulations.

In this regard, on January 26, 2012, the Atomic Safety and Licensing Board (ASLB) held a hearing in Prince Frederick, Maryland, regarding a challenge to the COL application for a new reactor at the Calvert Cliffs site. The Board also accepted "limited appearance statements" on January 25, 2012. The ASLB is the independent body within the NRC that conducts adjudicatory hearings and rules on legal challenges to proposed licensing actions.

The hearing involved UnitStar's application to construct and operate a new nuclear reactor at Calvert Cliffs—which is located about 40 miles south of Annapolis. The Nuclear Information and Resource Services, Beyond Nuclear, Public Citizen Energy Program and Southern Maryland Citizens Alliance for Renewable Energy Solutions have jointly filed a legal challenge opposing the application. The challenge alleges that the NRC staff's draft environmental impact statement failed to adequately analyze and discuss alternatives to the proposed reactor.

In addition, on February 10, 2012, NRC staff issued the first-ever COL for Vogtle Units 3 and 4 near Augusta, Georgia. (See related story, this issue.)

Additional information on the NRC's new reactor licensing process is available on the agency's web site at http://www.nrc.gov/reactors/new-reactor-licensing.html.

License Renewals Continue to Move Forward

The U.S. Nuclear Regulatory Commission continues to process license renewal applications from various nuclear power plant operators and nuclear-related facilities. In that regard, the agency recently took the following actions:

- On February 21, 2012, an Atomic Safety and Licensing Board (ASLB) panel heard oral arguments on a request for a hearing on the Limerick nuclear power plant's license renewal application. The ASLB is the independent body within the NRC that presides over hearings in which the public can challenge NRC proposed licensing and enforcement actions. The session was open for public observation, but participation was limited to representatives of the parties taking part in the proceeding, including the National Resources Defense Council (NRDC); Exelon Generation Corporation, LLC, which owns and operates the plant; and NRC staff. NRDC filed a request for a hearing on the application on November 22, 2011. The organization submitted four contentions related to the environmental report prepared by Exelon as part of its application, including the absence of a Severe Accident Mitigation Analysis. Limerick, which is the site of two boiling-water reactors, is located in Limerick (Montgomery County), Pennsylvania. Exelon submitted an application on June 22, 2011, seeking 20-year license extensions for both units. The current operating licenses for Limerick Units 1 and 2 expire on October 26, 2024, and June 22, 2029, respectively.

- On January 31, 2012, NRC staff held two public meetings in Port Gibson, Mississippi to discuss the agency's review process for a license renewal application for Grand Gulf Nuclear Station—which is located in Claiborne County, Mississippi. The sessions also provided an

opportunity for members of the public to comment on environmental issues they believe the NRC should consider during its review of the application, which seeks a license extension of 20 years. Comments on potential environmental impacts of the plant's extended operation will be considered as the NRC staff develops an Environmental Impact Statement on the application as part of its review. Grand Gulf is the site of one boiling-water reactor. It is owned and operated by Entergy Operations, Inc. The company submitted the Grand Gulf license renewal application on November 1, 2011. The current operating license for Grand Gulf Nuclear Station expires on November 1, 2024.

- On December 29, 2011, NRC announced that an application for a 20-year renewal of the operating license for the Callaway nuclear power plant is available for public review. The Callaway plant is a pressurized-water nuclear reactor located near Fulton, Missouri—approximately 25 miles northeast of Jefferson City. The current operating license expires on October 18, 2024. The licensee, Union Electric Company, submitted the renewal application on December 19, 2011. NRC staff is currently conducting an initial review of the application to determine whether it contains enough information for the required formal review. If the application has sufficient information, the NRC will formally "docket," or file, the application and will announce an opportunity to request a public hearing.

Under NRC regulations, a nuclear power plant's original operating license may last up to 40 years. License renewal may then be granted for up to an additional 20 years, if NRC requirements are met. To date, NRC has approved license extension requests for 71 reactor units. In addition, NRC is currently processing 11 other license renewal requests.

