LLW notes

Volume 27, Number 3 May/June 2012

Source Collection and Threat Reduction (SCATR) Program
Conference of Radiation Control Program Directors (CRCPD)

SCATR Program to Begin Collection of Class A Sources for Disposal at Clive

The Source Collection and Threat Reduction (SCATR) Program is reaching out to interested stakeholders to provide information detailing the one-year license variance allowing for the disposal of certain Class A sealed sources at the Energy*Solutions'* low-level radioactive waste disposal facility in Clive, Utah. The SCATR Program is administered by the Conference of Radiation Control Program Directors (CRCPD).

This matter is highly time-sensitive, so we ask that you please distribute this information to the appropriate parties as soon as possible in order to encourage as much use of the variance as possible.

If you have questions or require additional information, please contact Abigail Cuthbertson at (202) 586-2391 or at abigail.cuthbertson @nnsa.doe.gov or Meaghan Jennison at meaghan.jennison@nnsa.doe.gov.

Opportunity to Dispose of Certain Class A Sealed Sources

The SCATR Program is providing sealed source licensees in states which do not have access to a low-level radioactive waste disposal facility an opportunity to dispose of certain unwanted radioactive sealed sources.

The collection, which is supported by the Department of Energy's Global Threat Reduction Initiative (GTRI), the State of Utah Division of Radiation Control, and Energy*Solutions* of Utah, will include a range of sealed sources that meet the definition for Class A waste and will last for a period of one year from the date the first waste is received at the Clive, Utah facility.

CRCPD is offering financial assistance equal to half the cost of disposal to generators who participate in the effort.

(Continued on page 22)

In This Issue

COPYRIGHT POLICY

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

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

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LLW Notes
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Layout and Design: Rita Houskie, Central Interstate Low-Level Radioactive Waste Compact

LLW Notes is published several times a year and is distributed to the Board of Directors of the Low-Level Radioactive Waste Forum, Inc. – an independent, non-profit corporation. Anyone – including compacts, states, federal agencies, private associations, companies, and others – may support and participate in the LLW Forum, Inc. by purchasing memberships and/or by contributing grants or gifts. For information on becoming a member or supporter, please go to our website at www.llwforum.org or contact Todd D. Lovinger – the LLW Forum, Inc.'s Executive Director – at (202) 265-7990.

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.

Table of Contents

LLW FORUM, INC.

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Key to Abbreviations

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

Low-Level Radioactive Waste Forum, Inc.

Registration Open for Fall 2012 LLW Forum Meeting

Chicago, Illinois on October 11-12, 2012

Optional Zion Decommissioning Site Tour on October 10, 2012

The Low-Level Radioactive Waste Forum, Inc. is pleased to announce that registration is now open for the Fall 2012 meeting, which will be held in downtown Chicago, Illinois on October 11-12, 2012. There will also be an optional site tour of decommissioning at the Zion facility on October 10, 2012.

The meeting documents can be found on the Home Page of the LLW Forum's website 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.

Location and Dates

The meeting will be held at the Embassy Suites Downtown/Lakefront Hotel in Chicago, Illinois on October 11-12, 2012. It will be a one and one-half day meeting.

There will also be an optional site tour of decommissioning at the Zion facility on October 10, 2012.

Registration

All persons must pre-register for the meeting and pay any associated registration fees in order to be allowed entry. Registration forms are needed in order to ensure that you receive a meeting packet and name badge. Accordingly, interested attendees are asked to please take a moment to complete the registration form at your earliest convenience and return it to Marcia Marr of the Central Midwest Compact Commission at the address, email or fax number listed at the bottom of the form.

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

Optional Site Tour

Meeting attendees are invited to participate in an optional site tour of decommissioning at the Zion facility on Wednesday, October 10. Transportation and box lunches will be provided.

The bus will leave the hotel at approximately 12:00 noon and return between approximately 4:00 - 5:00 pm, depending upon traffic. It is an approximately 75 minute ride to the facility and the tour is anticipated to take approximately two hours to complete. Advance registration is required.

Reservations

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

A block of hotel rooms has been reserved for site tour attendees for Tuesday (October 9) at $219/ night plus tax and for regular meeting attendees for Wednesday (October 10) and Thursday

(October 11) at the prevailing federal per diem rate (which is currently $190/night) plus tax. A limited number of rooms are available at this rate for Friday (October 12, 2012) and Saturday (October 13, 2012).

*To make a reservation, please call 1-800-HILTONS and ask for a room in the **"LLW Forum block"** at the Embassy Suites Downtown – Lakefront Hotel. Please be sure to make your reservation no later than **September 11, 2012** in order to receive the discounted rate.*

Transportation and Directions

Super Shuttle offers transportation from both Chicago O'Hare International Airport and Chicago Midway Airport for a minimum charge of $25. Driving directions from both airports can be found at http://chicagoembassy.com/.

Please note that self-parking at the hotel is $43/day and valet-parking is $51/day.

For additional information, please contact Todd D. Lovinger, the LLW Forum's Executive Director, at (202) 265-7990 or go to www.llwforum.org.

Low-Level Radioactive Waste Forum Meetings

Fall 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 website at www.llwforum.org.

Fall 2012 Meeting

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. There will be an optional site tour of the Zion decommissioning site on October 10, 2012. (See related story, this issue.)

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 and Energy*Solutions* have agreed to co-host the fall 2013 meeting of the LLW Forum. There will be an optional site tour of the Energy*Solutions'* Clive facility for interested attendees as well. The state is currently looking at various facilities in both Salt Lake City and Park City, Utah. Once completed, we will provide additional information regarding specific dates and other details.

2014 Meetings

The State of Texas and Waste Control Specialists LLC (WCS) have agreed to co-host the spring 2014 meeting in Austin, Texas. There will be an optional site tour of the WCS facility for interested attendees as well. The co-hosts are currently making facility arrangements. Once completed, we will provide additional information regarding specific dates and other details.

(Continued on page 34)

Central Interstate Compact

Central Interstate Commission Hosts Annual Meeting

On June 12, 2012, the Central Interstate Low-Level Radioactive Waste Commission hosted its annual meeting at the Hilton Shreveport Hotel in Shreveport, Louisiana.

The purpose of the meeting was to discuss and take necessary action on reports, meeting minutes, export applications, export fee schedule (Rule 1), KPMG audit, financial consultant contract, future administrative funding, in-person meetings, administrative budget, election of Chairman for fiscal year 2012-2013, and all other business to come before the Commission.

The following items were on the meeting agenda:

- Call to Order and Roll Call
- General Public Comment Period
- Reports
  - Commission Administrator
  - Legal Counsel
  - Administrative Committee
  - Mark Carver – Update on Texas Activities
- Ratify Action Taken:
  - Export applications approved
    * June 2011
    * July 2011
    * August 2011
    * September 2011
    * October 2011
    * December 2011
    * January 2012
    * April 2012
    * May 2012
- Meeting Minutes
  - Annual Meeting – June 14, 2011
- KPMG Audit for Fiscal Year 2010-2011
- Financial Consultant Contract for Fiscal Year 2012-2013
- Future Administrative Funding
- Discussion re: In Person Meetings
- Commission Administrative Budget
  - Budget Adjustments Fiscal Year 2011-2012
  - Export Fee Schedule (Rule 1) Fiscal Year 2012-2013
  - Administrative Budget Fiscal Year 2012-2013
- Election of Commission Chairman for Fiscal Year 2012-2013
- Confirm Date and Location for Next Commission Meeting
- Personnel Matters: Administrator Review
- Adjourn

Additional information is available by contacting the Commission's office at (402) 476-8247 or via email at rita@cillrwcc.org or by visiting the Commission's webpage at www.cillrwcc.org.

Central Midwest Compact

Central Midwest Compact and Illinois to Host Generator/ Licensee Conference

The Central Midwest Interstate Low-Level Radioactive Waste Commission and the State of Illinois will host a Low-Level Radioactive Waste Generator/Radioactive Materials Licensee Conference on November 8, 2012. The conference will be held at the Lisle/Naperville Hilton at 3003 Corporate West Drive in Lisle, Illinois.

The State and Commission are taking this opportunity to bring users and regulators together to highlight recent activities and discuss program and regulatory changes that have or will occur in the future. It has been two years since they have hosted such a conference. The State and Commission want to continue the dialogue with

the region's generators and licensees on low-level radioactive waste management issues.

Additional details regarding times and agenda topics, exhibit space and sponsorship information will be available at a later date. Once again, there will be no registration fee to attend this conference.

For additional information, please contact Marcia Marr of the Illinois Emergency Management Agency (IEMA) at (217) 785-9982 or at Marcia.Marr@Illinois.gov.

Midwest Compact

Midwest Compact Commission Hosts Annual Meeting via Teleconference

On June 27, 2012, the Midwest Interstate Low-Level Radioactive Waste Compact Commission held its annual meeting by telephone conference call from 10:00 am – 12:00 pm CDT.

The following items were on the meeting agenda:

- Call to order; roll call.
- Review of the minutes of the meeting of June 8, 2011
- Consideration of accounting and legal services proposals
- Review of the financial report
- Chair's report, including adoption of 2012-2013 budget
- Other business
- Adjournment

The public is invited and encouraged to attend Commission meetings.

For additional information, please contact Stan York of the Midwest Compact Commission at (608) 267-4793 or at stan.york@tds.net.

Northwest Compact/State of Idaho

US Ecology to Purchase Waste Treatment and Storage Facility

On May 21, 2012, US Ecology, Inc. announced that it has entered into a definitive agreement with PVS Chemicals, Inc. to acquire the stock of its wholly owned subsidiary Dynecol, Inc. Dynecol owns and operates a permitted treatment, storage and disposal facility located in Detroit, Michigan. The facility, which has been in operation since 1974, principally provides hazardous liquid waste services to the Midwest United States and Canadian industrial markets. It generated revenue ranging from approximately $9 to $14 million annually over the last several years and has approximately 35 employees.

Under the terms of the agreement, US Ecology will purchase all Dynecol's common stock for $11.25 million using borrowings from its existing credit agreement. The closing of the acquisition is subject to the transfer of certain regulatory permits, among other things. The acquisition is expected to be neutral to 2012 earnings after transaction costs are excluded and accretive thereafter.

"In addition to increasing our service offering and capabilities, this acquisition provides US Ecology with a physical presence in a key industrial market allowing us to further leverage our Stablex facility in Quebec," stated President and Chief Executive Officer Jim Baumgardner. "This well-established facility will allow us to offer improved and incremental waste services to both our regional and national account customers."

Baumgardner added, "This acquisition is a continuation of our strategy of acquiring assets that are consistent with our core business, increase our geographic footprint, augment services to existing customers and allow us to attract new customers."

US Ecology, through its subsidiaries, provides radioactive, hazardous, PCB and non-hazardous industrial waste management and recycling services to commercial and government entities, such as refineries and chemical production facilities, manufacturers, electric utilities, steel mills, medical and academic institutions and waste brokers. Headquartered in Boise, Idaho, the company is one of the oldest radioactive and hazardous waste services companies in the United States.

Northwest Compact/State of Utah

Utah DEQ Opens Public Comment Period re Class A West Amendment

The Utah Department of Environmental Quality, Division of Radiation Control (DRC), has announced that it is requesting public comment regarding an initial decision by the DRC Director to amend Energy*Solutions'* low-level radioactive waste disposal license (RML UT 2300249) and ground water quality discharge permit (No. UGW450005).

On June 12, 2012, a forty-five-day public comment period commenced upon publication of the notice on the DRC website and mail distribution. In addition, the notice was published in the Salt Lake Tribune, the Deseret News, and the Tooele County Transcript-Bulletin.

Written comments will be accepted if received by the end of business on July 26, 2012.

License Amendment

The proposed license amendment—which was initially submitted in May 2011—makes changes to various license conditions throughout the radioactive material license and various changes throughout the groundwater permit. In particular, the license and permit changes address the proposed combination of the existing separate disposal embankments into a single embankment to be designated as the Class West embankment. The new Class A West embankment will encompass the footprints of the existing Class A and Class A North embankments. In addition, part of this proposal withdraws the Class A South/11e(2) embankment design changes submitted in January 2008.

Related Documents

A safety evaluation report (SER), draft license along with a statement of basis and draft groundwater permit describing the changes are available for review and/or copying at the DRC offices. In addition to the initial and subsequent documents related to this proposal that have been available to the public throughout the review process, the draft license and permit, statement of basis, and SER are available at: www.radiationcontrol.utah.gov/EnSolutions/licamends.html.

Submitting Comments

All comments received within the comment period will be considered for inclusion in the final modified license.

Written comments may be sent to:

Rusty Lundberg, Director
Utah Division of Radiation Control
195 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84114-4850

In addition, comments may be submitted via email to radpublic@utah.gov. Comments sent in electronic format should be identified by putting the following in the subject line: Public Comment on Class A West Amendment.

Recent Hearing

A hearing to receive public comments was held July 17, 2012. The hearing began at 5:00 p.m. at the Tooele County Building at 47 South Main in Tooele, Utah.

Under Utah Code Ann. Section 19-1-301.5, a person who wishes to challenge a permit order (permit/license amendment approval) may only raise an issue or argument during an adjudicatory proceeding that was raised during the public comment period and was supported with sufficient information or documentation to enable the director to fully consider the substance and significance of the issue.

For additional information, please contactplease 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 Seeks Public Comment re Proposed Cavanagh License Termination

On June 12, 2012, the Director of the Utah Division of Radiation Control put out a Public Notice announcing that the office is soliciting public comment regarding the proposed termination of a radioactive material license issued to Cavanagh Services Group, Inc. (CSG). The license number is UT 1800510.

CSG License

Issued on June 17, 2008, the license allowed CSG authorization to receive pre-packaged radioactive waste material from other entities. The license also allowed the transfer of licensed material to another entity authorized to dispose of the material.

Proposed Action

Associated with the proposed action, is the termination of a Standby Trust Agreement between Wells Fargo Bank and CSG. The Standby Trust Agreement was established pursuant to the requirements of Utah Administrative Code §R313-22-35.

The proposed license termination, associated licensing documents, and Statement of Basis are available for public review at the Division of Radiation Control, Multi Agency State Office Building, 3rd Floor at 195 North 1950 West in Salt Lake City, Utah.

Under Section 19-1-301.5, a person who wishes to challenge a permit order may only raise an issue or argument during an adjudicatory proceeding that was raised during the public comment period and was supported with sufficient information or documentation to enable the Director to fully consider the substance and significance of the issue.

For additional information regarding the CSG license, please contact Craig Jones, Division of Radiation Control, at cwjones@utah.gov or at (801) 536-4250.

