WM2010 PHOENIX

Tuesday

Insight

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Plenary focuses on Achieveing Excellence

Left to right, Dr. Inés Triay, Assistant Secretary for Environmental Management, US DOE; Dr. Wang Ju, VP, Beijing Research Institute of Uranium Geology, Head, HLW Disposal Program, China National Nuclear Corporation; and Bruce A. Stanski, President of Fluor Government Group, respond to questions from the audience during the WM2010 Symposium Plenary Session.

The Department of Energy's Assistant Secretary for Environmental Management called for a return to excellence in the department's environmental restoration program. "Taxpayers deserve no less," said Inés Triay during the opening session of Waste Management 2010.

Triay was the lead speaker in the Monday morning session, saying the department is committed to reducing the DOE footprint by 40 percent by 2011. "We are committed to safe, secure and compliant progress," she said. She noted the department met 95 percent of its goals in 2009 and intends to meet 100 percent of its goals this year.

Over the past 20 years Triay noted that DOE has spent $82 billion on its cleanup program and has learned a lot. With all the progress behind it she said DOE intends to utilize science and technology to optimize efficiency of tank waste cleanup and all other aspects of cleanup. She said the three biggest successes of the cleanup program so far have been the cleanup and closure of the Rocky Flats site, the cleanup and closure of the Fernald site, and the disposal of a large volume of TRU waste at the Waste Isolation Pilot Plant in New Mexico.

More money has come to the department recently, allowing it to focus more resources on tank waste cleanup at several sites, and she said the department is looking for good ideas to help meet its objectives. She said the department will also study mutual waste management strategies with other nations,

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Mike Lawrence Believes Yucca Mountain Should Go Forward

The former Acting Director of the U.S. Department of Energy's Office of Civilian Radioactive Waste Management is recommending that the department allow the license application for the Yucca Mountain waste repository to proceed to a conclusion based upon its technical merit and Nuclear Regulatory Commission objectivity.

Mike Lawrence, Monday's WM2010 luncheon speaker, said if the repository were to be granted a license by the NRC, there would be at least one licensed site available and it would be a response to critics who say there will never be a solution to the disposal of nuclear waste. But, he said, even after being licensed, there is no need to construct the facility now, saying the license can be put on the shelf while maintaining the site and the data.

The request by the Obama administration to withdraw the license application "with prejudice" has drawn the ire of individuals and organizations across the country and has spawned several lawsuits by those who want nuclear waste to leave their states.

The Obama administration has appointed a Blue Ribbon Panel to examine alternatives to the Yucca Mountain project and Lawrence believes the panel can ask that the licensing process continue until it makes a determination as to whether a geologic repository is needed or not.

"If the ultimate answer to the license for Yucca Mountain is 'no," which is a real possibility based on the challenging requirements and the shortcomings of the project, then we will need to start over. But in either case you have gained important experience and insights and you have demonstrated a reliance on science, rather than politics," he said.

Lawrence, who served as the Richland Operations Manager on the Hanford Site in Washington State in the 1980s was a pioneer in his role in the drafting of the first cleanup agreement between DOE, the State of Washington and the Environmental Protection Agency. He is has over 40 years experience in the government and commercial nuclear sectors and is now the Managing Director for the National Nuclear Laboratory in the United Kingdom.

Mike Lawrence, the former Acting Director of the Department of Energy's Office of Civilian Radioactive Waste Management believes DOE should continue to seek a license for the Yucca Mountain waste repository while the recently appointed blue ribbon panel does its work to determine the best disposal site for high level radioactive waste.

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Session Reviews

What's next, Yucca Mountain?

It was almost standing room only at the "Yucca Mountain – What's Next?" panel, where speakers addressed the wide-ranging impacts of the Yucca Mountain repository program from past to present.

The panel was broken into four sessions, beginning with a brief status update on the project, in which speakers provided the who, what, when, where and why of the recent DOE motion to terminate the program. Speakers outlined the legal drivers behind the repository and the recent actions, and the impact the program had and will continue to have on Nye County, home of the repository. Panelists also covered the implications of the termination, proposed alternatives to the repository and lessons learned from international programs.

Consistent across the panels was a message from speakers encouraging audience members to join the discussion about what's next after the Yucca Mountain repository program.

Packed house at the "Yucca Mountain – What's Next" panel on Monday afternoon.

"If only the people that don't want it are the only ones speaking up, they are the only ones that will be heard. We're working to get the other voices heard," said Darrell Lacy, Nye County director of the Nuclear Waste Repository Office. Lacy provided the audience an overview of the history of the site and Nye County's position on the repository as well as a description of the program's socioeconomic impact.

Achieving Excellence *continued from page 1*

with the best in the business abroad and increase its focus on high level waste management and disposal.

Challenges still before the department, she said, include maintaining momentum, doing work safely, achieving excellence in all aspects of cleanup work, and applying first-of-a-kind technologies to go forward.