For a complete listing of completed renewal applications and those currently under review, go to http://www.nrc.gov/reactors/operating/licensing/renewal/applications.html.

NRC Approves Rule to Certify Amended AP1000 Reactor Design

On December 22, 2011, the U.S. Nuclear Regulatory Commission voted to approve a rule certifying an amended version of Westinghouse's AP1000 reactor design for use in the United States. The amended certification, which will be incorporated into the NRC's regulations, will be valid for 15 years.

The Commission found good cause to make the rule immediately effective once it is published in the *Federal Register*. NRC rules normally become effective 30 days after publication.

The design certification process provides for public participation and early resolution of safety issues for proposed reactor designs. NRC certification, in the form of a final rule, means the design meets the agency's applicable safety requirements. If an applicant for a nuclear power plant license references a certified design, the applicant need not submit safety information for the design. Instead, the license application and the NRC's safety review would address the remaining safety issues specific to the proposed nuclear power plant.

The AP1000 is a 1,100 megawatt electric pressurized-water reactor that includes passive safety features that would cool down the reactor after an accident without the need for human intervention. Westinghouse submitted an application for certification of the original AP1000 standard plant design on March 28, 2002.

NRC issued a rule certifying that design on January 27, 2006.

Westinghouse submitted an application to amend the AP1000 on May 27, 2007. The NRC's technical review of the amendment request focused on ensuring the agency's safety requirements have been met. This process, including input from the Advisory Committee on Reactor Safeguards, led to the NRC issuing a final safety evaluation report on the amended AP1000 in August 2011. NRC issued a proposed rule for the amended design in January 2011. Stakeholders provided more than 12,000 comments on the proposed rule. NRC staff considered these comments in developing the final rule.

NRC is currently reviewing six Combined License applications that reference the amended AP1000 design. NRC has certified three other standard reactor designs: the Advanced Boiling Water Reactor, System 80+, and AP600. The agency is currently reviewing applications to certify the Economic Simplified Boiling Water Reactor, the U.S. Advanced Pressurized Water Reactor and the EPR pressurized-water reactor.

*More information about the amended AP1000 design review can be found on the NRC's website at*http://www.nrc.gov/reactors/new-reactors/design-cert/amended-ap1000.html.

Registration Opens for NRC's Annual Regulatory Information Conference

March 13-15, 2012 in Rockville, Maryland

From March 13-15, 2012, the U.S. Nuclear Regulatory Commission will hold its 24th annual Regulatory Information Conference (RIC) at the Bethesda North Marriott, 5701 Marinelli Rd., Bethesda, Md. The RIC is jointly hosted by the NRC's Offices of Nuclear Reactor Regulation and Nuclear Regulatory Research. More than 3,000 people are expected to attend, including representatives from more than 30 foreign countries, representatives from all levels of government and a broad range of stakeholders.

The conference is free and open to the public, but registration is required. Conference agenda and the online registration are now available by clicking the RIC 2012 button on the NRC website. Deadline for online registration is February 28, 2012.

"The annual Regulatory Information Conference provides an excellent opportunity for stakeholders and interested members of the public to learn more about the NRC's work to ensure adequate protection of public health and safety and to protect the environment," said NRC Chairman Gregory B. Jaczko. "In addition to conveying important research findings, rulemaking information and regulatory improvements, we also will be providing ample opportunities for discussion and feedback. I encourage members of the public who are interested in nuclear regulation to attend the RIC and participate in this important forum."

The conference brings together NRC staff, nuclear plant owners, nuclear materials users, key industry stakeholders, representatives from all levels of government, international regulators, special interest groups and the public to discuss

key issues affecting the safety and security of commercial nuclear facilities and current regulatory activities. This year's program will feature Chairman Jaczko as keynote speaker.

Additional program highlights will include plenary sessions with Commissioners Kristine L. Svinicki, George Apostolakis, William D. Magwood IV, and William C. Ostendorff. The RIC plenary sessions will also include remarks by Bill Borchardt, NRC's Executive Director for Operations. Eric J. Leeds, the Director of the Office of Nuclear Reactor Regulation will moderate a special plenary session with Martin J. Virgilio, the Deputy Executive Director for Reactor and Preparedness Programs and industry officials.