Utah Radiation Control Board Hosts Meeting

On May 8, 2012, the Utah Radiation Control Board held a regularly scheduled meeting. 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 wa scheduled from 3:00 pm to 5:00 pm.

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

I. Minutes (Board Action)
   a. Approval of the Minutes from the March 13, 2012 Board Meeting
   b. Approval of the Minutes from the March 15, 2012 Board Conference Call

II. Recognition of Board Members

III. Administrative Rules (Board Action)
   a. Five-year Review filing approval for R3l3-24, Uranium Mills and Source Material Mill Tailings Disposal Facility Requirements

IV. Radioactive Materials Licensing/Inspection

V. X-Ray Registration/Inspection (Board Action)
   a. Mammogaphy Imaging Medical Physicists (MIMPs) approval

VI. Radioactive Waste Disposal
   a. EnergySolutions (Board Information - Update)
      i. Stakeholder Forum Meeting
      ii. Class A West
      iii. Sealed Sources
   b. SempraSafe - Board Subcommittee Report (Potential Board Action)

VII. Uranium Mill Licensing and Inspection (Board Information - Update)
   a. Denison Mines - White Mesa Mill
      i. License Renewal, Re-opening of Public Comment Period

VIII. Other Division Issues (Board Information)
   a. Division Quarterly Activity Report

IX. Public Comment

X. Next Scheduled Board Meeting: September 11 2012 (Tuesday), 3:00 p.m.
   Multi Agency State Office Building,
   Conference Room 1015
   195 North 1950 West
   Salt Lake City, Utah

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.

Energy*Solutions* Announces Management Changes and Lowers Guidance

On June 11, 2012, Energy*Solutions* announced that its Board of Directors has appointed David Lockwood, a seasoned operating executive and current Board member, as Chief Executive Officer and President of the Company. Lockwood succeeds Val Christensen, who will remain as a strategic advisor to the company.

Management Changes and Lowered Guidance

The appointment of Lockwood—who has served as a member of Energy*Solutions'* Board of Directors since November 3, 2010—as President and CEO of the company became effective immediately. In addition, Energy*Solutions* has appointed Greg Wood as its new Executive Vice President and Chief Financial Officer. Wood—who has over 30 years financial experience—succeeds William Benz.

"The Board determined that the time is right for new leadership, so that the company is positioned to take advantage of its full long-term potential in a changing industry environment," said Board Chairman Steven Rogel. "As the Board discussed its requirements for a new CEO, it became obvious that we already had an ideal candidate sitting on the Board. We are confident that David Lockwood and Greg Wood bring the experience and background to successfully lead the Company forward and build upon the Company's deep industry experience and market-leading position to deliver value for shareholders and customers."

Updated Outlook for 2012

In addition to announcing the management changes, Energy*Solutions* announced that it was revising its 2012 Adjusted EBITDA guidance to $130 to $140 million, down from the guidance of $150 to $160 million provided with its first quarter financial results on May 9, 2012. The company said that the revision is a result of continued slowdown in shipments to Clive in both the government and commercial businesses, expected delay in the resolution of the Salt Waste project issues until 2013, and slower than planned realization of cost savings.

"We have a lot of work ahead of us, but we also have extraordinarily talented engineers and scientists and deep industry experience," commented Lockwood. "These are fundamental strengths upon which we will build our future. I look forward to working closely with my fellow directors, Greg, and our proven and experienced operating management team to help Energy*Solutions* realize its full potential."

Energy*Solutions* hosted a conference call for investors immediately after announcing the management changes and revised guidance.

Background

Energy*Solutions* offers customers a full range of integrated services and solutions, including nuclear operations, characterization, decommissioning, decontamination, site closure, transportation, nuclear materials management, the safe, secure disposition of nuclear waste, and research and engineering services across the fuel cycle. The company operates the low-level radioactive waste disposal facility in Clive, Utah.

For additional information, please contact Mark Walker, Vice-President Marketing and Media Relations, at (801) 649-2000 or at mwalker@energysolutions.com.

Southeast Compact

Deadline for 2013 Hodes Award Nominations Extended

New Deadline is August 10, 2012

The Southeast Compact Commission for Low-Level Radioactive Waste Management is extending the deadline for nominations for the 2013 Richard S. Hodes, M.D. Honor Lecture Award—a program that recognizes an individual, company, or organization that contributed in a significant way to improving the technology, policy, or practices of low-level radioactive waste management in the United States. The award recipient will present the innovation being recognized at a lecture during the Waste

Management 2013 Symposium in Phoenix, Arizona. The award recipient will receive a $5,000 honorarium and all travel expenses will be paid.

Nominations must now be received by Friday, August 10, 2012.

Background

Dr. Richard S. Hodes was a distinguished statesman and a lifetime scholar. He was one of the negotiators of the Southeast Compact law, in itself an innovative approach to public policy in waste management. He then served as the chair of the Southeast Compact Commission for Low-Level Radioactive Waste Management from its inception in 1983 until his death in 2002. Throughout his career, Dr. Hodes developed and supported innovation in medicine, law, public policy, and technology. The Richard S. Hodes, M.D. Honor Lecture Award was established in 2003 to honor the memory of Dr. Hodes and his achievements in the field of low-level radioactive waste management.

Past Recipients

The following individuals and entities are past recipients of the Richard S. Hodes, M.D. Honor Lecture Award:

- W.H. "Bud" Arrowsmith (2004);
- Texas A & M University Student Chapter of Advocates for Responsible Disposal in Texas (2004 *honorable mention*);
- William Dornsife (2005);
- California Radioactive Materials Management Forum (2006);
- Larry McNamara (2007);
- Michael Ryan (2008);
- Susan Jablonski (2009);
- Larry Camper (2010);
- Christine Gelles (2011); and,
- Lawrence "Rick" Jacobi (2012).

The Award

The Richard S. Hodes Honor Lecture Award—established in March, 2003—is awarded to an individual, company, or organization that contributed in a significant way to improving the technology, policy, or practices of low-level radioactive waste management in the United States. The award recipient will be recognized with a special plaque and an invitation to present a lecture about the innovation during the annual international Waste Management Symposium (WM '13). The 2013 symposium is sponsored by the University of Arizona and will be held in Phoenix, Arizona in the spring of 2013. A special time is reserved during the Symposium for the lecture and the award presentation. The Southeast Compact Commission will provide the award recipient a $5,000 honorarium and will pay travel expenses and per diem (in accordance with Commission Travel Policies) for an individual to present the lecture.

Criteria

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

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

The criteria for selection include:

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

Eligibility

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

Nominations

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

Awards Committee
c/o Ted Buckner, Associate Director
Southeast Compact Commission
1230 SE Maynard Road
Suite 103
Cary, NC 27511
(919) 380-7780
(919) 380-7710 - FAX
tedb@secompact.org

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

Nominations must be received by August 10, 2012.

Southeast Compact Hosts Teleconference Meeting in June 2012

The 100th Annual Meeting of the Southeast Compact Commission for Low-Level Radioactive Waste Management was held by teleconference on June 22, 2010.

During the meeting, the Commission considered a proposed budget for fiscal year 2012-2013, elected officers, and discussed other business as it came before the Commission.

The meeting agenda was as follows:

- Call to Order—Introductory Remarks
- Establishment of Quorum
- Approval of Minutes
- Comments Pertaining to Agenda Items Only
- Executive Director's Report
- Treasurer's Report
- State Reports and Liaison Reports
- Old Business
- New Business
  - Proposed Budget for Fiscal Year 2012-2013
- Election of Officers
- Comments
- Adjourn

All Commission meetings are open to the public.

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

Texas Compact/State of Texas

TCEQ to Consider Adoption of Commingling Rule

On May 16, 2012, the Texas Commission on Environmental Quality (TCEQ) held a meeting at 12100 Park 35 Circle (Room 201S, Building E) in Austin, Texas to consider various hearing requests, orders and rule matters.

Item 39, Docket No. 2011-1905-RUL, on the agenda states as follows:

"Consideration of the adoption of amendments to Section 336.702 and of new Sections 336.745 and 336.747 of 30 Texas Administrative Code (TAC) Chapter 336, Radioactive Substance Rules. The rulemaking revises the Commission's radiation control rules to implement Senate Bill 1504, 82nd Legislature, 2011, Regular Session. The rulemaking establishes 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 rulemaking also adds definitions and prohibits the receipt and disposal of waste of international origin. The proposed rules were published in the December 23, 2011, issue of the Texas Register (36 TexReg 8725). (Hans Weger, Don Redmond) (Rule Project No. 2011-036-336-WS)."

The public can view live and archived TCEQ meetings online by going to: http:// www.texasadmin.com/tceqa.shtml.

The TCEQ proposed commingling rule can be found at: http://www7.tceq.state.tx.us/uploads/ eagendas/Agendas/2012/5-16-2012/2011-1905-RUL.pdf

For your information and convenience, the meeting agenda can be accessed at: http:// www.tceq.texas.gov/assets/public/comm_exec/ agendas/comm/current/2012/120516.pdf.

SOAH Holds Preliminary Hearing re WCS' Rate Setting Application

Recently, the State Office of Administrative Hearings (SOAH) of the State of Texas scheduled a preliminary hearing on the low-level radioactive waste disposal rate application that was previously submitted by Waste Control Specialists LLC (WCS).

The preliminary hearing on the application—which seeks to establish initial maximum disposal rates for the Compact Waste Disposal Facility (CWDF) at the WCS site in Andrews County, Texas—was held at 10:00 am on June 18, 2012.

The preliminary hearing was held at the William P. Clements Building at 300 West 15th Street, 4th Floor, in Austin, Texas.

SOAH Preliminary Hearing

According to the SOAH notice, "[t]he purpose of a preliminary hearing is to establish jurisdiction, name the parties, establish a procedural schedule for the remainder of the proceeding, allow an opportunity for settlement discussions, and to address other matters as determined by the judge."

The evidentiary hearing phase of the proceeding was similar to a civil trial in state district court.

The hearing was conducted in accordance with Chapter 2001, Texas Government Code; Chapter 401, Texas Health & Safety Code; TCEQ rules, including 30 Texas Administrative Code (TAC) Chapter 336; and the procedural rules of the

TCEQ and SOAH, including 30 TAC Chapter 80 and 1 TAC Chapter 155.

To participate in the evidentiary hearing as a party, interested stakeholders were required to attend the preliminary hearing and show that they are either the licensee or a party-state compact generator of low-level radioactive waste.

For additional information, please contact the TCEQ Radioactive Materials Division (MC 233) at P.O. Box 13087, Austin, TX 78711-3087 or via telephone at (512) 239-6466.

General information regarding the TCEQ can be found on the agency's website at http:// www.tceq.texas.gov/.

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 was made available for public viewing. It includes a series of interactive spreadsheets that can be found in the Rate Application Package. TCEQ also provided 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.

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 CWDF, 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 CWDF 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 comments 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.

Publication and Requests for Hearing On February 3, 2012, TCEQ published a Notice of Low-Level Radioactive Waste Rate Application, Preliminary Decision, and Opportunity for a Contested Case Hearing in the *Texas Register.* The deadline to submit hearing requests was March 5, 2012.

TCEQ received six hearing requests from party-state generators of low-level radioactive waste and one hearing request from the licensee. One generator (Radiation Technology, Inc.)

subsequently withdrew its hearing request on March 23, 2012.

30 Texas Administrative Code § 336.1309(b) requires that, upon receiving a request for a contested case hearing, the Executive Director shall directly refer the rate application to SOAH for a contested case hearing.

TCEQ Referral of Application to SOAH On May 21, 2012, TCEQ referred the low-level radioactive waste disposal rate application that was previously submitted by WCS to SOAH and requested that a hearing be scheduled. (See LLW Forum News Flash titled, "TCEQ Refers WCS' Rate Setting Application to SOAH for Hearing," May 24, 2012.)

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.

TCEQ requested a proceeding date of June 12, 2012.

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

Sierra Club Challenges Decision Authorizing WCS to Accept Waste

On May 21, 2012, the Sierra Club submitted a motion to the Texas Commission on Environmental Quality (TCEQ) that seeks to overturn the Executive Director's April 25, 2012 decision authorizing Waste Control Specialists LLC (WCS) to begin accepting waste and to begin waste disposal activity under Radioactive Material License R04100.

The filing by the Sierra Club comes on the heels of a May 8, 2012 decision by a Texas State District Court judge that ordered the TCEQ to hold a contested case hearing on the WCS low-level radioactive waste disposal facility in Andrews County, Texas. (See related story, this issue.) The ruling was issued after a hearing in a pending lawsuit by the Sierra Club which argues that the TCEQ licensed the facility without holding a required contested case hearing.

Sierra Club's Motion

In its May 21 motion, the Sierra Club argues that the Commission should overturn the April 25 waste acceptance authorization letter for the following reasons:

- WCS Failed to Comply with the License Conditions: The Sierra Club alleges that saturated conditions have been detected within the buffer zone and that the license expressly prohibits waste disposal operations when saturated conditions are detected.

- Decision Implicitly Modified the License Provisions: "[R]ather than requiring WCS to monitor the buffer zone, as mandated by the license, the Executive Director instead warns WCS that '[i]t is important to ensure that saturated conditions do not exist within 100 feet of the disposed waste,'" writes the Sierra Club in its motion. "In other words, although WCS and the Executive Director had previously understood the license to require monitoring for saturated conditions within 100 feet of the disposal facility (as reflected in their written communications), the Executive Director appears to have modified this requirement so that saturated conditions may now exist within 100 feet of the disposed waste (even though there was no disposed waste at the time the April 25 letter was issued, and thus, presumably, no buffer zone."

Sierra Club asserts that "this implicit license revision" does not fall within the definition of an "administrative amendment" and therefore advance notice should have been provided.

- WCS Has Failed to Demonstrate that No Saturated Conditions Exist Within 100 Feet of the Disposed Waste: Even assuming that the Executive Director properly interpreted the license requirements, the Sierra Club nonetheless contends that WCS has failed to demonstrate that no saturated conditions exist within 100 feet of the disposed waste. In support of its contention, the Sierra Club argues that there are no monitoring wells within 100 feet of the disposed waste, the temporary observation wells do not demonstrate a lack of saturated conditions, and that at least one of the temporary observation wells has detected water.

- Authorization Violates Legislative Mandate, Health and Safety Code, and Commission's Own Rules: According to the Sierra Club, the authorization of disposal activities when saturated conditions exist violates (1) the Legislatures mandate to protect the public's health, safety and the environment; (2) Chapter 401 of the Texas Health and Safety Code and the Commission's own rules; and, (3) section 401.112 of the Texas Health and Safety Code. In particular, the Sierra Club asserts that section 401.112 requires that, in making a licensing decision regarding the disposal of radioactive waste, the Commission must consider, among other factors, site suitability, geological, hydrological, and meteorological factors and natural hazards. "The Executive Director failed to sufficiently consider the aforementioned factors," write the Sierra Club, "because he lacks sufficient information to adequately consider the presence of saturated conditions at the site."