Dr. Wang Ju, VP Beijing Research Institute of Uranium Geology, Head HLW Disposal Program, China National Nuclear Corporation indicated that his country's program for nuclear power plant development includes a planned capacity of 70 gigawatts by the year 2020 with another 30+ gigawatts under construction. This would result in 130,000 metric tons of uranium that will be reprocessed. The Chinese program expects to have reprocessing capability by 20225 and may need two reprocessing plants.

Disposal capacity will still be required and a three step strategy has been developed that includes siting as the first step; an underground research laboratory the second step and the final repository will be the third step. Several sites are under consideration for the underground research laboratory and they are located on the west, east and southern parts of China. International technical exchange is very important to the success of China's program. If one country fails, it affects all nuclear countries, Ju stated.

Bruce A. Stanksi, president of Fluor Government Group, concluded the session with a discussion about methods for developing and maintaining a skilled workforce that can help DOE expand its capabilities and explore new technologies. Stanksi described Fluor's effort to develop a qualified workforce, beginning with a multi-million dollar investment into programs and schools that will help prepare students for careers in nuclear, engineering and environmental remediation industries, while also bringing them into the workforce to mentor with experienced professionals.

Guest Program Breakfast

Come join in the fun at the Guest Breakfast Tuesday, Wednesday and Thursday from 8:30-9:30 in the Exhibit Hall!

Hot topics in DOE Environmental Management

Dae Chung, Principal Deputy Assistant Secretary, US DOE

A team of US DOE managers followed the Monday-morning plenary session with Hot Topics in US DOE Environmental Management (EM), recapping the past year's progress and outlining "what's hot" on DOE's list for the future, including the DOE-EM business model, funding, workforce logistics and contracts management.

Dae Chung, Principal Deputy Assistant Secretary (DAS), US DOE, opened the panel with an outline of the EM business model, with an emphasis on safety and quality assurance as well as plans for restructuring the DOE project portfolio. Based on the model used for the Recovery Act program, scope will not be combined into large complex projects but rather reallocated into smaller, more manageable programs, Chung said.

Meryl Sykes, Chief Business Officer, DOE EM, also provided an overview of the current budget and expectations for the future, including a breakdown of spending by project and state. Sykes explained that priorities have not changed – high risks are top priority for funding, including continued investment in technology and reduction of lifecycle costs.

With Recovery Act funding boosting contracts and hiring efforts across the complex, the last hot topics of discussion were workforce retention/succession and contracts procurement and management. Speakers outlined a three-year complex-wide succession plan for ensuring employees are recruited, trained and retained, and discussed how a skilled workforce partnered with strong contractor relations are important for a successful future.

"DOE and contractors are a team. The goal is successful site cleanup and we depend on each other to achieve that goal. If we work together, we'll succeed," said Mike Howard, DAS Acquisition and Contract Management.

Session Reviews

Hanford Cleanup Progress Accelerating

The multi-faceted cleanup of the Department of Energy's (DOE) 586 square-mile Hanford Site in Washington State took center stage Monday afternoon with a discussion of the progress, the challenges and the technological advances facing the local DOE offices and their contractors.

Hanford is the featured site at this year's Waste Management Symposium. It is considered to be the largest and most complex environmental restoration project in the DOE complex and regularly lives up to its reputation. Hanford cleanup work is divided between three major contractors and several smaller contractors.

Much of the cleanup work is overseen by DOE's Richland Operations Office but a portion of the site where the high level waste storage tanks are located, is managed by DOE's Office of River Protection (ORP). ORP is also responsible for oversight of the construction of the massive Waste Treatment Plant.

"We have made significant progress in meeting terms of the Tri-Party Agreement which governs cleanup and have achieved an enviable safety record. Our top priorities are to protect the Columbia River, treat contaminated groundwater, demolish facilities and clean up associated waste sites," said Richland Operations Manager Dave Brockman. DOE's ultimate goal is to reduce the Hanford footprint to less than two percent of its original area.

CH2M HILL leads a major portion of the cleanup under its Plateau Remediation Contract where it is responsible for meeting the Richland Operations Office objectives. These include decommissioning and remediating old plutonium processing plants, transuranic waste retrieval, facility waste sites, plus groundwater and vadose zone remediation.

In the past year CH2M HILL has initiated decommissioning of the Plutonium Finishing Plant and cleaned out and removed 50 glove boxes, and demolished more than 20 nuclear, radiological and industrial facilities. In addition it drilled 53 groundwater wells, completed a groundwater treatment expansion program, certified 1,000 TRU waste drums for off-site shipment and disposed of over 3,000 drum-equivalents of legacy, low-level waste.

"We are accomplishing this $4.5 billion project safely, on schedule and below costs, while completing all regulatory milestones on or ahead of schedule and integrating $1.3 billion in Recovery Act scope," said John Lehew, CH2M HILL president and chief executive officer. "The Recovery Act funding gave us an unprecedented opportunity to expand and train our workforce and accelerate cleanup across the Hanford Site. We've been able to directly hire or retain more than 1,200 jobs and place over $276 million in contracts, with more than 63 percent awarded to small businesses. There is still plenty of work ahead of us and we will continue the safe and compliant execution of accelerated demolition and environmental remediation in support of DOE's 2015 vision."