The major topics at this year's RIC are all related to the Fukushima Dai-ichi accident and include the NRC's response to lessons-learned such as seismic and station blackout events, flooding and ventilation issues; emergency preparedness; and, incident response. In addition, technical programs will address significant domestic and international issues associated with operating reactors, new and advanced reactors, fuel cycle facilities, nuclear security, safety research and safety culture policies.

The full agenda offers tours of the NRC's Incident Response Center and a broad variety of poster and tabletop presentations. Early registration is encouraged; however, onsite registration will also be available during the conference.

NRC Seeks Comment re Reactor Accident Consequence Research

On February 1, 2012, the U.S. Nuclear Regulatory Commission announced that the agency is seeking public comment on the draft report for the State-of-the-Art Reactor Consequence Analyses (SOARCA) research study. Subsequently, the SOARCA team met in late February with residents near the two plants analyzed in the effort.

Background

SOARCA analyzed the potential consequences of severe accidents at the Surry Power Station near Surry, Virginia and the Peach Bottom Atomic Power Station near Delta, Pennsylvania. The project, which began in 2007, combined up-to-date information about the plants' layout and operations with local population data and emergency preparedness plans. This information was then analyzed using state-of-the-art computer codes that incorporate decades of research into severe reactor accidents.

Findings

SOARCA's main findings fall into three basic areas: (1) how a reactor accident progresses; (2) how existing systems and emergency measures can affect an accident's outcome; and, (3) how an accident would affect the public's health. The project's preliminary findings include:

- existing resources and procedures can stop an accident, slow it down or reduce its impact before it can affect the public;
- even if accidents proceed uncontrolled, they take much longer to happen and release much less radioactive material than earlier analyses suggested; and,

- the analyzed accidents would cause essentially zero immediate deaths and only a very, very small increase in the risk of long-term cancer deaths.

Meetings

The SOARCA team met with the public on February 21, 2012 from 5 to 9 p.m. at the Surry County Courthouse in Virginia. The team also met with the public on February 22, 2012 from 5 to 9 p.m. at the Peach Bottom Inn Delta, Pennsylvania. During these meetings, the team presented the project's findings, answered questions and took comments on the draft report.

Public Comments

NRC will take comments on the draft SOARCA report through March 1, 2012. Comments can be submitted using the regulations.gov website, using Docket ID **NRC-2012-0022**. Comments can also be mailed, referencing the Docket ID, to Cindy Bladey, Chief, Rules, Announcements, and Directives Branch (RADB), Office of Administration, Mail Stop: TWB-05-B01M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Comments can also be faxed to RADB at 301-492-3446, referencing the Docket ID.

Comments submitted in writing or in electronic form will be posted on the NRC Web site and on regulations.gov. The agency will not edit or remove any identifying or contact information. The NRC staff will consider the comments in finalizing the SOARCA report for submission to the Commission later this year.

The main SOARCA report, including an appendix discussing the accident at the Fukushima Dai-ichi nuclear plant in Japan, is available in the NRC's electronic documents database, ADAMS, by entering ML120250406 in the ADAMS search engine. Supporting technical information regarding the Peach Bottom analysis is available by entering ML120260675, and supporting technical information regarding the Surry analysis is available byentering ML120260681. A brochure that describes the research for a general audience is available by entering ML12026A470.

Comments Accepted re Environmental Study of Spent Fuel Extended Storage

On January 3, 2012, the U.S. Nuclear Regulatory Commission announced that the agency is seeking public comment on a report updating preliminary assumptions for an Environmental Impact Statement (EIS) to analyze the effects of storing spent nuclear fuel from the nation's commercial power reactors for as much as 200 years.