- Procedural Due Process Rights Were Denied and No Authority for Waste Acceptance: The Sierra Club complains that it was not provided notice of the waste acceptance authorization decision, which it claims resulted in a denial of its procedural due process rights. Moreover, since a district court has now ordered TCEQ to hold a contested case hearing on the licensing decision, the Sierra Club asserts that "there is now no authority for such waste acceptance."

Sierra Club's Recital of Events

The following is a summary of the alleged background events as described by the Sierra Club in its motion. *Readers are cautioned to exercise discretion as this constitutes only one party's depiction of the events leading up to the filing of the motion.*

- On August 4, 2004, WCS applied to the TCEQ for a license authorizing the disposal of low-level radioactive waste at its site in Andrews County, Texas. The Sierra Club timely submitted comments and a request for a contested case hearing. On January 14, 2009, a majority of the TCEQ Commissioners voted to deny the Sierra Club's hearing request and to grant the license application upon a demonstration of the acquisition of free and clear title.

- The Commission's decision was memorialized in an order dated January 20, 2009. The license was signed by the Executive Director on September 10, 2009. Notice of the signed license was sent to the Sierra Club on September 17, 2009.

- The license required, among other things, that WCS cease all disposal operations and immediately notify the Executive Director if saturated conditions are detected in the buffer zone.

- In December 2011, TCEQ staff noted that water was detected in two of the wells along the eastern border of the Compact Waste Disposal Facility (CWDF)—i.e., in the buffer

zone. By letter dated December 14, 2011, TCEQ staff reminded WCS that, in accordance with the license conditions, "in the event saturated conditions in the buffer zone are detected, [WCS] shall cease disposal operations and notify the [E]xecutive [D]irector immediately." TCEQ instructed WCS to immediately address the area of concern prior to the commencement of disposal operations.

- WCS responded by letter dated December 22, 2011. WCS explained that the saturated conditions were expected and that the company had begun pumping and excavating the groundwater from the "buffer zone." WCS proposed to proceed with its plans to commence disposal operations of the northwest corner of the facility and to install two additional, temporary observation wells to ensure saturated conditions do not exist within 100 feet of the disposal unit. If the pumping failed to remove the saturated conditions, WCS stated that it may request relocation of the buffer zone to the east in an unsaturated area.

- On March 28, 2012, WCS informed TCEQ that one of the temporary observation wells detected a bit of water, which the company attributed to condensation. WCS stated that the pumping of the water remains ongoing and that it would take 18 months to excavate the water.

- In a letter to state Representative Lon Burnam dated April 25, 2012, the Executive Director stated that there has been no detection of saturated conditions within 100 feet of the CWDF. Nonetheless, an "expert" report by George Rice attached to the motion by the Sierra Club asserts that groundwater exists in the buffer zone surrounding the CWDF. Rice further opines that groundwater exists within the facility itself.

- In May 2012, a Travis County District Court judge determined that TCEQ should have granted Sierra Club's request for a contested case hearing prior to issuance of the license and ordered the agency to hold such a hearing.

WCS' Technical Explanation

On April 16, 2012, Texas State Representative Lon Burnam held a press conference at the State Capitol in which he called upon the TCEQ to not allow the WCS facility to open until questions are answered about the presence of groundwater inside the 100 feet buffer zone around the facility. (See *LLW Notes*, March/April 2012, pp. 22-24.)

Shortly thereafter, WCS issued a press release from its Chief Executive Officer William Lindquist providing the following technical explanation:

> Lon Burnam said today that WCS is not in compliance with its low-level radioactive waste disposal license. This is absolutely false. WCS has followed the license and its conditions to the tee.
>
> License Condition #65 in part states, 'The Licensee shall maintain an individual buffer zone for … the Compact Waste Disposal Facility … in a lateral perimeter of at least 100 feet around all disposed waste …. In the event that saturated conditions are detected in the buffer zone, the Licensee shall cease all waste disposal operations and notify the executive director immediately."
>
> We noted in our initial license application almost ten years ago that a playa (a shallow swimming pool-like depression that allows rainwater to collect) was located 30 feet underground in a small portion of the buffer zone around the landfill. We calculated the playa to be several acres in area and a couple feet deep. When we drilled monitoring wells

and in and around the playa, as expected, we found water in two of the wells and in accordance with our license, immediately notified TCEQ. TCEQ took prompt action and asked WCS to confirm that the water in the two wells came from the isolated playa and that the only source for the water was cumulative rain fall and not from the Ogallala Aquifer. Because the Ogallala Aquifer is 10 miles up gradient from the landfill, and water cannot travel uphill, and the fact that dry wells or excavated areas existed to the north, south, east and west of the water's location, WCS was able to definitely conclude that the water was from the isolated playa and there was no connection to any water source.

TCEQ asked WCS to drill additional monitoring wells between the playa in the buffer zone and where the initial waste will be buried almost 800 feet away to ensure that the water will not migrate to the waste. WCS has drilled the wells and performs daily water level measurements. The wells were dry when they were drilled and continue to be dry today.

Background

By letter dated April 25, 2012, TCEQ authorized WCS to "accept waste and begin disposal activity as authorized by its amended license R04100 and subject to applicable rules and statutes."(See *LLW Notes,* March/April 2012, pp. 1, 17-18.)

In so doing, TCEQ noted that the Executive Director, in coordination with its consultants, has inspected the constructed CWDF and found as follows:the facility is in conformance with the description, design and construction requirements; the requirements of License Condition 41 relating to ownership and financial assurance have been met;in accordance with License Condition 83, the Executive Director staff has reviewed WCS' final geotechnical report and as-built construction drawings of the facility, which were certified by a registered professional engineer licensed in the State of Texas; the Executive Director staff has reviewed information submitted under License Conditions 66 and 75; and, other applicable submittals and approvals relating to receipt and acceptance of low-level radioactive waste—such as waste acceptance, safety and inspection procedures—have also been processed.

"Please be aware, however, that Executive Director staff is closely monitoring activities associated with wells OAG-21, OAG-22, OW-1, and OW-2," states the April 25 letter. "It is important to ensure that saturated conditions do not exist within 100 feet of the disposed waste. "The letter also notes that, in accordance with the license, prior agency approval is required for any future expansion of the currently constructed disposal unit.

On April 27, 2012, WCS announced that the first shipment of low-level radioactive waste has been disposed of in the CWDF. The shipment was received from Bionomics Inc. TCEQ leadership was at the site overseeing the entire operation along with TCEQ resident inspectors, who are at the site full-time on a daily basis.

For additional information on TCEQ's licensing activities, please contact Charles Maguire of the TCEQ at (512) 239-5308 or at Charles.Maguire@tceq.texas.gov.
For additional information on the WCS facility, please contact WCS President Rodney Baltzer at (972) 450-4235 or at rbaltzer@valhi.net.

WCS Celebrates Five Years without a Preventable Lost-Time Accident

On June 13, 2012, Waste Control Specialists announced it has achieved five years of work without a preventable lost-time accident at its Andrews County site. The company celebrated that milestone with a "Safety Supper" for employees and their guests.

"The credit for reaching this outstanding achievement of five years without a preventable lost-time accidents goes to our excellent supervisors and employees who are committed to focusing on safety every day as part of their job," said Rodney Baltzer, President of WCS. Baltzer noted the safety record was set even as WCS' workforce has increased to about 200 people.

"As the number of WCS employees has grown to handle our expanded capabilities, we also have built a strong safety culture that is reflected by this safety milestone," said Baltzer. He added that the accomplishment is even more impressive because the employees kept their safety focus while operating and working around heavy equipment, managing hazardous and radioactive materials and often working in a construction area.

In congratulating her employees, WCS Vice President and General Manager Linda Beach also looked to the future. "I am incredibly proud of this achievement," said Beach. "We met this goal through each employee focusing on personal safety and the safety of coworkers each hour of each day. We have now started on our sixth year without a preventable lost-time accident. We must continue to work as a team so we never lose our focus on safety and efficient operations."

The WCS facility is located in western Andrews County. It is a commercial facility licensed to dispose of Class A, B and C low-level radioactive waste. It is also licensed for the treatment and storage of low-level radioactive waste and has safely and has successfully served as a temporary storage facility for past U.S. Department of Energy projects.

The WCS facility is the site of the disposal facility for the Texas Low-Level Radioactive Waste Disposal Compact, and was the site of the successful storage and disposal of byproduct material from the DOE Fernald, Ohio, cleanup site.

WCS has been processing and storing low-level radioactive waste at its facility since 1998.

WCS is a subsidiary of Valhi, which is engaged in the titanium dioxide products, component products (security products, furniture components and performance marine components) and waste management industries.

For additional information, please go to the company's website at www.texassolution.com.

(Continued from page 1)

Specified Criteria Only sealed sources which meet the criteria specified below will be considered for the program:

- Each source by itself must meet the definition of Class A waste as defined in 10 CFR 61.55:
    - The quotient of the current activity of the radionuclide in the source divided by the volume of the source cannot exceed the Class A limit as specified in 10 CFR 61.55 tables;
    - This includes any radionuclide not specifically listed in the 10 CFR 61.55 tables with a half-life < 5 years ;
    - Commonly used radionuclides that could qualify for the collection include:

Isotope	Class A Limit	Isotope	Class A Limit	Isotope	Class A Limit
^{60}Co	700 mCi/cm^3	^{125}I	700 mCi/cm^3	^{192}Ir	700 mCi/cm^3
^{137}Cs	1 mCi/cm^3	^{109}Cd	700 mCi/cm^3	^{65}Zn	700 mCi/cm^3
^{153}Gd	700 mCi/cm^3	^{133}Ba	unlimited	^{204}Tl	700 mCi/cm^3
^{55}Fe	700 mCi/cm^3	^{68}Ge	700 mCi/cm^3	^{22}Na	700 mCi/cm^3
^{57}Co	700 mCi/cm^3	^{152}Eu	unlimited	^{54}Mn	700 mCi/cm^3
^{210}Po	700 mCi/cm^3	^{147}Pm	700 mCi/cm^3	^{195}Au	700 mCi/cm^3

    - The sealed source must be registered with the Off-Site Source Recovery Project (OSRP) before it can be accepted for disposal. Licensees may go to http://osrp.lanl.gov/PickUpSources.aspx for information about how to register source(s). If sources are already registered, licensees are encouraged to update their registration.
    - Each source must be uniquely identified by a serial number or other unique identifier and the site should have ready any documentation available pertaining to a particular source's activity, isotope, and date of manufacture or original assay upon broker's packaging and acceptance of material.
    - Other restrictions may apply.

Process and Broker Information A list of the sealed sources that licensees have registered with OSRP will be sent to a broker included in the list below.

Clive Qualified Radioactive Material Brokers	
ALARON	Wampum, PA
Barnwell Processing Facility	Barnwell, SC
Bear Creek (Energy Solutions) Studsvik Processing Facility Erwin, LLC	Oak Ridge, TN Erwin, TN
TOXCO	Oak Ridge, TN
Bionomics (Clive-Qualification Pending)	Oak Ridge, TN

Licensees will then be contacted by a broker to schedule a date and time for collection of their sources.

For additional information regarding the collection effort, please contact Russ Meyer of CRCPD at (512) 761-3822 or at rmeyer@crcpd.org.

The Variance

By letter dated April 11, 2012, the Executive Secretary of the State of Utah's Radiation Control Board approved a variance request for the disposal of Class A sealed sources at the Energy*Solution's* low-level radioactive waste disposal facility in Clive, Utah. (See *LLW Notes,* March/April 2012, pp. 7-9.)

The variance will last for one year (365 days), starting from receipt of the first shipment at the facility. Only Class A sealed sources recovered as part of a round-up coordinated by CRCPD's SCATR Program are authorized for disposal under the variance.

If any of the below-identified commitments or conditions are not followed, the variance shall be suspended or terminated. For disposal of sealed sources beyond the 12 month variance, Energy*Solutions* will need to obtain approval through a license amendment of RML UT2300249.

Commitments In the variance request, Energy*Solutions* proposed certain commitments with which the Division of Radiation Control (DRC) concurred as amended:

- Each individual source shall not exceed Class A low-level radioactive waste limits as defined in UAC R313-15-1009 (10 CFR 6l). Packages disposed under the variance will also not exceed Class A low-level radioactive waste limits as defined in UAC R3l3-15-1009 (10 CFR 61).

- Energy*Solutions* will not seek NRC approval to import foreign sources and will only manage and dispose of domestic sources.

- Shipments shall be certified in accordance with the Energy*Solutions'* Waste Characterization Plan Exhibit 2. Sources will be packaged in accordance with the 1995 NRC Branch Technical Position paper on encapsulation (1995 BTP).

- Sources will be disposed in the CWF in accordance with the most currently approved Construction Quality Assurance/Quality Control Manual requirements for CWF disposal and other applicable CWF criteria for disposal.

- Energy*Solutions* will review and approve each shipment before it is transported from the generator's or processor's facility.

- DRC will be notified at least seven (7) calendar days prior to scheduled receipt of the first shipment under the variance.

- The variance will have a term of one year (365 days) from the date the first shipment is received under the variance.

- Energy*Solutions* will track and report the total number, volume, and activity of sources received and the serial numbers or other unique identification number of each source disposed under the variance. A report will be due no later than three (3) months after the variance expiration date.

Additional Conditions After evaluation of Energy*Solutions'* request, the DRC determined to grant the variance to License Condition 164 with the following additional conditions:

- The sealed source or sources must be encased within the disposal containers with grout or concrete.

- Only sealed sources recovered as part of a round-up coordinated by the CRCPD's SCATR Program are authorized for disposal under the variance.

- The half-lives of the isotopes in the sources to be disposed are equal to the half-life of Cs-137 or less.

- The total number of curies shall be limited to 708,678 curies—which is equivalent to l% of the calculated total source term limit of the Class A North Embankment.

Background

Currently, License Condition l6A prohibits the disposal of sealed sources at the Clive facility. On August 2, 2011, however, Energy*Solutions* submitted to the DRC variance request (CDl l-0216) to RML UT 2300249.

In a meeting on August 18, 2011, Energy*Solutions* presented their request to DRC staff. The request was made in support of the DOE's NNSA GTRI. The GTRI's OSRP recovers and disposes of certain unused sealed sources from civilian sites. The GTRI's OSRP has requested that certain sealed sources be authorized for disposal at Energy*Solutions'* Clive, Utah facility.