Department of Energy and Hanford Contractor representative discuss cleanup progress on the Hanford site in Washington State. Hanford is the featured site at WM2010. The site is the largest and most complex environmental restoration project in the DOE complex.

Near the center of the Hanford Site are 177 underground storage tanks where more than 53 million gallons of radioactive and chemical waste are waiting for treatment and disposal. These include 149 leak-prone single-shell tanks, many of which date back to the early days of the Manhattan Project during World War II. Another 28 are newer, safer double-shell tanks.

"Our mission is to reduce the risk from this waste and safely managing it until it can be prepared for disposal," said ORP's Stacy Charboneau.

The newest component of this mission is development of a new robotic arm called the Mobile Arm Retrieval System, or MARS, that will speed the transfer of waste from the aging single-shell tanks into the double-shell tanks.

"MARS is a significant advancement in our ability to safely remove the waste from our single-shell tanks. It uses high pressure liquid to mobilize the waste and move it to a central pump better than anything we've used in the past," said WRPS Retrieval Technology and Systems Planning Manager, Scott Saunders. The arm has successfully been tested in Hanford's Cold Test Facility and is to be installed in the first tank later this year.

A third major component of Hanford cleanup is referred to as the river corridor. The Columbia River boarders the Hanford Site on two sides and Hanford's nine former production reactors are stretched out along this area of the site. Each reactor area included liquid and solid waste disposal sites. The reactors are being cocooned and the disposal sites are being cleaned up by Washington Closure Hanford (WCH).

"We're almost five years into a ten-year contract," said Ryan Dodd, Washington Closure Hanford Deputy Manager. "The job is high risk, and we've encountered a variety of radiological, chemical and industrial hazards cleaning up the River Corridor. But with the 618-10 Burial Ground, demolition of the 324 and 327 buildings and other remediation activities, our most challenging work lies ahead," he said. "At the near-half-way point in the project, I can report that not only are we doing the work safely, we're 8.6 percent ahead of schedule and have saved $152 million in the process," said Dodd.

WCH is focused on work acceleration, overall cost reduction, footprint reduction and a reduction in mortgage costs. To date they have decontaminated, demolished and loaded out 133 buildings, remediated 101 hazardous waste sites and burial grounds, and have transported and disposed of 2.5 million tons of hazardous waste away from the Columbia River.

While Hanford's low level waste is being sent to the on-site disposal facility known as the Environmental Remediation Disposal Facility (ERDF), the high level tank waste will be sent to the massive Waste Treatment and Immobilization Plant (WTP) which is now under construction.

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Session Reviews

Worldwide Perspectives On Waste Management Issues

Six panelists representing the views of China, Ukraine, United Kingdom Sweden and the US met on Monday to discuss the progress and successes of their nuclear siting programs. Dr. Wang Ju, VP Beijing Research Institute of Uranium Geology is actively involved in a staged siting program in China starting with an Underground Laboratory and then after appropriate research and development siting of the actual repository. Discussions started by Robert Halstead of the State of Nevada Nuclear Projects Office, centered on the benefits of studying and comparing more than one site.

Christine Gelles, Director, Office of Disposal Operations, US DOE, discussed the Greater-than-Class-C EIS which is due to Congress in 2011. She also discussed the NRC limited rulemaking which will require a site specific performance assessment for certain specific waste streams containing depleted uranium. A new Office within the DOE Office of Nuclear Energy is being formed called the Office of Used Fuel Management. Gelles was asked about maintaining a technically experienced workforce given the closure of the Yucca Mountain Project. She indicated that this was an important priority that is under discussion at the DOE

Dr. Dan Metlay NWTRB drew many similarities between the Swedish Advisory Board and the NWTRB. The NWTRB is not just a Yucca Mountain Board, but a Board that has broader scope and will be advising both the DOE Office of Environmental Management and the DOE Office of Nuclear Energy.

Carl Reinhold Brakenheim of the Swedish National Council for Nuclear Waste discussed the success of the Swedish Program in facility siting. He credits this success due to distinct definitions for roles of authorities and stakeholders. Additionally they had a basic agreement on values and an understanding that the solution to waste disposal would be found by the present generation. Two words describe the interaction with stakeholders: dialog and transparency. Open meeting were held and they were successful in integrating scientific viewpoints with trust and morality.

Mike D. Johnson, Executive Director of Waste & Effluent Disposition, Sellafield Ltd. discussed the UK organizational structure under the NDA and their current power and reprocessing capabilities. Currently about 20% of the UK energy demand is met by nuclear power. The UK has reprocessing capabilities and reprocesses and vitrifies waste from several countries. They return the waste to the country of origin by a combination of rail and sea shipments. He points out the the management of stakeholders is a large part of their business strategy. Most challenges come from the differing requirements in the various client countries.