The EIS will be part of the agency's effort to update its Waste Confidence Decision and Rule, which was last updated in 2010. The report that is being made available for comment is an early effort to obtain public input about the general scope of the EIS before the NRC formally initiates the EIS "scoping" process. The EIS will include analyses of environmental impacts that are directly related to the long-term handling, storage and transportation of commercial spent fuel and high-level radioactive waste.
The report discusses several storage scenarios—including at nuclear power plants, regional or centralized storage sites or a combination of storage and reprocessing of spent fuel. A key assumption is that extended storage would be managed under a regulatory program similar to current regulation of spent fuel. To analyze the impacts associated with the scenarios, NRC staff will develop generic, composite sites for each scenario, and these sites will account for a range of characteristics of actual reactor and storage sites.

The report, entitled "Background and Preliminary Assumptions for an Environmental Impact Statement–Long-Term Waste Confidence Update," has been posted on the NRC website at www.nrc.gov. The report updates assumptions that were first laid out in SECY-11-0029, which was dated February 28, 2011.

As revised in 2010, the Waste Confidence Decision and Rule included the Commission's confidence that spent fuel can be safely managed until it undergoes final disposition. At the same time, the Commission directed the staff to prepare a long-term update to the Waste Confidence Decision and Rule that would cover extended storage of spent fuel. This long-term update is to be informed by the analysis and conclusions of the EIS anticipated in the current report.

Comments on the report may be filed by email to WCOutreach@nrc.govor by U.S mail to Christine Pineda, Project Manager, Office of Nuclear Material Safety and Safeguards, Mailstop EBB-2B2, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Larry Camper Certified by the ABCEP as Environmental Professional

On November 24, 2011, the Academy of Board Certified Environmental Professionals (ABCEP) certified Larry Camper—Director of the Division of Waste Management and Environmental Protection of the Office of Federal and State Materials and Environmental Management Programs at the U.S. Nuclear Regulatory Commission—as an Environmental Professional with a specialty in Environmental Assessment. As such, Camper may now use the designation "CEP" after his name and he is committed to carrying out his professional duties in a manner consistent with the ABCEP Code of Ethics for Environmental Professionals.

The ABCEP is a member of the Council of Engineering and Scientific Specialty Boards (CESB), which is the national organization responsible for accrediting engineering and technology certification programs. The ABCEP administers the CEP Program, which provides environmental professionals who possess special qualifications of education, experience, and accomplishment with the opportunity to be judged by a board of peers.

Seven members of the Certification Review Board (CRB) evaluates each applicant. Members of the CRB represent many fields of professional effort (i.e., consulting, academia, private industry, government). The CRB is responsible for determining the qualifications of each applicant and grants or denies certification based upon the comprehensive review of the information and documentation provided by professional applicants. The Lead CRB Reviewer also interviews the applicant to determine the extent of the applicant's knowledge and experience in his or her area of expertise and examine other matters considered germane to certification.