By letter dated October 13, 2011, the Executive Secretary requested additional information from the licensee. In particular, Energy*Solutions*was asked to provide information demonstrating that the requested variance complies with all requirements stated in Utah Administrative Code (UAC) R313-25-8 (l). By letter dated November 7, 2011, the licensee provided information to address each individual requirement in UAC R3l3-25-8(1).

DRC staff evaluated Energy*Solutions* response and provided the following comments:

- UAC R313-25-8(1)(a): The DRC agrees that sealed sources were considered by the Nuclear Regulatory Commission (NRC) when developing radioactive waste classification criteria in 10 CFR 61 and therefore is not a unique waste stream. The variance request complies with this requirement.

- UAC R313-25-8(1)(b): The half-lives of the isotopes in the sources to be disposed is equal to the half-life of Cs-137 or less. Therefore the dose limits will not be reached. The variance request complies with this requirement.

- UAC R3l3-25-8(l)(c): To comply with this requirement, the DRC will allow l% of the calculated total source term limit (which equals 708,678 curies) of the Class A North Embankment CWF Cell which will ensure compliance with the requirement.

- UAC R313-25-8(1)(d): Sealed sources were considered by the NRC in developing l0 CFR 61. Additionally, sealed sources have been evaluated in the NRC's Branch Technical Position paper on Concentration Averaging and Encapsulation (BTP). Therefore, the form of the waste (i.e. sealed sources verses bulk waste) does not constitute an unanalyzed condition. The variance request complies with this requirement.

The Utah Division of Radiation Control has posted the revised Approval Letter and the Public Participation Summary on the EnergySolutions' issues page at http://www.radiationcontrol.utah.gov/EnSolutions/currentactivities.htm#rpcgwdp0312.

For additional information, please contact Rusty Lundberg at (801) 535-4257 or at rlundberg@utah.gov or John Lundquist at (801) 536-4250 or at jlundquist@utah.gov.

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 Compact/State of Louisiana

River Bend Nuclear Plant In late May 2012, NRC sent an Augmented Inspection Team (AIT) to the River Bend nuclear power plant to review the circumstances surrounding a shutdown of the reactor caused by an electrical switchgear malfunction on May 24. The plant, operated by Entergy Operations, is located in St. Francisville, Louisiana. On May 24, operators manually shut down the reactor after an electrical fault occurred in a main feedwater pump. The plant was operating at 33 percent power at the time. Protective relays should have isolated the electrical fault. Instead, in a cascading effect, other pieces of equipment were affected, causing a loss of main feedwater to the reactor core. The plant's Reactor Core Cooling Isolation System activated as designed to provide cooling to the reactor core. Plant personnel are continuing to investigate the cause of the failure and determine necessary repairs. Workers reported seeing some smoke around the reactor feed pump and the plant's fire brigade was dispatched, but no fire was reported. The plant is in safe shutdown condition. No emergency action level declaration was necessary, and there were no radiological releases as a result of the event. The NRC will hold a public exit meeting with the licensee upon completion of the inspection to discuss its preliminary findings. The meeting will be open to interested members of the public and the news media, and team members will be available to answer questions after the results are presented. The AIT will also issue a written report within 30 days of completion of the inspection.

Midwest Compact/States of Ohio and Wisconsin

Davis-Besse Nuclear Plant On May 18, 2012, the Atomic Safety and Licensing Board (ASLB) heard oral arguments on a request to consider cracks in the Davis-Besse nuclear plant's shield building, "an aging-related feature" that would preclude renewing the plant's operating license for an additional 20 years. The contention was filed in January by four intervenors in the hearing: Beyond Nuclear, Citizens Environment Alliance of Southwestern Ontario, Don't Waste Michigan, and the Green Party of Ohio.

Point Beach Nuclear Plant On April 25, 2012, the Point Beach nuclear power plant declared an alert due to high levels of carbon monoxide in an area adjacent to the diesel generator. During a maintenance test of the emergency diesel generator, some diesel exhaust got drawn back into the ventilation system, causing the concentration of carbon monoxide to exceed allowable levels in a room adjacent to the diesel. The diesel generator was stopped and carbon monoxide was ventilated. Normal atmosphere was restored within 15 minutes and the plant terminated the alert two hours later. An NRC resident inspector, who works at the plant every day, was on site. The two-unit plant is operated by Next Era Energy Point Beach LLC and is located in Two Rivers, Wisconsin—roughly 13 miles northeast of Manitowoc. The licensee is looking into the causes of the event. Both units remain at full power.

Rocky Mountain Compact/State of New Mexico

International Isotopes On June 28, 2012, NRC staff held a public meeting to discuss the proposed International Isotopes facility in Lea County, New

Mexico, that would recover fluorine and make uranium from depleted uranium hexafluoride more suitable for disposal. During the meeting, the company discussed the status of the project, and the NRC staff provided an overview of the construction inspection program and how it would apply to the facility if it receives an NRC license. The facility would process 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.

Southeast Compact/States of Alabama, Florida, Tennessee and Virginia

Browns Ferry Nuclear Plant In late May 2012, NRC issued a Confirmatory Order to the Tennessee Valley Authority's (TVA) Browns Ferry nuclear power plant revising the date TVA has committed to submit a license amendment transitioning the plant's three units to the National Fire Protection Association Standard 805. That standard contains performance-based guidelines that meet NRC regulations for protecting important equipment and systems within nuclear power plants. TVA had originally planned to submit its application in March of this year for the Browns Ferry plant—which is located near Athens, Alabama about 32 miles west of Huntsville. However, TVA has asked for the deadline to be extended to March 2013. After reviewing the information provided by TVA, including compensatory measures, additional modifications and the submittal schedule, the NRC is granting the extension and TVA has agreed to the Confirmatory Order to illustrate its continued commitment to transition to NFPA 805. Copies of the Confirmatory Order are available from the Region II Office of Public Affairs by using the contact information above and it will be posted on the NRC website at: www.nrc.gov/reading-rm/doc-collections/enforcement/actions.

St. Lucie Nuclear Plant NRC staff is increasing its oversight of Unit 1 at the St. Lucie nuclear power plant as a result of the number and type of unplanned shutdowns the plant has experienced. The St. Lucie plant is located in Jensen Beach, Florida—east of Port St. Lucie, and is operated by Florida Power & Light (FPL). After its quarterly review of plant performance in April, the NRC updated its assessment of St. Lucie Unit 1. That evaluation consisted of a review of performance indicators and inspection results. The NRC review found that St. Lucie Unit 1 crossed the green-to-white threshold for Unplanned Scrams per 7,000 Critical Hours performance indicator. This was due to one trip in the third quarter of 2011, one trip in the fourth quarter of 2011, and one trip in the first quarter of 2012. In addition, the review identified that the Unplanned Scrams with Complications performance indicator also crossed the green-to-white threshold. This was due to one complicated trip in the third quarter of 2011 and one complicated trip in the first quarter of 2012. The NRC has placed St. Lucie Unit 1 in the Degraded Cornerstone Column of the Reactor Oversight Process Action Matrix beginning in the first quarter this year. The NRC will conduct a supplemental inspection to provide assurance that the causes of the shutdowns are understood, that the extent of condition is identified, and ensure FPL's corrective actions are sufficient.

Watts Bar Nuclear Plant On May 22, 2012, NRC staff held a meeting in Spring City, Tennessee to discuss the status of construction at the Watts Bar nuclear plant's second unit. The plant is located near Spring City, about 60 miles southwest of Knoxville. The NRC extended the construction permit for Watts Bar Unit 2 in 2008. The Tennessee Valley Authority (TVA) had suspended construction of the unit in 1985, but decided in August 2007 to complete the project. TVA plans to complete construction in late 2015 or 2016. TVA has been operating Unit 1 at the site since 1996.

Additional information on NRC inspection and oversight of Watts Bar Unit 2 construction activities is available at www.nrc.gov/info-finder/reactor/wb/watts-bar.html.

North Anna Nuclear Station The North Anna nuclear plant faces increased oversight from the NRC due to a violation of low to moderate safety significance linked to the maintenance of the plant's emergency diesel generators. North Anna, operated by Dominion, is on Lake Anna about 40 miles northwest of Richmond. The NRC staff determined that a violation involving the failure of North Anna personnel to establish and maintain appropriate maintenance procedures for the plant's emergency diesel generators is a "white" finding, meaning it has low to moderate safety significance. The finding puts North Anna into the Regulatory Response Column on the NRC Action Matrix, meaning the plant will be subject to additional NRC inspections beyond the baseline inspections that are conducted at all nuclear plants. The violation stems from the failure of one of the plant's four emergency diesel generators following the August 23 earthquake that affected the area. The failure was not caused by the earthquake and repairs were completed a short time later. Ensuing inspections determined that the plant's maintenance procedures did not provide adequate guidance for installing specific gaskets on the generators. Dominion has since revised its maintenance procedures.

Southwestern Compact/State of California

San Onofre Nuclear Generating Station On June 18, 2012, NRC held a public meeting to provide a status of the Augmented Inspection conducted at the San Onofre Nuclear Generating Station after several steam generator tubes failed a pressure test. The plant, operated by Southern California Edison Company, is located in San Clemente, California. This was the first in a series of meetings to be held in the area to keep the public informed on the progress of NRC inspection and oversight activities at San Onofre. Operators shut down Unit 3 on January 31 after a tube leak in one steam generator was identified. Unit 2 had been shut down for a scheduled maintenance outage. Both reactors have remained safely shutdown. On March 27, NRC issued a Confirmatory Action letter documenting actions that Southern California Edison officials have agreed to take prior to seeking permission to restart the reactors. NRC has been conducting inspections to determine the extent and cause of the tube degradation. Steam generators do experience some wear during the first year of operation but the level of tube wear at both units is unusual. Between March 13 and 21, 129 steam generator tubes were pressure tested. Eight tubes failed acceptance criterion, indicating that they could rupture during some operating conditions. The integrity of steam generator tubes is important because the tubes provide an additional barrier inside the containment building to prevent a radioactive steam release. Augmented inspections are used by the NRC to review more significant issues such as a tube failure at NRC-licensed facilities. The team reviewed information associated with the design, construction, shipping, operation, and testing of the steam generators. The team will issue a written report within the next 30 days that will be publicly available. The report will identify areas for further inspection follow-up.

State of New Hampshire

Seabrook Nuclear Plant In mid-May 2012, NRC staff issued a Confirmatory Action Letter (CAL) to NextEra Energy Seabrook, LLC, confirming regulatory commitments made by the company to address concrete degradation at the Seabrook nuclear power plant. NextEra owns the plant, which is located in Seabrook, New Hampshire. In the license renewal application for the Seabrook plant, NextEra identified concrete degradation at the facility in the form of alkali silica reaction, or ASR. A gel resulting from ASR can expand and cause micro-cracks in the concrete. At Seabrook, certain below-grade concrete structures have experienced groundwater infiltration, which in turn has induced ASR. Based on its review to date, the NRC has determined the affected structures remain capable of performing their safety-related functions. However, in a letter sent to the company, the agency states that the information is needed to

enable the NRC staff to ensure that adequate corrective actions are being taken to address the condition. The company is required to provide the NRC with a written response if it does not think it will be able to fulfill the regulatory commitments by the dates specified, and if the company proposes to change any of the commitments. Issuance of the CAL does not preclude the NRC from taking additional steps, including enforcement actions, for any violations of agency requirements that are identified. A copy of the CAL will be available in the NRC's electronic documents system at: http://adams.nrc.gov/wba.

State of North Carolina

Global Laser Enrichment Facility On May 10, 2012, NRC staff held a meeting to discuss the recently issued Safety Evaluation Report and Environmental Impact Statement for a laser-based uranium enrichment facility proposed to be built in Wilmington, North Carolina. The SER and the EIS effectively complete the staff's review of the license application filed by General Electric Hitachi Global Laser Enrichment LLC to construct and operate the facility at the site of the General Electric-Hitachi Global Nuclear Fuel-America's fuel fabrication plant. The ASLB must complete its hearing on the staff's review before a license could be issued. That hearing is expected to take place this summer. The SER contains the staff's conclusion that GLE's descriptions, specifications and analyses provide an adequate basis for safety and safeguards of facility operations and that operation of the facility would not pose an undue risk to workers or public health and safety. The final EIS on the facility contains the staff's conclusion that the project would have small to moderate impacts on the local environment, primarily during preconstruction activities. GEH submitted its application in June 2009. GEH proposes to use laser-based technology to enrich uranium in the U-235 isotope to concentrations up to 8 percent by weight. The enriched uranium would be used in manufacturing fuel for commercial nuclear power plants.

Yankee Nuclear Plants

Confirmatory Orders Issued to Yankee Plants on Foreign Ownership Issues

In early June 2012, the U.S. Nuclear Regulatory Commission issued Confirmatory Orders to Connecticut Yankee Atomic Power Company, Yankee Atomic Electric Company, and Maine Yankee Atomic Power to incorporate plans into their licenses to negate the effects of foreign ownership of their companies.

In April 2011, while reviewing an indirect license transfer request involving the merger of Northeast Utilities (NU) and NSTAR, NRC staff discovered that the three Yankee Companies—subsidiaries of NSTAR and NU—had significant foreign ownership. The previous changes in ownership occurred incrementally over time through transactions that did not affect the NRC licenses or require NRC approval.

The companies hold licenses under 10 CFR Part 50 for decommissioned nuclear power plants that maintain onsite spent nuclear fuel storage facilities. Because the licenses are under Part 50, they are subject to NRC restrictions on foreign ownership, control and domination of nuclear power facilities. Those former nuclear plants were Connecticut Yankee in Haddam Neck, Connecticut; Yankee Rowe in Rowe, Massachusetts (operated by Yankee Atomic Power Co.); and, Maine Yankee in Wiscasset, Maine.

The NRC review of the NU/NSTAR merger found that three foreign corporations—Iberdrola of Spain, National Grid of the United Kingdom, and Emera of Canada—share ownership interests through their subsidiaries in the Yankee companies. The combined foreign ownership interest is 74 percent of Maine Yankee, 25.5 percent of Connecticut Yankee, and 44 percent of

Yankee Atomic—with the largest percentage of ownership of one foreign corporation being Iberdrola, owning 38 percent of Maine Yankee.

NRC issued separate violations to the Yankee companies in January, citing them for non-compliance with the foreign ownership and control regulations. The violations were severity level IV, the least serious level. There have been no safety or security consequences identified. The Confirmatory Orders were issued June 5.