Volodymir Tokarevsky, former Director of the State Special Company, Technocentre, Chernobyl, Ukraine, discussed his country's radioactive waste management system. The Company RADON has six operational facilities within the 6 major regions of the Ukraine, and each region is responsible for it's own waste. Currently disposal of LLW and ILW for short-lived isotopes is permitted, but newer thinking requires storage, especially for sealed sources or disused sealed sources. Many of these sources, numbering over 400,000 are simply smoke detectors. The Ukraine has developed a sustainable system which includes separation of the low activity and high activity fractions, treatment, storage and disposal.

Session Reviews

Improve Implementation of Environmental Remediation Projects Through The ENVIRONET Network

The panelists introduced the IAEA's Network on Environmental Management and Remediation Network – ENVIRONET. This panel discussion is the first of several other related IAEA sessions that will be offered throughout the week.

Tuesday Afternoon, March 9 – Session 48 (Partnership with IAEA – ENVIRONET), 1:30 PM, Room 103AB,

Tuesday Afternoon, March 9 - Session 49 (Lessons Learned in UK Environmental Remediation Projects), 3:15 PM, Room 104AB,

Wednesday Afternoon, March 10 - Session 70 (The IAEA – ENVIRONET), 1:30 PM, Room 105AB,

Thursday Morning, March 11 - Session 89 (The IAEA Environmental Management & Remediation – Bringing Regulatory Language and Operational Challenges Together), 8:30 AM, Room 104AB.

ENVIRONET is defined as "Managing nuclear and radiological liabilities in a safe, sustainable and cost-effective way while taking environmental remediation into account in the whole life-cycle of nuclear and non-nuclear (NORM) installations".

ENVIRONET was established by the IAEA as a facilitator to increase effectiveness and efficiency in the sharing of international experience on good practices for remediation of radiologically contaminated sites.

Some of the challenges associated with environmental remediation include:

Legacy Waste

- Pollution/Contamination
- Regulation
- Disposal Routes
- Stakeholder Involvement
- Sustainable Technologies
- Accessibility to Contaminated Areas, i.e., areas located under buildings/roads
- Cost

The ENVIRONET Network offers professionals a way to share information, develop trust relationships, save costs, exchange world-wide lessons learned, and provide a platform for 2-way communication. The benefits of networking cannot be denied, however, the users must understand not one network solves or reaches all of ones' needs.

Additional information and details on how to join ENVIRONET, visit: environet@iaea.org or http://iaea.org/OurWork/ST/NE/NEFW/wts_ENVIRONET_Home.html.

ENVIRONET Partners include:

- Argonne National Laboratory (USA)
- IRSN (France)
- Latin American Network on Prevention and Management of Contaminated Sites
- National Nuclear Laboratories (UK)
- NRG – Arnhem (The Netherlands)
- SCKCEN – Belgian Nuclear Research Centre
- WISUTEC (Germany)

Be sure and check out Other Networks:

Another opportunity for networking is The EURSSEM Network. EURSSEM became a Wikipedia website to make it easier to maintain accessibility and create opportunities for bringing together "problem holders" and "problem solvers". Learn more about EURSSEM at www.eurssem.eu.

Under the auspices of the IAEA, the nationally developed Underground Research Facilities (URFs) and associated laboratories are being offered for use by various 'Member States'. The URFs and laboratories formed a 'Network of Centres of Excellence' for training in and demonstration of waste disposal technologies. The URF objectives include:

- Preserve, share and transfer knowledge and technologies
- Resolve issues
- Promote public confidence in waste disposal
- Contribute to the resolution of key technical issues.

Information on current and forthcoming activities can be located at: http://www.iaea.org/OurWork/ST/NE/NEFW/wts_network_announcements.html.

Application forms are located at: wwwtc.iaea.org/tcweb/participation/astrainee/default.asp.

What's IFSOUP?

To learn more about IFSOUP (International Forum on Sustainable Options for Uranium Production), join Michelle Rehmann, Principal, HER (Hydrology, Environmental and Regulatory) Creative Solutions, LLC Tuesday Morning, March 9 from 9:00 to Noon, Room PCC 102A.

Time constrained, email Michelle at Michelle_Rehmann@WMArizona.org, or visit www.IFSOUP.org.

Need last minute help planning your travel from Phoenix? On-site travel help is still available from Aquila Travel. Just talk to Sherry in the registration lobby. She'll be there to assist you through Wednesday afternoon.

WM2010 Box Luncheon Invitation to discuss the ICEM'10 & ICEM'11 Conferences

Date: Wednesday, March 10, 2010
Location: PCC, 1st Floor, Room 105
Time: 12 noon - 1:30 pm

The ASME-ICEM organizing committee is pleased to cordially invite all interested parties (authors to organizers) in the discussion of both International Conferences on Environmental Remediation and Radioactive Waste Management (ICEM). During lunch, we will discuss both programs and the related events for ICEM'10, October 3-7 in Tsukuba, Japan and ICEM'11 scheduled for the fall of 2011 in France.

***If you would like to have a free box lunch, please RSVP to*:** cisscorp@gmail.com or call 520-571-6047 by 5:00 pm on - Tuesday, March 09, 2010, the day before the lunch meeting.