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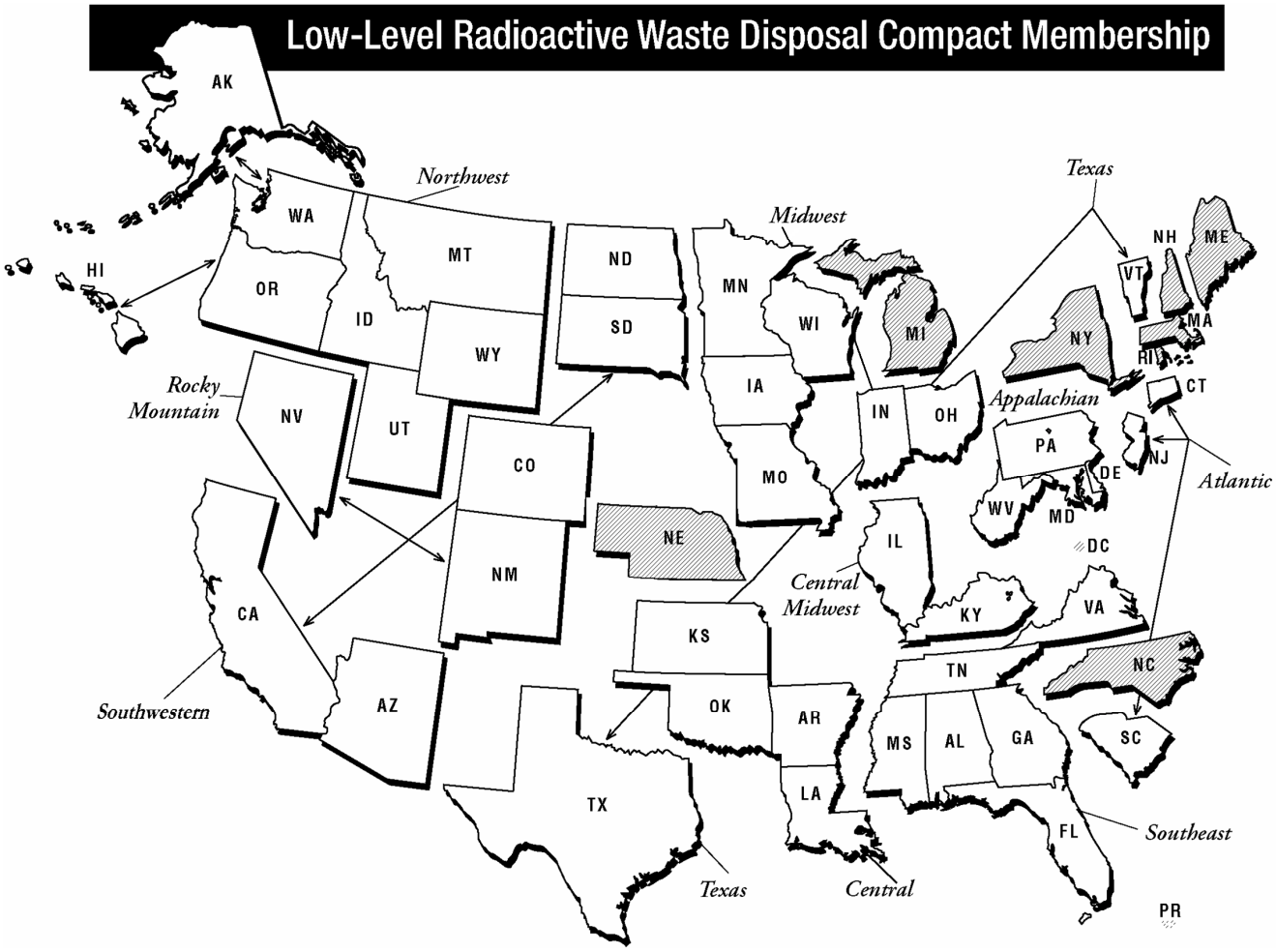
LLW Notes, LLW Forum *Contact Information* and the *Summary Report: Low-Level Radioactive Waste Management Activities in the States and Compacts* are distributed to the Board of Directors of the LLW Forum, Inc. As of March 1998, *LLW Notes* and membership information are also available on the LLW Forum web site at www.llwforum.org. The *Summary Report* and accompanying Development Chart have been available on the LLW Forum web site since January 1997.

As of March 1996, back issues of these publications are available from the National Technical Information Service at U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161, or by calling (703) 605-6000.



Appalachian Compact
Delaware
Maryland
Pennsylvania
West Virginia

Atlantic Compact
Connecticut
New Jersey
South Carolina

Central Compact
Arkansas
Kansas
Louisiana
Oklahoma

Central Midwest Compact
Illinois
Kentucky

Northwest Compact
Alaska
Hawaii
Idaho
Montana
Oregon
Utah
Washington
Wyoming

Midwest Compact
Indiana
Iowa
Minnesota
Missouri
Ohio
Wisconsin

Rocky Mountain Compact
Colorado
Nevada
New Mexico

Northwest accepts Rocky Mountain waste as agreed between compacts

Southeast Compact
Alabama
Florida
Georgia
Mississippi
Tennessee
Virginia

Southwestern Compact
Arizona
California
North Dakota
South Dakota

Texas Compact
Texas
Vermont

Unaffiliated States
District of Columbia
Maine
Massachusetts
Michigan
Nebraska
New Hampshire
New York
North Carolina
Puerto Rico
Rhode Island