The negation action plans implemented by the companies intend to ensure that the partial foreign ownership of the companies does not lead to foreign control, domination or influence over the companies' decision-making on matters relating to public health and safety, security, or access to classified information.

Plant Abnormal Occurrences

FY 2011 Abnormal Occurrences Annual Report Issued

In early June 2012, the U.S. Nuclear Regulatory Commission released its annual report on abnormal occurrences for fiscal year 2011—citing 23 events involving radioactive materials and one event a commercial nuclear power plant.

An accident or event is considered an abnormal occurrence if it involves a major reduction in the degree of protection of public health and safety. Abnormal occurrences can include, but are not necessarily limited to, moderate exposure to or release of radioactive material licensed by the NRC or a state agency; major degradation of safety-related equipment; or, major deficiencies in design, construction, use of or management controls for facilities or radioactive material at NRC-licensed facilities.

For FY 2011, there was one abnormal occurrence at an NRC-licensed nuclear power reactor. This occurred on October 23, 2010, at the Browns Ferry Nuclear Plant, Unit 1, with the failure of a low-pressure coolant injection flow control valve, part of the reactor's residual heat removal system. Although no event occurred and the public was never in danger, the NRC determined that the valve failure caused a weakness in the licensee's fire mitigation strategy, increasing the likelihood of core damage in event of a major fire. The determination resulted in a red finding under the NRC's Reactor Oversight Process, for a finding of high safety significance.

Of the 23 abnormal occurrences involving radioactive materials, two of the events involved exposure of an embryo or fetus, one event involved an exposure to the extremities of a radiographer, and a third involved a stolen gamma radiography camera. The remaining 19 events involved misadministration of radioactive material during diagnostic or therapeutic procedures. Thousands of such procedures are conducted in U.S. medical facilities each year. Nine of the abnormal occurrences actually occurred in prior fiscal years, but NRC's investigations were closed during FY 2011.

The report details investigations of each incident by the NRC, Agreement States and licensees, as well as measures taken to ensure such incidents do not recur.

A section on "other items of interest" discusses three events that did not meet the criteria to be classified as abnormal occurrences but are included in the report because of high public and media interest. These are the Japanese event at Fukushima Dai-ichi nuclear plant, flooding at Fort Calhoun plant in Nebraska, and the August 2011 earthquake near the North Anna plant in Virginia.

The report on abnormal occurrences for fiscal year 2011 is published as NUREG-0090, Volume 34. It was transmitted to Congress on May 31 and is available on the NRC website at: http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0090/v34/.

Sierra Club v. Texas Commission on Environmental Quality

State District Court Judge Orders Hearing on WCS Facility

On May 8, 2012, a Texas State District Court judge ordered the Texas Commission on Environmental Quality (TCEQ) to hold a hearing on the Waste Control Specialists LLC (WCS) low-level radioactive waste disposal facility in Andrews County, Texas.

The ruling was issued after a hearing in a pending lawsuit by the Sierra Club which argues that the TCEQ licensed the facility without holding a required contested case hearing.

Sierra Club's Lawsuit

In its challenge to the license issued by TCEQ, the Sierra Club expresses concern that the facility could contaminate the air and groundwater. At the May 8 hearing, the group's attorney argued that TCEQ should not have approved the facility without holding a hearing on potential environmental and safety issues. The Sierra Club alleged that TCEQ staff originally recommended against licensing the facility.

The Texas Attorney General's Office and an attorney for WCS, however, challenged the Sierra Club's allegations. They disputed claims that TCEQ staff originally opposed the license and argued that experts concluded that the facility poses no environmental risks. Moreover, they asserted that the water table will not be contaminated due to the geology of the WCS site.

After three hours of arguments, State District Court Judge Lora Livingston ordered a hearing. Local publications quoted representatives for the Sierra Club as saying that they are weighing their options and determining their next move. They noted that they previously considered seeking a temporary injunction against further disposal of waste at the facility pending a hearing, but determined to wait for the judge's ruling. A spokesman for WCS, however, was quoted as saying that the company plans to appeal the court's decision and does not plan to change its operation of the facility.

WCS Statement in Response to Ruling

In response to the court's ruling, WCS' CEO William Lindquist issued the following statement:

"There will be no change in our operation of the Texas Low-Level Radioactive Waste Compact Commission disposal facility in Andrews County as Judge Livingston's decision will be appealed.

"We are a little puzzled by today's ruling because this is the same set of facts that this same judge was asked to rule on regarding the byproducts disposal license granted to WCS by the Texas Commission on Environmental Quality and she ruled against the plaintiffs in that case. Nonetheless, we are confident that the license issued to WCS by the state of Texas will remain in place.

"These continuing legal challenges to the safe and secure disposal of low-level radioactive waste have been going on for more than a decade now. It's always the same plaintiffs and, ultimately, always the same outcome—which is an affirmation that the WCS facility in Andrews County is the best possible location to dispose of low-level radioactive waste."

Background

By letter dated April 25, 2012, TCEQ authorized WCS to "accept waste and begin disposal activity as authorized by its amended license R04100 and subject to applicable rules and statutes." (See LLW Forum News Flash titled, "TCEQ Issues Authorization for WCS to Accept Waste," April 26, 2012.)

In so doing, TCEQ noted that the Executive Director, in coordination with its consultants, has inspected the constructed Compact Waste Disposal Facility (CWDF) and found as follows:

the facility is in conformance with the description, design and construction requirements; the requirements of License Condition 41 relating to ownership and financial assurance have been met; in accordance with License Condition 83, the Executive Director staff has reviewed WCS' final geotechnical report and as-built construction drawings of the facility, which were certified by a registered professional engineer licensed in the State of Texas; the Executive Director staff has reviewed information submitted under License Conditions 66 and 75; and, other applicable submittals and approvals relating to receipt and acceptance of low-level radioactive waste—such as waste acceptance, safety and inspection procedures—have also been processed.

"Please be aware, however, that Executive Director staff is closely monitoring activities associated with wells OAG-21, OAG-22, OW-1, and OW-2," states the April 25 letter. "It is important to ensure that saturated conditions do not exist within 100 feet of the disposed waste. "The letter also notes that, in accordance with the license, prior agency approval is required for any future expansion of the currently constructed disposal unit.

On April 27, 2012, WCS announced that the first shipment of low-level radioactive waste has been disposed of in the CWDF. The shipment was received from Bionomics Inc. (See LLW Forum News Flash titled, "WCS Commences Low-Level Radioactive Waste Disposal Operations: First Shipment of Low-Level Radioactive Waste Disposed at Compact Facility," April 27, 2012.) TCEQ leadership was at the site overseeing the entire operation along with TCEQ resident inspectors, who are at the site full-time on a daily basis.

For additional information on TCEQ's licensing activities, please contact Charles Maguire of the TCEQ at (512) 239-5308 or at Charles.Maguire@tceq.texas.gov.

For additional information on the WCS facility, please contact WCS President Rodney Baltzer at (972) 450-4235 or at rbaltzer@valhi.net.

State of Texas

Andrews County Considers Legal Action Against Sierra Club

On June 18, 2012, the Commissioners Court of Andrews County approved for the county to seek legal action to block efforts by the Sierra Club to enjoin future shipments to the Waste Control Specialists LLC (WCS) low-level radioactive waste disposal facility. According to local news reports, the issue arose after at least one compact generator decided to hold back a waste shipment to WCS based on recent actions by the Sierra Club.

The commissioners reportedly discussed the issue during a 20-minute Executive Session that included an update from representatives of WCS. Thereafter, the commissioners unanimously agreed to file a declaratory judgment action in the 109th District Court seeking to preclude the Sierra Club from obtaining a temporary restraining order against future shipments to the WCS facility.

The following day—on June 19, 2012—both the Andrews Industrial Foundation and Andrews Chamber of Commerce agreed to join the county's legal action, which has not been filed as of yet.

Statement from WCS

In regard to the action by the Commissioner's Court, WCS' Chief Executive Officer William Lindquist provided the following statement:

> This past Monday, at the request of the Andrews County Commissioners' Court, a

WCS representative updated the Court regarding Sierra Club's legal actions against WCS. The Court was very upset by Sierra Club's actions and the impact they could have on the expected revenue and future economic development to the County. Andrews County has supported this project for more than 20 years and just when significant operations are ready to begin, which will result in new revenue to the County, an extremist group from Austin is threatening to shut down operations that have already begun. As you might expect, we believe that the County independently of WCS is considering all of its options including filing a lawsuit against Sierra Club to prevent any harm to the County and its citizens.

Recent Filings by Sierra Club

On May 21, 2012, the Sierra Club submitted a motion to the Texas Commission on Environmental Quality (TCEQ) that seeks to overturn the Executive Director's April 25, 2012 decision authorizing WCS to begin accepting waste and to begin waste disposal activity under Radioactive Material License R04100. (See LLW Forum News Flash titled, "Sierra Club Challenges Decision Authorizing WCS to Accept Waste," May 22, 2012.)

The filing by the Sierra Club comes on the heels of a May 8, 2012 decision by a Texas State District Court judge that ordered the TCEQ to hold a contested case hearing on the WCS low-level radioactive waste disposal facility in Andrews County, Texas. (See LLW Forum News Flash titled, "State District Court Judge Orders Hearing on WCS Facility," May 9, 2012.) The ruling was issued after a hearing in a pending lawsuit by the Sierra Club which argues that the TCEQ licensed the facility without holding a required contested case hearing.

The State Attorney General's Office has filed an appeal of the district court's ruling, arguing that the WCS license is valid. The appeal has the legal effect of superseding the district court's judgment and WCS remains authorized to continue its low-level radioactive waste disposal operation.

The Sierra Club has also filed an identical lawsuit against the TCEQ in Travis County, which is currently pending.

Background

By letter dated April 25, 2012, TCEQ authorized WCS to "accept waste and begin disposal activity as authorized by its amended license R04100 and subject to applicable rules and statutes." (See *LLW Notes,* March/April 2012, pp. 1, 17-18.)

In so doing, TCEQ noted that the Executive Director, in coordination with its consultants, has inspected the constructed CWDF and found as follows: the facility is in conformance with the description, design and construction requirements; the requirements of License Condition 41 relating to ownership and financial assurance have been met; in accordance with License Condition 83, the Executive Director staff has reviewed WCS' final geotechnical report and as-built construction drawings of the facility, which were certified by a registered professional engineer licensed in the State of Texas; the Executive Director staff has reviewed information submitted under License Conditions 66 and 75; and, other applicable submittals and approvals relating to receipt and acceptance of low-level radioactive waste—such as waste acceptance, safety and inspection procedures—have also been processed.

"Please be aware, however, that Executive Director staff is closely monitoring activities associated with wells OAG-21, OAG-22, OW-1, and OW-2," states the April 25 letter. "It is important to ensure that saturated conditions do not exist within 100 feet of the disposed waste." The letter also notes that, in accordance with the license, prior agency approval is required for any future expansion of the currently constructed disposal unit.

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For additional information on TCEQ's licensing activities, please contact Charles Maguire of the TCEQ at (512) 239-5308 or at Charles.Maguire@tceq.texas.gov.

For additional information on the WCS facility, please contact WCS President Rodney Baltzer at (972) 450-4235 or at rbaltzer@valhi.net.

(Continued from page 5)

Search for Volunteer Hosts for Fall 2014 and 2015 Meetings

The LLW Forum is currently seeking volunteers to host the fall 2014 meeting, as well as both the spring and fall 2015 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.

Atomic Safety and Licensing Board (ASLB)

ASLB Holds Hearing re Post-Fukushima Orders

On June 7, 2012, a three-member Atomic Safety and Licensing Board (ASLB) heard oral arguments on a hearing request regarding two NRC post-Fukushima orders.

On March 19, 2012, the NRC issued three orders in response to the March 2011 events at the Fukushima nuclear power plant in Japan. The purpose of the orders is to enhance the safety of U.S. power reactors using lessons learned from Fukushima, which was severely damaged by an earthquake and tsunami.

In response to the issuance of the orders, in early April 2012, two organizations—Pilgrim Watch and Beyond Nuclear—submitted requests for a hearing on them. The orders being challenged deal with reliable hardened containment vents and spent fuel pool instrumentation. Beyond Nuclear has since withdrawn its hearing request.

The Pilgrim Watch hearing request states that the orders are not adequate to meet concerns stemming from the Fukushima accident.

After considering the request, the ASLB panel assigned to review it has concluded the filings raise several issues that require further exploration via an oral arguments session.

U.S. Nuclear Regulatory Commission

NRC Publishes Request for Comment on Revised Draft CA BTP

On June 11, 2012, the U.S. Nuclear Regulatory Commission published in the *Federal Register* a request for comments on a revised draft Revision 1 of its Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP).

NRC is providing a 120-day comment period for interested stakeholders to submit comments on the draft revised CA BTP. The deadline for submitting comments is October 8, 2012.

After receiving and addressing public comments on this revised draft, the staff will finalize the CA BTP to replace the 1995 version that is now in effect.

The Federal Register notice regarding the draft revised CA BTP can be found at http://www.gpo.gov/fdsys/pkg/FR-2012-06-11/pdf/2012-14084.pdf.

Background

In the NRC staff's Commission paper, SECY–07–0180, "Strategic Assessment of Low-Level Radioactive Waste Regulatory Program" (ADAMS Accession No. ML071350291), NRC staff ranked revising the CA BTP as a high priority.

The existing version of the CA BTP, which was published in 1995 (ADAMS Accession No. ML033630732), is not fully risk-informed and performance-based, and does not always describe the bases for its concentration averaging positions. In addition, it needs to be revised to incorporate new provisions related to blending of low-level radioactive waste, as directed by the Commission in its Staff Requirements Memorandum for SECY–10–0043, ''Blending of Low-Level Radioactive Waste'' (ADAMS Accession No. ML102861764).

The NRC's regulations at Title 10 of the Code of Federal Regulations Part 61, ''Licensing Requirements for Land Disposal of Radioactive Waste,'' establishes a waste classification system based on the concentration of specific radionuclides contained in the waste. The regulations in 10 CFR 61.55(a)(8) state that ''[t]he concentration of a radionuclide [in waste] may be averaged over the volume of the waste, or weight of the waste if the units [on the values tabulated in the concentration tables] are expressed as nanocuries per gram.'' The purpose of the waste classification system is to contribute to protection of individuals that inadvertently intrude into a waste disposal facility, a requirement in the NRC's disposal regulations at 10 CFR 61.42. Waste is classified according to the hazard it presents to an inadvertent intruder, and risk to the intruder is managed by having increased disposal facility control measures, such as depth of disposal, as the hazard increases. The concentration averaging provisions of the 1995 CA BTP were specifically developed to ensure that individual items (e.g., disused sealed sources or other radiological ''hot spots'') with significantly greater radioactivity than the average activity in a package are safely disposed. Constraints on radiological hot spots are needed to ensure intruder protection, and the CA BTP identifies these constraints.