The ICEM conferences are sponsored by the American Society of Mechanical Engineers' (ASME) Nuclear Engineering and Environmental Engineering Divisions, and also organized in cooperation with the USDOE, NRC, EPA and the IAEA. Additional details on these venues, tours and programs are available at www.ICEMConf.com or by contacting **Gary Benda,** ICEM'11 Conference Manager at: GBenda_use@hotmail.com or **Shari Brabham,** US Program Coordinator at: cisscorp@gmail.com

We look forward to seeing you there!

ASME SETTING THE STANDARD

International Forum on Sustainable Options for Uranium Production (IFSOUP) – Improving the Future by Dealing with the Past

Fueling the fleet of new reactors expected with the nuclear renaissance is a parallel renaissance in uranium production. Currently there are 436 nuclear reactors in operation world-wide with 45 new reactors under construction and 131 new reactors ordered or planned. Additionally, another 278 reactors are proposed to generate electricity. World production of uranium comes from many mines in twenty countries, yet two-thirds of the worlds uranium comes from just 10 mines.

The International Forum on Sustainable Options for Uranium Production (IFSOUP) is a network for members of industry, regulatory bodies and NGOs to discuss and implement steps to achieve more sustainable uranium production practices – and thereby avoid developing new legacy sites. In keeping with the theme of WM2010 – Improving the Future by Dealing with the Past – A session of IFSOUP at WM2010 will examine how legacy sites have affected the current economic, regulatory, and social conditions associated with primary uranium production. The session on Tuesday, March 9 will include:

- The current outlook for global uranium production
- Sustainable and Socially Responsible programs implemented in current uranium production
- Regulatory changes for uranium production
- Programs addressing legacy site remediation
- Barriers to sustainable uranium production

During WM2010, IFSOUP will benefit from the insights afforded by the IAEA delegation of ENVIRONET which will be presenting several ENVIRONET panels at WM2010. ENVIRONET is a network of experts, sponsored by the IAEA, that provide expertise to address the technical challenges for radiation site cleanup. The IAEA ENVIRONET lead-off session will be Monday morning, Session 04 - How Can Networks Improve the Implementation of ER Projects? (10:00 – 12:00 AM). Please check your programs for further details and listings of the IAEA and ENVIRONET special series of sessions at WM2010.

Wednesday Exhibit Hall Lunch Coupon Added for WM2010!

For 2010, WMS has added a lunch for Wednesday in the Exhibit Hall and Marketplace from 11:30 AM – 1:30 PM so you have just a little more time to visit our great exhibitors and network. During that period, we will also announce the winners of the Exhibitors' give-aways and booth drawings.

Attendees with Full Technical Registration or the Wednesday One or Two Day Registration will receive coupons valid for lunch at one of the concession stands inside the Exhibit Hall. You'll have your choice of a salad, sandwich or bratwurst with all the fixin's.

If your registration category does not include lunches, you will also be able to purchase what you'd like at the concession stands.

Either way, you'll want to make sure you stay to hear if you've won any of the great prizes our exhibitors will be giving away at their booths.

Thank you to ***The Shaw Group*** for sponsoring the Wednesday Exhibit Hall Lunch!

Cost and Time Savings through Hose-in-Hose Transfer Line Technology

AREVA Federal Services plays a key role in transferring critical waste treatment processes and technologies from France to resolve issues in the U.S. But, with extensive assets on the ground here in America, sometimes the technology transfer bridge goes the other way. For the first time, Hose-in-Hose Transfer Line (HIHTL) technology is being used at the Hanford Site in Washington State will be used across the waters.

AREVA's La Hague site has commenced planning and initial design work for a retrieval and transfer system to move waste currently stored in underground tanks to a treatment process about a kilometer and a half away. The waste is primarily graphite mixed with magnesium corrosion products and uranium.

The initial baseline approach for the Projet de Reprise et Conditionnement des Déchets UNGG (RCD UNGG Project) was to retrieve waste in a slurry from Silo 130 and load tanker trucks, shuttling the waste to the STE2 treatment plant over the La Hague site roads. However, the volume of waste suggested several thousand load and off-load cycles would be necessary, stretching the duration for this one-time campaign to many months.

After working with AREVA staff from the Richland Office, the RCD UNDD Project has chosen to alter their baseline by performing the slurry transfer through a Hose-in-Hose Transfer Line (HIHTL), saving the project significant time and cost. This new approach is expected to allow the retrieval and transfer campaign to be completed in approximately one month.

HIHTLs emerged from needs at the Hanford Site for a low-cost solution to transfer dangerous tank wastes using temporary, single-purpose piping systems. They are, quite simply, rubber hoses. But what hoses! HIHTLs are complete double-contained hose systems that are designed, fabricated, and tested for full compliance with applicable piping codes, industrial safety requirements, and environmental protection regulations for the transfer of mixed waste liquids and slurries (i.e. streams containing both radionuclides and hazardous chemical wastes).