Initially, NRC staff developed a technical position on radioactive waste classification in May 1983 (ADAMS Accession No. ML033630755). That technical position paper described overall procedures acceptable to NRC staff which could be used by licensees to determine the presence and concentrations of the radionuclides listed in 10 CFR 61.55, and thereby classify waste for near-surface disposal. In 1995, the NRC staff published the CA BTP, expanding on Section C.3,''Concentration Volumes and Masses'' (i.e., concentration averaging), of the 1983 Technical Position. The 1995 CA BTP recommended

constraints on averaging of homogeneous waste types (e.g., ion exchange resins, soil, ash), mixtures of discrete items (such as irradiated reactor hardware) and sealed sources for the purposes of ensuring intruder protection against hot spots, as well as constraining the amount of averaging that licensees could perform that would lower the classification of wastes.

There have been a number of changes in the low-level radioactive waste program since the 1995 CA BTP was published. According to NRC, these changes were drivers for the current revision.

First, the Commission reviewed the CA BTP's position on blending of low-level radioactive waste. The 1995 version constrained the concentration of input waste streams to mixtures of mixable wastes (i.e., waste that is not composed of discrete items) to within a factor of 10 of the average concentration of the final mixture. Also, the 1995 version does not constrain mixing of these wastes if operational efficiency or worker exposures were affected by the blending. The Commission directed the staff to implement a risk-informed, performance-based approach for low-level radioactive waste blending that made the hazard (i.e., the radioactivity concentration) of the final mixture, the primary consideration for averaging constraints.

Second, the NRC adopted a risk-informed, performance-based regulatory approach for its programs in the late 1990's, after the 1995 CA BTP was published. This new revision of the CA BTP more fully reflects that regulatory approach, not just for the blending positions, but for all of the other topics it addresses as well.

Finally, the 1995 CA BTP significantly constrained disposal of encapsulated sealed sources below the Class B and C limits in the 10 CFR 61.55 waste classification tables. The threat of a radiological dispersal device using sealed radioactive sources caused the staff to re-examine the 1995 assumptions underlying the radioactivity constraints on sealed source disposal, and to better balance the risk associated with inadvertent intrusion with national security and safety issues associated with sealed sources that have no disposal pathway. Licensees must store sealed sources for potentially long periods of time if there is no disposal option, and the sources are subject to loss or abandonment. The CA BTP's revised positions will allow for disposal of more sealed sources than the 1995 CA BTP, which will enhance national security by ensuring that the safest and most secure method to manage them is available to licensees.

Stakeholder Comments on the August 2011 Draft CA BTP

The draft Revision 1 of the CA BTP that is being made available for public comment is a revision to an August 2011 draft that was provided to the NRC's Advisory Committee on Reactor Safeguards (ACRS) for review and comment. (See *LLW Notes*, July/August 2011, pp. 21-22.) The NRC staff briefed the ACRS on October 4 and December 1, 2011, and the ACRS provided their views to the Commission in a December 13, 2011, letter. (See *LLW Notes*, November/ December 2011, pp. 1, 31-34.) The letter can be found in ADAMS using Accession No. ML11354A407. The NRC staff also held a public meeting to solicit comments on the August 2011 draft in Albuquerque, New Mexico, on October 20, 2011. The meeting summary is in ADAMS Accession No. ML113330167. At that meeting, stakeholders requested that NRC staff revise the existing version to address their comments before publishing it for public comment again. The staff agreed to that request.

In addition, the staff met with the Low-Level Radioactive Waste Forum's (LLW Forum) Disused Source Working Group (DSWG) on February 9, 2012 in Dallas, Texas to explain the bases for the revised CA BTP and to answer questions. (See *LLW Notes*, January/February 2012, pp. 6-8.) The Agreement States that regulate the four active LLW disposal sites (Texas, South Carolina, Utah, and Washington) and that are members of the DSWG provided formal comments on the August 2011 draft. The

LLW Forum also provided written comments (ADAMS Accession No. ML120530573). NRC states that all of these comments—from the ACRS, stakeholders at the October 20, 2011 workshop, and DSWG members—have been considered in the revised draft. Appendices D, E, and H of draft Revision 1 contain the staff's analysis and responses to these comments.

In addition, several other stakeholders also provided additional comments in February and April 2012 (ADAMS Accession Nos. ML120520558, ML120890046, and ML121220126), and these were considered to the extent possible in developing this revised draft. NRC staff states that it did not document responses to their comments because of schedule constraints. For any of these comments that the staff has not fully responded to, the staff states that it will address them in preparing the final version of the CA BTP. A redline-strikeout comparison between the May 2012 draft and the August 2011 draft is contained in ADAMS Accession No. ML12137A262.

Additional Information or Comment Being Sought by NRC

In the *Federal Register* notice, NRC staff states that it is interested in stakeholder views on all responses to issues that were raised in the above comments, but is particularly interested in stakeholder views on the following topics:

Selection of Inadvertent Intruder Exposure Scenarios*:* In the original and revised CA BTP, NRC staff postulated generic exposure scenarios to evaluate the doses to an inadvertent intruder exposed to radiological hot spots in mixable wastes and in individual items to establish concentration averaging constraints. Because it is not possible to predict human behavior with complete accuracy over the time frames associated with the hazard from low-level radioactive waste, the staff has used what it believes to be reasonable, yet conservative scenarios, such as well drilling into waste. The ACRS and others have commented on the selection of scenarios.

The staff is interested in receiving public input on the specific scenarios used for this revised draft, as well as factors to be considered in selection of generic radiation exposure scenarios for an inadvertent intruder. Information on the selection of scenarios is provided in the CA BTP in Appendix B; Appendix D (responses to comments 1(c) and 6(a));and, the staff's February 3, 2012 response (ADAMS Accession No.ML120090314) to the ACRS letter (ADAMS Accession No.ML11354A407).

An important impact of scenario selection is the constraint on the activity of sealed sources for disposal under the CA BTP. The revised CA BTP uses a new scenario that would allow for disposal of higher activity sources to be disposed of in commercial low-level radioactive waste disposal sites that would result in these sources no longer posing a threat to national security. Some stakeholders, including ACRS, have argued for the use of scenarios that would result in fewer constraints on sources, and higher activities for disposal than what the staff has proposed.

Other ACRS Recommendations and Issues: The ACRS and NRC staff were in agreement on a number of positions in the revised CA BTP, such as blending of low-level radioactive waste, and the new Alternative Approaches section. However, the ACRS had a number of recommendations that could potentially significantly change the CA BTP, including allowing for reliance on perpetual care funds for institutional controls to prevent or mitigate the impacts of inadvertent intrusion and using probability of intrusion in developing averaging positions.

The staff is interested in stakeholder views on the pros and cons of the ACRS recommendations, given their potentially significant impacts on current practices. The ACRS letter to the Commission (ADAMS Accession

No.ML11354A407) is contained in Appendix G of the revised CA BTP.

Classification of Cartridge Filters as a Homogeneous Waste: Cartridge filters are used to remove radioactive solids from various systems in a nuclear power plant. Filters are typically composed of thin metal or plastic frames with a corrugated or wound paper or synthetic filter media enclosed within the frame. Although the frames and filter media are contained in fairly robust metal housings, the housing is perforated so that radioactivity from the filters could be dislodged during handling by an inadvertent intruder. In addition, although filters may contain high levels of non-gamma emitting radionuclides, they typically contain low amounts of long-lived gamma radionuclides that would pose a hazard to an intruder handling a discrete item.

The current CA BTP classifies cartridge filters as discrete wastes, so that each filter must be individually characterized for the concentrations and amounts of radionuclides that may affect waste classification. Several stakeholders have argued that the characteristics of cartridge filters previously described are significantly different from discrete items such as sealed sources or activated metal and justify their treatment as homogeneous wastes. Homogeneous wastes are subject to less stringent averaging constraints.

The revised CA BTP continues to classify filters as discrete wastes, but provides an option for licensees to document justifications for treatment of them as homogeneous wastes. Section 4.3.4, "Cartridge Filters as Homogeneous Waste," and the staff's response to comment 3(a) in Appendix D describes the revised position on cartridge filters and its basis.

The staff is specifically seeking stakeholder views on this revision to the previous draft.

Homogeneity Test for Mixable Wastes: The staff received significant comments on the proposed testing for homogeneity of blended waste in the August 2011draft Revision 1 of CA BTP. The staff has addressed these comments and made significant revisions.

See Section4.2.2 of the revised CA BTP, "Homogeneity of Mixable Waste," as well as Section 4.9, "Alternative Approaches." See also responses to comments 1(c) and 1(g) in Appendix D.

Specification of Waste to Binder Ratio and Not Container Size for Encapsulation of Low-Level Radioactive Waste: The 1995 CABTP provided for encapsulation of discrete, higher-activity items in a nonradioactive medium such as concrete, and averaging the activity in the discrete item over a 55 gallon drum volume. The amount of non-radioactive material over which averaging could take place was constrained to 55 gallons, so that extreme averaging measures would not be employed.

Several stakeholders requested that the *waste-to-binder ratio* be specified so that larger volumes could be employed. The constraints would be based on the average activity of the encapsulated package, and the ratio of the volume of the radioactive item to the volume of the encapsulating media. Such an approach would still constrain the use of non-radioactive materials in averaging. This approach had been approved by the NRC in a topical report for encapsulating and averaging cartridge filters.

The staff has addressed this comment in revisions to Section 4.5, "Encapsulation of Sealed Sources and Other Solid Low-Level Radioactive Wastes," and in response to comment 7(a) in Appendix D.

Submitting Comments

Interested stakeholders may access information and comment submissions related to the draft revised CA BTP document by searching on *http://www.regulations.gov* under Docket ID NRC–2011–0022.

Interested stakeholder may submit comments via any of the following methods:

Federal Rulemaking Website:Comments may be submitted via the federal rulemaking web site at *http://www.regulations.gov* and search for Docket ID NRC–2011–0022. Address questions about NRC dockets to Carol Gallagher at (301) 492–3668 or via e- mail at Carol.Gallagher@nrc.gov.

Regular Mail: Comments may be submitted via mail 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.

Facsimile: Comments may be submitted via facsimile by sending them to RADB at (301) 492–3446.

Interested stakeholders are asked by NRC to please include Docket ID NRC–2011–0022 in the subject line of their comment submission, in order to ensure that the agency is able to make all comment submissions available to the public.

The NRC cautions interested stakeholders not to include identifying or contact information that they do not want to be publicly disclosed in comment submissions. The NRC will post all comment submissions at *http:// www.regulations.gov,*as well as enter the comment submissions into ADAMS, and the agency does not routinely edit comment submissions to remove identifying or contact information.

Comments should be submitted by October 8, 2012. Comments received after this date will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before this date.

For additional information, please contact James Kennedy of NRC's Office of Federal and State Materials and Environmental Management Programs at (301) 415–6668 or via email at James.Kennedy@nrc.gov.

NRC to Host Meeting re 10 CFR Part 61 Regulatory Management Issues

July 19, 2012 in Rockville, Maryland

On July 19, 2012, the U.S. Nuclear Regulatory Commission (NRC) will host a public meeting in Rockville, Maryland to discuss proposed changes to the current regulatory requirements in 10 Code of Federal Regulations Part 61 as directed by the Commission in a January 19, 2012 Staff Requirements Memorandum.

During the course of the meeting, NRC plans to gather information from invited subject matter experts, stakeholders, and other interested members of the public regarding the changes proposed by the Commission.

The meeting will be held at the Bethesda North Marriott Hotel & Conference Center at 5701 Rockville Pike (Salon G and H) in Rockville, Maryland.

It is scheduled from 8:00 am – 5:00 pm EST.

A Public Meeting Notice containing additional information, including a Draft Meeting Agenda, is attached for your information and convenience.

July 19 NRC Stakeholder Meeting

During the course of the meeting, NRC staff is specifically interested in gaining a better understanding of the issues associated with specifying a regulatory time of compliance for a low-level radioactive waste disposal facility, allowing 10 CFR Part 61 licensees the flexibility to implement waste acceptance criteria as an alternative to the current Section 61.55 waste classification system, and public policy issues associated with revising Part 61.

Participants from the NRC staff will include members of the Office of Federal and State Materials and Environmental Management

Program (FSMEMP) and the Office of Nuclear Material Safety and Safeguards (NMSS).

Stakeholders and other members of the public are invited to participate by asking questions throughout the meeting. In addition, NRC staff encourages the submission of written comments on the matters to be discussed at www.regulations.gov under Docket ID NRC-2011-0012.

Interested stakeholders may also participate in this meeting via webinar. The webinar registration link can be found at https://www1.gotomeeting.com/register/634692312. The webinar ID is 634-692-312. After registering, instructions for joining the webinar (including a teleconference number and passcode) will be provided via email. All participants will be in "listen-only" mode during the presentation. Participants will have a chance to pose questions either orally after the presentation or in writing during the webinar.

A dedicated toll-free telephone line is also available to stakeholders who wish to participate in this meeting remotely. That toll-free telephone number is (888) 469-0566, pass code 6441887.

Background

Regulatory Development The development of 10 CFR Part 61 regulations in the early 1980s was based on several assumptions about the types of wastes that were likely to go into a low-level waste site. The Draft Environmental Impact Statement (DEIS) considered 37 distinct commercial waste streams and 25 radionuclides of potential interest. The specific waste streams in question were representative of the types of commercial low-level radioactive waste being generated at the time. The waste streams from the U.S. Department of Energy (DOE) were not considered as part of the survey, because disposal of those wastes was to be done at the DOE-operated sites. Over the last several years there have been a number of developments that have called into question some of the key assumptions made in the DEIS, including:

- the emergence of new LLW streams that were not considered in the original rulemaking, including large quantities of depleted uranium (DU);
- the possible inclusion of wastes associated with the commercial reprocessing of spent nuclear fuel;
- DOE's increasing use of commercial facilities for the disposal of defense-related low-level radioactive waste streams; and,
- extensive international operational experience in the management of low-level radioactive waste and intermediate-level radioactive wastes.

Prior Commission Direction to the NRC Staff
In March 2009, the Commission directed the NRC staff to proceed with a 10 CFR Part 61 rulemaking to identify requirements for:

- a site-specific analysis for the disposal of large quantities of depleted uranium (DU);
- outlining technical requirements for such an analysis;
- developing a guidance document for public comment that explains the parameters and assumptions to be used; and,
- including blended low-level radioactive waste streams in the rulemaking.

Following public input in 2009, NRC staff next developed a technical basis document for the rulemaking amendment, shared it with the NRC Agreement States, and proceeded to develop a proposed rulemaking package. In connection with the rulemaking effort, NRC staff also proposed a two-tiered approach for evaluating compliance with 10 CFR Part 61's overall system performance to 20,000 years and long-term assessment that extends beyond 20,000 years to the time of peak dose.

In May 2011, NRC staff sought public feedback on the preliminary proposed rulemaking language as well as the technical basis for the time of compliance. Later in 2011, the staff also briefed the Advisory Committee on Reactor Safeguards (ACRS) on the preliminary proposed rulemaking.

Recent Commission Direction to the NRC Staff In2012, the Commission provided additional direction to the NRC staff concerning the rulemaking. (See *LLW Notes*, January/February 2012, pp. 37-39.) Specifically, the NRC staff was directed to amend the existing draft rulemaking to include the following:

- allow licensees the flexibility to use ICRP dose methodologies in a site-specific performance assessment for the disposal of all radioactive waste;
- use a two-tiered approach that covers the reasonably foreseeable future and a longer period of performance that is not *a priori* and is established to longer timeframes;
- base the performance period on the site-specific characteristics (waste package, waste form, disposal technology, cover technology and geohydrology);
- allow for flexibility for the disposal facilities to establish site-specific waste acceptance criteria based on the results of the site's performance assessment and intruder assessment; and,
- establish a compatibility category for the revised rule that sets up the requirements for site-specific performance assessments, and the development of the site-specific waste acceptance criteria that ensure alignment between the States and Federal government on safety fundamentals, while providing the States with the flexibility.

Prior Stakeholder Meetings NRC has held two other Part 61 rulemaking public meetings this year:

- The first meeting was held in Phoenix, Arizona on March 2, 2012—immediately after the Waste Management 2012 Symposia. (See *LLW Notes*, January/February 2012, pp. 39-40.)
- The second meeting was held in Dallas, Texas on May 15, 2012. (See *LLW Notes*, March/April 2012, p. 34.)

Documents related to NRC's expansion of the current limited-scope revision to Part 61 are available on the NRC's public website at http://www.nrc.gov/about-nrc/regulatory/rulemaking/potential-rulemaking/uw-streams.html.

The Commission's January 19 Staff Requirements Memorandum may be found on the NRC's website at www.nrc.gov using ADAMS Accession No. ML113070543.

For additional information, please contact Donald Lowman at (301) 415-5452 or at Donald.Lowman@nrc.gov or Michael Lee at (301) 415-6887 or at Mike.Lee@nrc.gov.

NRC Publishes Volume Reduction Policy Statement

On May 1, 2012, the U.S. Nuclear Regulatory Commission published the Volume Reduction Policy Statement (VRPS) in the *Federal Register* (77 *Federal Register* 25,760).

NRC revised its 1981 Policy Statement on Low-Level Radioactive Waste Volume Reduction (Policy Statement) to encourage licensees to take steps to reduce the amount of waste generated and to reduce the overall volume of waste, once generated.

According to NRC, "[t]he purpose of this revised statement is to recognize that progress in reducing waste volume has been achieved since the 1981 Policy Statement was published, and to acknowledge that factors other than volume reduction may be considered by licensees to

determine how best to manage their [low-level radioactive waste]."

The VRPS became effective upon its publication in the *Federal Register.*

Policy Statement

According to the VRPS, the focus of any low-level radioactive waste management program should be public health and safety. Such programs often include waste minimization efforts and the Commission recognizes the substantial progress made by licensees in reducing volumes of low-level radioactive waste shipped for disposal since the publication of the 1981 Policy Statement. The Commission also recognizes that Congress, states, compacts and nuclear industry groups have also played a central part in this effort by encouraging waste minimization and volume reduction practices. Widespread use of these practices has resulted in a significant reduction in the amount of low-level radioactive waste that is generated by licensees and the volume shipped for disposal. The Commission recognizes that the high cost of low-level radioactive waste disposal has also been a factor, along with limitations on disposal access, which has resulted in increased use of volume reduction and waste minimization techniques.

The VRPS states that the Commission continues to believe that volume reduction is important to the management of low-level radioactive waste. A continued focus on volume reduction will extend the operational lifetime of the existing commercial low-level radioactive waste disposal sites and will reduce the number of waste shipments to disposal facilities. Therefore, the Commission encourages licensees to continue to adopt procedures that will minimize the volume of waste being transferred to disposal facilities.

The VRPS further notes that the Commission recognizes that volume reduction is only one aspect of an effective LLRW management program. Although the Commission continues to favor the disposal of low-level radioactive waste over storage, it recognizes that licensees may safely manage waste in a variety of ways, consistent with NRC regulations and guidance. As part of ensuring public health and safety, the VRPS states that licensees should consider reductions in occupational exposures and security in determining how best to manage their low-level radioactive waste. As part of their waste management strategies, the VRPS recognizes that licensees may consider operational efficiency and cost. Although the Commission continues to favor disposal in a licensed disposal facility, licensees should consider additional means available to manage waste in a manner that is secure and protects public health and safety, such as (in no particular order and thus not indicating any NRC preference):

- waste minimization;
- short-term storage and decay;
- long-term storage;
- use of the alternate disposal provision in Title 10 of the *Code of Federal Regulations* (10 CFR) 20.2002, ‘‘Method for obtaining approval of proposed disposal procedures;’’ and,
- use of waste processing technologies.

The VRPS concludes with a statement that the Commission understands that limited low-level radioactive waste disposal access means that many licensees will need to store at least some of their low-level radioactive waste. Agreement States and NRC licensees must continue to ensure that waste is safely and securely managed. However, waste disposal is still considered the safest and most secure long-term low-level radioactive waste management approach.

Background

On October 16, 1981, NRC published a Policy Statement (46 *Federal Register* 51,100) regarding the volume reduction of low-level radioactive waste. The Policy Statement addressed (1) the need for a volume reduction policy and (2) the need for waste generators to minimize the quantity of waste produced. For 30 years, this

Policy Statement has conveyed the Commission's expectations that generators of low-level radioactive waste should reduce the volume of waste shipped for disposal at licensed commercial waste disposal facilities.

The Commission uses policy statements to communicate expectations about matters relating to activities that are within NRC jurisdiction and of importance to the Commission. Policy statements help to guide the activities of the NRC staff and licensees. However, they are not regulations and are not accorded the status of a regulation within the meaning of the Administrative Procedure Act. The Agreement States, which are responsible for overseeing their material licensees, cannot be required to implement the elements of a policy statement because, unlike NRC regulations, such statements are not a matter of compatibility. Additionally, policy statements cannot be considered binding upon, or enforceable against, NRC or Agreement State licensees or certificate holders.

On April 7, 2010, the NRC staff issued SECY–10–0043, ''Blending of Low-Level Radioactive Waste'' (ADAMS Accession No. ML090410531), and referenced the Policy Statement in response to stakeholder comments that large-scale blending might not be consistent with the Policy Statement goal of achieving reduced waste volumes and might actually increase waste volumes. Although the Commission disagreed that blending would necessarily increase the volume of waste, it recognized the need to clarify the Policy Statement to better explain the role of volume reduction in the context of low-level radioactive waste management. Therefore, the Commission directed the staff to update the Policy Statement to recognize the progress that has been achieved in waste reduction since 1981, and to acknowledge that volume reduction continues to be important, and that other risk-informed, performance-based approaches to managing waste are also appropriate for managing LLRW safely.

A revised draft of the Policy Statement, ''Volume Reduction and Low-Level Radioactive Waste Management,'' was published in the *Federal Register* for comment on August 15, 2011 (76 *Federal Register* 50,500). The comment period ended on October 14, 2011.

The NRC received written comments on the draft Policy Statement and considered these comments when finalizing the Policy Statement. None of the comments resulted in changes to the basic principles of the Policy Statement and the changes made to the draft Policy Statement were limited. Responses to these comments can be found in ADAMS (Accession No. ML120090117).

Accessing Information

You may access information and comment submissions related to the policy statement, which are publicly available, by the following methods:

- *Federal Rulemaking website:* Go to *http://www.regulations.gov*and search for Docket ID NRC–2011–0183. Address questions about NRC dockets to Carol Gallagher at (301) 492–3668 or at *Carol.Gallagher@nrc.gov.*
- *NRC's Agency wide Documents Access and Management System (ADAMS):* You may access publicly available documents online in the NRC Library at *http://www.nrc.gov/readingrm/adams.html.* To begin the search, select ''*ADAMS Public Documents*'' and then select ''*Begin Web-based ADAMS Search.*'' For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at (800) 397–4209 or at (301) 415–4737, or at *pdr.resource@nrc.gov.*
- *NRC's PDR:* You may examine and purchase copies of public documents at the NRC's PDR, Room O1–F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

The VRPS has been published at http://www.gpo.gov/fdsys/pkg/FR-2012-05-01/pdf/2012-10433.pdf.

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

Comment Sought re Draft Documents on Post-Fukushima Requirements

The U.S. Nuclear Regulatory Commission has drafted several Interim Staff Guidance (ISG) documents to ensure proper implementation of three Orders that the agency issued to U.S. nuclear power plants in March 2012, in response to lessons learned from the Fukushima Dai-ichi nuclear accident.

Public comments on the draft ISGs will help the NRC ensure the guidance is as complete as possible. NRC will consider the comments before finalizing the ISGs in August. Once the draft ISGs are published in the *Federal Register*, comments can be submitted via regulations.gov using Docket IDs 2012-0067, 2012-0068 and 2012-0069.

The draft ISGs represents acceptable approaches to meeting the Orders' requirements before their December 31, 2016 compliance deadline. The ISGs are not mandatory, but U.S. nuclear power plants would have to seek NRC approval if they wanted to follow a different compliance approach.

The first Order requires all U.S. plants to better protect portable safety equipment put in place after the 9/11 terrorist attacks and to obtain sufficient equipment to support all reactors at a given site simultaneously. The draft ISG for this Order incorporates the industry's "FLEX" approach to dealing with any scenario that knocks out all of a plant's alternating current electric sources. The staff concludes that approach will successfully implement the Order. The first draft ISG is available in the NRC's electronic document database, ADAMS, under accession number ML12146A014; the associated industry document describing "FLEX" is available under accession number ML12143A232.

The second Order applies only to U.S. boiling-water reactors that have "Mark I" or "Mark II" containment structures. Mark I reactors must improve installed venting systems that help prevent or mitigate core damage in the event of a serious accident; Mark II reactors must install these venting systems. The draft ISG for this Order provides more detail on technical requirements for the vents, as well as how vent designs and operating procedures should avoid, where possible, relying on plant personnel taking actions under hazardous conditions. The second draft ISG is available in ADAMS under accession number ML12146A371.

The third Order requires all plants to install enhanced equipment for monitoring water levels in each plant's spent fuel pool. The draft ISG for this Order incorporates an industry document that the staff concludes will successfully implement the Order. The ISG defines in more detail the water levels the new equipment must accurately report, as well as standards for equipment mounting, powering and testing, personnel training and other criteria. The third draft ISG is available in ADAMS under accession number ML12144A323; the associated industry document is available under accession number ML12135A414.

The NRC also issued an information request in March, including earthquake and flooding hazard "walk downs," during which skilled engineers verify that the plants conform to their current license requirements. The NRC has issued final guidance covering these walk downs, which includes incorporation of industry documents that the staff concludes will lead to appropriate reviews for all U.S. nuclear power plants. The flooding walk down guidance is available in the NRC's electronic document database, ADAMS, under accession number

ML12144A142; the associated industry document is available under accession number ML121440522. The seismic walk down guidance endorsement is available under accession number ML12145A529; the associated industry document is currently being added to ADAMS and will be publicly available shortly.

Allison Macfarlane Sworn In as NRC's 15th Chairman

On July 10, 2012, Dr. Allison Macfarlane was sworn in as the 15th Chairman of the U.S. Nuclear Regulatory Commission. President Obama designated Macfarlane to lead the agency charged with regulating the civilian use of nuclear materials. She will serve a term ending on June 30, 2013.

"This is a singular honor," said Macfarlane after a small private ceremony attended by the agency's other Commissioners and several senior NRC staff. I am grateful to the President for nominating me and to the Senate for confirming my selection."

"The agency faces multiple challenges," added Macfarlane. "I look forward to working collegially with my fellow [C]ommissioners and the excellent, dedicated staff at the NRC to address these issues."
Macfarlane, an expert in nuclear waste issues, holds a doctorate in geology from the Massachusetts Institute of Technology. Most recently she was an Associate Professor of Environmental Science and Policy at the George Mason University in Fairfax, Virginia. She has held fellowships at Radcliffe College, MIT, and Stanford and Harvard Universities. From 1998-2000, she was a Social Science Research Fellow-MacArthur Foundation Fellow in International Peace and Security. She has served on National Academy of Sciences panels on nuclear energy and nuclear weapons issues.

From 2010 to 2012, she served on the Blue Ribbon Commission on America's Nuclear Future, which was created by the Obama Administration to make recommendations about a national strategy for dealing with the nation's high-level radioactive waste. Her research has focused on environmental policy and international security issues associated with nuclear energy, especially the back-end of the nuclear fuel cycle. In 2006, MIT Press published a book she co-edited, *Uncertainty Underground: Yucca Mountain and the Nation's High-Level Nuclear Waste*, which explored technical issues at the proposed waste disposal facility at Yucca Mountain, Nevada.

Macfarlane is the third woman to serve as NRC Chairman, the 33rd member to serve on the panel, and the only individual with a background in geology to serve on the Commission. She and her husband, a George Mason University Professor of Cultural Studies and Anthropology, live in Bethesda, Maryland.

The NRC was formed in 1975 when the Atomic Energy Commission was dissolved and its responsibilities divided between the independent NRC for nuclear regulation and the Energy Department for energy research and promotion.

Gregory Jaczko Resigns as NRC Chairman

On May 21, 2012, U.S. Nuclear Regulatory Commission Chairman Gregory Jaczko announced his resignation by releasing the following statement:

> After nearly eight years on the Commission, I am announcing my resignation as Chairman of the U.S. Nuclear Regulatory Commission, effective upon the confirmation of my successor. My responsibility and commitment to safety will continue to be my paramount priority after I

leave the Commission and until my successor is confirmed.

After an incredibly productive three years as Chairman, I have decided this is the appropriate time to continue my efforts to ensure public safety in a different forum. This is the right time to pass along the public safety torch to a new chairman who will keep a strong focus on carrying out the vital mission of the Nuclear Regulatory Commission.