From their first qualified use at Hanford in 1999, HIHTLs have been applied in over forty installations at Hanford and Savannah River, with the total length of hoses deployed reaching over 15 km. And throughout that time, engineering services to design, procure, and qualify this simple, reliable solution for Hanford have been led by AREVA staff members.

Today, with the AREVA folks on the RCD UNDD Project planning their first deployment of this American technology, HIHTL shows that traffic on the technology transfer bridge can indeed go in both directions.

Hanford tank farm workers rolling out a Hose-in-Hose Transfer Line

Shielded Hose-in-Hose Transfer Line in Hanford's 200 West Tank Farms

International News

Going Underground: How Other Countries are Dealing with Highly Radioactive Wastes

by John Matheson

As many radioactive waste management organizations from around the world will testify, suffering a setback to your nation's repository site selection program is almost par for the course. The demise of the Yucca Mountain program is just the latest example of a national waste management strategy that has stalled. But the lesson appears to be that despite such failures, progress can be made with enough political will, and public and other stakeholder support.

Around the world there are over 40 countries that have to address the long-term management of long-lived, highly active radioactive wastes. More than half of these have taken policy decision in favor of deep geological disposal (although many are not implementing it). Several are delaying a decision, but no country appears to have adopted a policy in favor of indefinite (as opposed to interim) storage.

Perhaps only the Finnish program for its deep repository for spent fuel has been relatively unscathed since it was initiated in 1983; this continues with excavations at its Eurajoki site on target to have an operating repository available in 2020, albeit a few years later than originally scheduled.

Neighbouring Sweden had a setback in the 1996-97 when two out of the eight local communities voted not to take part in site investigations. However, the site selection process continued and SKB, the Swedish waste management organization, had the enviable task in 2009 in deciding between the two remaining sites. They both were vying to host the final repository for spent fuel and SKB decided to go to Forsmark to construct a repository that should become operational in 2023.

In Europe, more serious setbacks have befallen France, the UK, Germany, Switzerland and Belgium.

France (for HLW) and Belgium (for its low and short lived intermediate level waste- L/ILW) changed to a more volunteer site selection approach and they now both have more or less definitive host sites. Switzerland lost a site for its L/ILW in 1997 but has re-established a siting process for both HLW and ILW under a new law. A decision on proposed sites will take place later this year.

The siting program in the UK stopped in 1997 but a new "voluntarist" approach has led to two communities having "expressed an interest" in holding discussions with the government about potentially hosting a geological disposal facility. The government appointed an independent Committee on Radioactive Waste Management (CoRWM) which was asked to look at all options for long-term waste management. Following a three year debate with experts and the public they concluded that geological disposal supported by interim storage was the only real long-term answer.

After a 10-year moratorium investigations at the German repository for heat-generating waste at Gorleben will restart later this year. After many legal challenges the Konrad repository for non-heat generating will become operational in 3 years or so, following refurbishment.

Within the rest of Europe there are several examples of recent successes in siting of new near-surface facilities for L/ILW such as Bátaapáti in Hungary, Krško in Slovenia, Kozloduy in Bulgaria and Ignalina in Lithuania. However, progress on deep disposal programs is somewhat mixed due to both the current economic climate (notably Hungary) and public opposition (Czech Republic, for example). However, Slovakia intends to select deep repository candidate sites this year.

Uniquely, in Europe at least, Spain has changed its position on deep disposal and is opting for centralized interim storage pending future decision of disposal policy.

Canada's spent fuel disposal program also came to an abrupt end in 1997 and has since changed its process. The lesson here was that the technical aspects had been addressed sufficiently, but not the public acceptance. It has had more success with siting a deep repository for low and intermediate level waste at Kincardine.

Japan's approach also follows a volunteer process, but this has not been very successful – after 10 years and several false hopes, it will be interesting to see what the future holds here. In China, they are investigating a potential site in the Gobi Desert to cater for the long-lived waste from it's expanding nuclear program.

The science, engineering and technology issues to build an underground facility are well understood. However progress will only be made if the socio-political, ethical and economic issues are addressed up front. Around the world this message seems to have been heard and slowly progress is being made.

DOE to Reinvigorate International Collaborations

The Assistant Secretary for Environmental Management has authorized establishment and long-term performance of an International Repository Program. Over the years, various branches of DOE have engaged repository related sciences with international peers. These programs have included such efforts as assisting the IAEA with policy, collaborating on European Commission projects, and direct person-to-person research between principal investigators. In many cases these collaborations have produced substantial benefits, but in some cases inconsistent support to international commitments disrupted progress. The new EM mission will vigorously engage international waste programs to leverage advances in repository sciences and public outreach internationally for the purpose of advancing domestic options for waste disposal.

Given recent developments and policy decisions regarding Yucca Mountain, alternative disposal pathways will be the subject of a recently formed Blue Ribbon Commission appointed by the Secretary of Energy. While the US concentrated on characterizing and licensing the volcanic tuff at Yucca Mountain as prescribed by the Nuclear Waste Policy Act Amendment, other nuclear nations advanced repository sciences on granite, shale and salt. Thus, international collaboration is increasingly important to the USA as we try to regain scientific bases for disposal options.