During this last year alone, the agency has responded with an impressive focus on safety under my leadership to a number of diverse challenges including the accident at the Fukushima Da-ichi reactors in Japan, and a number of severe incidents at reactors in the United States ranging from flooding, an earthquake and tornados to damaged plant structures and steam generator problems. In addition to this vigilant oversight, together we identified and began to implement lessons learned from Fukushima and completed our rigorous safety reviews for the first new reactor licenses in 30 years.

Throughout my time on the Commission as both Chairman and Commissioner, the agency finalized regulations to ensure new reactors are designed to withstand an aircraft impact, completed the development and implementation of a safety culture policy statement, enhanced our focus on openness and transparency, and enhanced awareness of and worked to resolve some of the most long-standing generic issues facing the nuclear industry, including sump strainer issues and fire protection. Beyond the power reactor work, substantial progress was made in establishing a more transparent and effective oversight program for fuel cycle facilities. In addition, radioactive sources of concern are now fully protected with our new security regulations and source tracking system. We stand as a stronger and more decisive regulator now because of these years of efforts. I am truly humbled by the agency's success.

Serving the American people as the Chairman of the U.S. Nuclear Regulatory Commission has been an honor and privilege. The mission of this agency – protecting people and the environment, and providing for the common defense and security – could not be more clear, or more critical. Our collective focus on that mission was, I believe, one of the primary reasons the Nuclear Regulatory Commission was one of the best places to work in the federal government throughout my tenure. The highly talented and dedicated professional staff, including dozens who have served on my personal staff over the years, have been instrumental in fulfilling the agency's mission.

I will always be grateful for the opportunity of having served alongside the staff for all of these years, and for all that we accomplished together. I am looking forward to bringing all I have learned from my work and focus on safety at this agency with me as I move forward.

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

NRC to Proceed re Risk-Informed Regulatory Framework

Last year, NRC Commissioner George Apostolakis led a Risk Management Task Force (RMTF), at the request of U.S. Nuclear Regulatory Commission Chairman Gregory Jaczko, to develop a strategic vision and options for adopting a more comprehensive, holistic, risk-informed, performance-based regulatory approach for nuclear reactors, materials, waste, fuel cycle, and transportation. Subsequently, George

Pangburn gave a presentation regarding the RMTF's efforts at the Spring 2012 meeting of the Low-Level Radioactive Waste Forum (LLW Forum) in San Francisco, California on April 23, 2012.

On June 14, 2012, NRC announced that Chairman Jaczko has directed the agency's staff to evaluate the RMTF's report and to provide recommendations to the Commission next year on whether modifications to the regulatory framework should be made. Jaczko noted that the report could help improve regulatory consistency across the NRC's various programs.

"While the efforts of the Risk Management Task Force started before the accident at Fukushima, there is a clear nexus between the results of their report and the first finding of our Japan Near-Term Task Force which noted that over the years NRC regulations have been developed in a patchwork manner. Looking down the road it is important to address this issue," Jaczko said. "I want to thank Commissioner Apostolakis and his team of experts for producing an in-depth examination of our regulatory framework that helps point us towards a better approach."

"We set out to look at how the agency should be regulating 10 to 15 years from now," Apostolakis said. "We concluded that while today's 'defense-in-depth' concept has served us well and remains valuable, it's used unevenly and more guidance is needed on how much defense-in-depth is sufficient. The report's recommendations seek to change that."

The RMTF proposed that the agency incorporate risk-informed and performance-based approaches into its regulation and oversight and that a Commission policy statement be developed on the issue, after obtaining stakeholder input. Chairman Jaczko's directions to the staff include reviewing the RMTF report and providing recommendations to the Commission for consideration, including incorporation of the proposed concepts into important agency-wide policy documents, such as the Strategic Plan.

The RMTF report noted that using the term risk management "explicitly recognizes that adequate protection of public health and safety is not synonymous with absolute safety and that the NRC's role is to ensure that risks from the use of nuclear materials are well managed (and) establishing a common language of risk management across all NRC activities is consistent with the principles of good regulation."

One of the many RMTF findings was that while the concept of design-basis events and design-basis accidents continues to be a sound licensing approach, this set of events and accidents has not been updated to reflect insights from power reactor operating history and more modern methods, such as probabilistic risk assessment (PRA).

The RMTF report also suggested that the agency use rulemaking to create a "design-enhancement" category for regulatory treatment of beyond design-basis accidents. The report said the agency should reassess methods used to estimate the frequency and magnitude of external hazards and implement a consistent process that includes both deterministic and PRA methods.

NRC Hosts New Reactor Construction Workshop

Baltimore, Maryland on June 28, 2012

The U.S. Nuclear Regulatory Commission explained its oversight process for companies that support new reactor construction during a workshop held in Baltimore, Maryland on June 28, 2012.

"Vendors' quality products and expertise are vital to ensuring new reactors are built to operate safely," said Laura Dudes, Director of the Division of Construction Inspection in the NRC's

Office of New Reactors. "We want to ensure current and potential vendors understand our requirements, and how rigorously we oversee construction sites and the vendors themselves."

The workshop was open to the public and ran from 8 a.m. to 5:30 p.m. on June 28 at the Renaissance Baltimore Harborplace Hotel located at 202 East Pratt St. in Baltimore, Maryland. Presenters included NRC staff, the Nuclear Procurement Issues Committee (NUPIC, an industry vendor clearinghouse), the Nuclear Energy Institute (NEI), the Electric Power Research Institute (EPRI) and current nuclear vendors.

The workshop brought together members of the public, licensees, applicants, vendors, basic component suppliers, industry organizations, and the NRC staff to discuss issues including:

- vendor oversight for new reactor construction;
- quality assurance rulemaking activities;
- international calibration laboratories;
- current activities to prevent the use of counterfeit, fraudulent, or suspect items;
- using commercial-grade items in safety-related applications;
- software quality assurance; and,
- non-reactor vendor inspections.

NRC staff were available at the end of the workshop session for additional discussions. The NRC held the workshop in conjunction with the NUPIC vendor meeting to ensure vendors can participate. Additional workshop information is available on the NRC website at www.nrc.gov.

NRC Hosts Meeting re Cumulative Effects of Regulation

On May 31, 2012, the U.S. Nuclear Regulatory Commission met with interested groups and members of the public in Rockville, Maryland to discuss how the agency is considering changes to its rulemaking process to reduce implementation challenges for license holders and NRC staff.

During the meeting—which was held at agency headquarters—NRC staff discussed the concept of "cumulative effects of regulation," or CER, which could occur if the NRC issued several new and complex changes with overlapping deadlines and resource needs. The NRC understands CER should be minimized, since it could potentially distract both license holders and NRC staff from properly focusing on safety and security. The issue has taken on added importance as the agency implements the lessons learned from the Fukushima Dai-ichi nuclear accident.

The meeting was meant to inform the public about the staff's approach to revising the NRC's rulemaking process to avoid CER, and to allow the public to ask clarifying questions and provide feedback. The staff laid out its approach to the CER issue in a proposal to the Commission. The staff's presentation for the meeting is available on the NRC's electronic document database, ADAMS, by searching for accession number ML12123A083.

License Renewals Continue to Move Forward

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

- On June 8, 2012, NRC issued its Safety Evaluation Report (SER) with Open Items for the proposed renewal of the operating license for Seabrook Station, Unit 1, nuclear power plant in Seabrook, New Hampshire. NextEra Energy Seabrook LLC submitted an application to NRC to extend the license by 20 years on June 1, 2010. The current license expires on March 15, 2030. The SER documents the NRC staff's review to date of the license renewal application and site audit of Seabrook's aging management programs to address the safety of the plant operations during the extended period of operations. The SER identifies open items that still must be addressed by the applicant before the staff can complete its review. The open items involve consideration of operating experience and development of pressure temperature limits, alkali-silica reaction in safety-related structures, and aging-management programs for certain safety-related components. After NextEra provides satisfactory information to address the open items, NRC staff will publish its final conclusions of its technical review of the license renewal application in an update to the SER.
- On June 7, 2012, an Atomic Safety and Licensing Board (ASLB) held a "prehearing conference" to discuss standing of petitioners and admissibility of their contentions challenging the license renewal application for the Callaway nuclear power plant, Unit 1. The Missouri Coalition for the Environment petitioned for a hearing, filing three contentions challenging the Callaway license renewal application, which was submitted by Union Electric Co., the plant's operator, on December 19, 2010. The ASLB is a quasi-judicial panel of judges independent of the NRC staff that conducts adjudicatory hearings in major licensing actions by the NRC. At the prehearing conference, only attorneys representing the petitioner, the utility, and the NRC staff were allowed to participate. Members of the public were welcome to attend.
- On May 29, 2012, NRC renewed the operating license for the Pilgrim Nuclear Power Station in Plymouth, Massachusetts for an additional 20 years. The new license will expire June 8, 2032. The decision to renew the license comes after thorough safety and environmental reviews of the application submitted by the plant's operator, Entergy Nuclear Operations Inc., on January 27, 2006. Pilgrim is a boiling-water reactor. Motions to reopen the adjudicatory hearing contesting the license renewal application are pending before the NRC's Atomic Safety and Licensing Board and the Commission. Under NRC policy, a decision to issue a renewed license before a hearing's completion requires the approval of the Commission. That approval was granted in a Staff Requirements Memorandum issued May 25. Without the license renewal, Entergy could continue to operate the Pilgrim reactor after its license expires on June 8 under "timely renewal" provisions in NRC regulations, which would keep the current license in effect while the adjudication continues. Renewal of the license means new license conditions take effect, requiring Entergy to implement age-management policies and programs designed to ensure safety during the period of extended operations.
- On May 23, 2012, NRC renewed the operating license for the Columbia Generating Station—which is located in Benton County, Washington—for an additional 20 years. The new license will expire on December 20, 2043. The renewal comes after thorough

safety and environmental reviews of the application submitted by Energy Northwest, the plant's operator, on January 20, 2010. The Columbia Generating Station is a boiling-water reactor located about 12 miles northwest of Richland, Wash. After careful review of the plant's safety systems and specifications, the staff concluded there were no safety concerns that would preclude license renewal and that the applicant had effectively demonstrated the capability to manage the effects of plant aging. In addition, NRC conducted inspections of the plant to verify information submitted by the applicant. The staff's Safety Evaluation Report documenting the technical review was published in April. On April 24, 2012, the Advisory Committee on Reactor Safeguards (ACRS)—an independent body of technical experts that advise the Commission—issued its recommendation that license renewal for Columbia should be approved.

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 73 reactor units. In addition, NRC is currently processing license renewal requests for several other reactors.

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.

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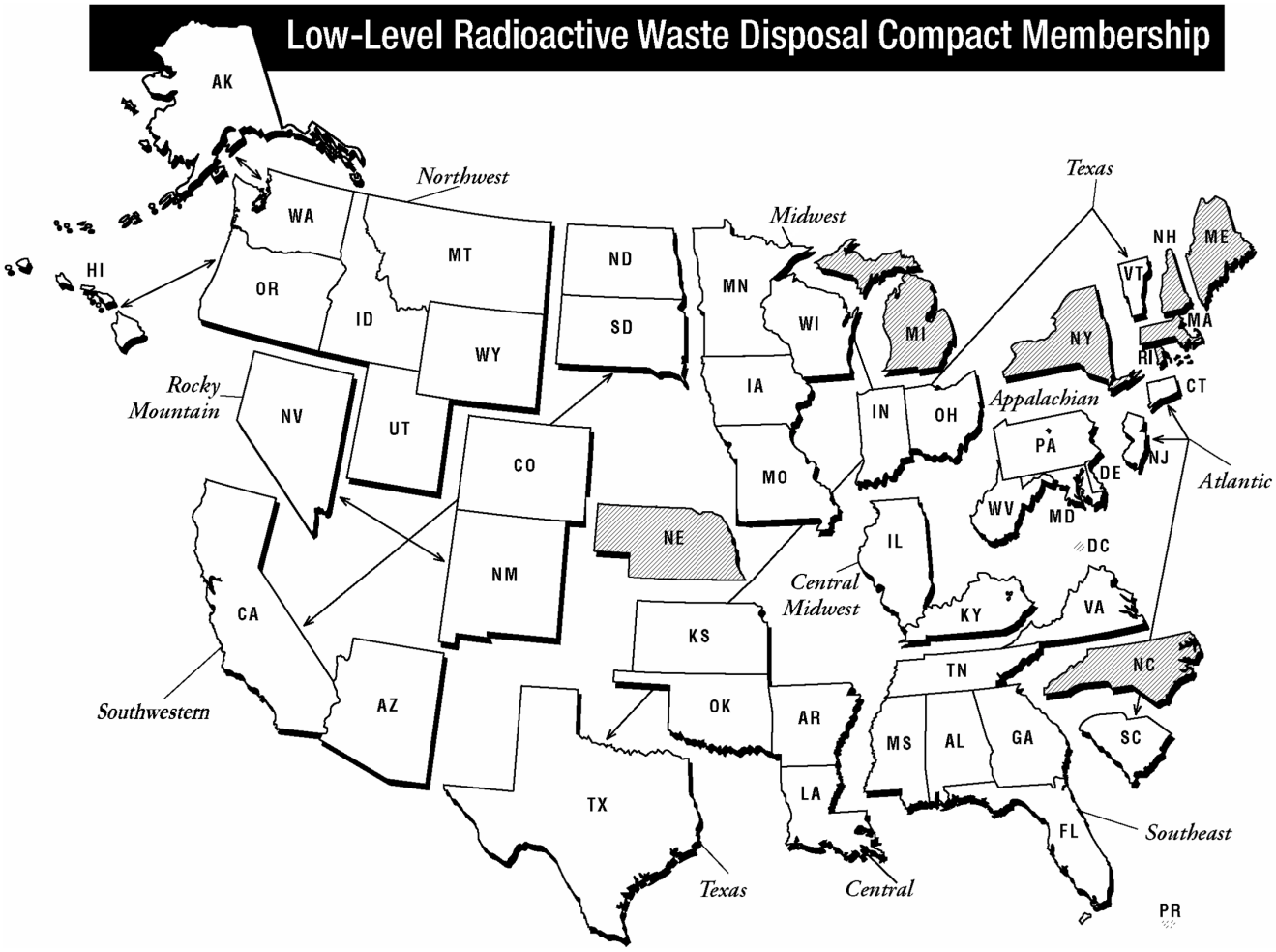
LLW Notes, LLW Forum *Contact Information* and the *Summary Report: Low-Level Radioactive Waste Management Activities in the States and Compacts* are distributed to the Board of Directors of the LLW Forum, Inc. As of March 1998, *LLW Notes* and membership information are also available on the LLW Forum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



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