The international program will be managed by the Carlsbad Field Office, which brings the credibility of successful licensing and operating the Waste Isolation Pilot Plant.

Asse, WIPP and Salt Repository Future

by Frank D. Hansen

The news that a German government agency favors retrieval of nuclear waste from the Asse salt mine is based on circumstances that do not occur either at the WIPP or at potential additional salt repository sites in the United States.

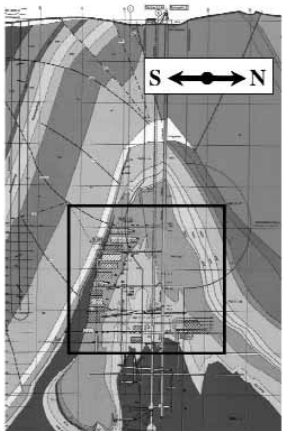


Figure 1. Cross-section of Asse structure.

By now almost everyone in the repository community has heard the news from the German government agency *Bundesamt für Strahlenschutz* (BfS) that it advocates removal of over 100,000 barrels of radioactive waste from the Asse salt mine due to brine inflow into the mine openings (www.endlager-asse.de; www.asse.de). A natural tendency or reaction to the BfS's announcement is to erroneously assume that salt is therefore not a safe geological medium for disposal of long-lived radioactive waste. The conceivable logic is: if the Germans advocate reversal of their previous actions in this case, it must mean that salt disposal efforts in the US are also flawed and, therefore, the disposal of radioactive waste in salt is not safe. **This is not the case at all.** Salt remains a very viable radioactive waste disposal medium, as demonstrated by the Waste Isolation Pilot Plant (WIPP) and other operating repositories. It is also a very promising geological medium to dispose of additional waste types in the future.

The evolution at the Asse mine differs from that of the WIPP in several respects. *First,* the WIPP site was selected and the facility was designed, and constructed solely for waste disposal. Each panel is excavated just in time, with the exclusive goal of disposal and isolation. The greater Asse mine operated with the goal of mineral extraction for many decades before first being converted to a research and development (R&D) and later becoming a de-facto disposal facility. *Second,* the geologic settings and the locations of the disposal rooms in the respective salt deposits at the WIPP and the Asse differ greatly. The disposal rooms at the Asse mine are situated on the flanks of an anticlinal ridge (Figure 1), while WIPP is situated in the middle of a 1,000-m-thick, horizontal, laterally-extensive series of salt beds (Salado plus Castile Formations) (Figure 2). Other differences in the features of the respective excavations such as age, size of the openings, extraction ratios, and three-dimensional aspects combine to influence the structural stability of the disposal chambers. *Third,* prolific aquifers are present close to the Asse excavations, while there are no persistent aquifers and very little formation fluid near WIPP excavations.

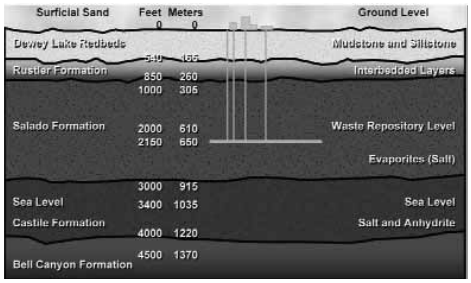


Figure 2. WIPP geologic setting.

All that being said, the events and options concerning the Asse mine do not diminish the extremely valuable repository research that has been conducted there for decades. The salt science that has been forthcoming out of the Asse R&D has served many purposes, including definition of the disturbed rock zone, healing of salt fractures, and basic operations and design information. The placement of radioactive waste in the abandoned portion of the Asse mine and the recent BfS desire to try to retrieve it should not detract from the significant contributions to salt repository science made through decades of research at the Asse.

As demonstrated by the WIPP repository, all the tools required to site, design, build and operate an ambient TRU repository are available, as are most of the tools required for designing, building and operating a salt repository for thermally hot waste. The experience at the Asse, though certainly negative in terms of public perception of radioactive waste disposal in salt, does not translate in any technical way to features, events and processes incorporated into the transparent program at the WIPP or future U.S. salt repositories.

Nonetheless, the proposal to try to remove radioactive waste from the Asse mine is a uniquely unfortunate development for deep geological disposal of long-lived radioactive waste around the globe. For the USA's repository programs and, in particular, the exploitation of salt for future repositories, correct lessons must be drawn.

First Shipment of Highly Radioactive Waste Departs UK

Nuclear Management Partners (NMP), the URS-led consortium managing Sellafield Ltd. in the United Kingdom, is celebrating its first major milestone since taking over the running of the facility: It has sent the U.K.'s first shipment of highly radioactive waste to an overseas customer for safe disposal.

NMP, which is comprised of URS, the French company Areva and U.K. construction giant Amec, took over as parent body organization of Sellafield Ltd. in November 2008 after winning a two-year competitive contract run by the Nuclear Decommissioning Authority on behalf of the U.K. government.

Since then, they have been working hard to deliver on their customer's mission of accelerating nuclear clean up—and the U.K.'s first ever shipment of highly radioactive waste to an overseas customer is seen as a major step along that road.

This waste arises from the reprocessing of used nuclear fuel at Sellafield, a complex of nuclear facilities in northwest England.

The shipment, to Japan, had been planned over a number of years and took place under the spotlight of the world's media, with journalists from a number of national and international newspapers and magazines, as well as the BBC, taking a keen interest.

The voyage is scheduled to be completed in the first half of March 2010 and will travel via the Panama Canal.

"This work, known in the U.K. as the Vitrified Residue Returns program, will deliver on the government's policy and contractual obligations for return of waste to overseas customers," said URS' Mike Johnson, Director of Waste and Effluent Disposition for Sellafield Ltd. "It demonstrates the ability of our workforce to safely prepare and deliver this material for transport, while meeting the most stringent national, international and customer requirements."

The Sellafield team on the program has worked closely with International Nuclear Services (INS) on completing the inspections and loading canisters to return to overseas customers.

"The waste is being transported by sea, which is a tried and tested method that is safe and secure, highly regulated and internationally approved," said Mark Jervis, Managing Director of INS.

IMPACT SERVICES, INC.

IMPACT SERVICES, INC.

IMPACT Services, Inc., is a small business enterprise that operates radioactive waste processing facilities in Oak Ridge, Tennessee. At IMPACT, safety is our number one priority. IMPACT's record of safe, compliant, and efficient operations, in conjunction with our commitment to providing customer-oriented waste management services, sets IMPACT apart from other low-level waste processors. IMPACT provides a variety of processes geared toward the volume reduction of radioactive waste. IMPACT's low cost proprietary method for waste processing (Bulk Survey for Release) enables waste generators to reduce the volumes of their low-level radioactive wastes and dispose of low specific activity candidate materials as solid waste. IMPACT also performs a variety of decontamination activities, inspection and characterization services, thermal destruction via pyrolysis, sorting and segregation, profiling, and stabilization/solidification. Additionally, we use the patented OREX™ process on polyvinyl alcohol-based disposable garments, virtually eliminating radioactive waste disposal volume. These combination of services often result in zero disposal volume attributable to the original generator. IMPACT is licensed by the State of Tennessee and provides services to both federal and commercial clients.

FLUIDTECH®

Fluid Tech, a division of IMPACT Services, is headquartered in Las Vegas, NV. Fluid Tech provides a variety of engineered products, technologies, and services ranging from the stabilization/solidification of radioactive wastes, remediation of oil spills on both freshwater and saltwater, suppression of coal dusts, and treatment of hazardous wastes. Fluid Tech addresses environmental problems for the government and private industry through patented and innovative products and services to manage radioactive, hazardous, and industrial wastes. Fluid Tech's line of "green" certified products offers customers a more environmentally-conscious alternative to traditional waste management approaches.

GeoMelt® Technologies

GeoMelt® technologies are a collection of vitrification processes that result in the destruction of hazardous organics, immobilization of radioactive materials and heavy metals and the means to deal with difficult wastes. The GeoMelt® technologies transform hazardous chemical and radioactive wastes into an ultra-stable vitreous and crystalline material similar to volcanic obsidian that is typically 10 times stronger than concrete. Unaffected by wet/dry or freeze/thaw cycling, the final product is unsurpassed in leach resistance and it is expected to maintain its physical and chemical integrity over many tens of thousands of years. Corrosion tests have demonstrated that the GeoMelt® product is more durable than granite or marble.

SSF Secure Support Facility

IMPACT and our partner, Omega Consultants, Inc., opened the new Secure Support Facility (SSF) in 2009, and are in the RCRA "Part B" application process. Located in Oak Ridge, TN, the SSF facility features over 67,000 square feet of classified office and process space. The SSF will provide the IMPACT/Omega team with the capability to expand our services to include classified support, production, and waste operations. The SSF was designed and built as a limited area (Q) for classified material, low-level, mixed-waste (LLMW) processing and information handling.

www.impactservicesinc.com

International News

International Community and Their Projects

In the past, many nuclear activities were developed without deep consideration of environmental issues in the overall planning and implementation of their operations. In addition to this many of these operations took place in an environment that did not have appropriate or effective environmental laws and regulations. As a result, many contaminated sites have been created. Several contaminated sites were also created by nuclear and radiological accidents. Costs to remediate these sites can vary in a wide range and some countries may face severe obstacles to bear the associated costs with extensive environmental remediation projects.

As a result, countries need timely and accurate information on available remediation strategies and technologies, management options, planning strategies, financing and guidance in dealing with non-technical factors, e.g., communication with relevant stakeholders, education and awareness raising. The task of the IAEA is to make all this information available and assist its Member States in implementing cleanup projects while avoiding the generation of new contaminated sites.

The assistance the IAEA gives to its Member States involves the elaboration of technical documents on safety and technological aspects. In addition to this the Agency also supports several technical projects worldwide at national and regional levels. The IAEA also organizes conferences and meetings to discuss the recent developments in specific thematic areas. Regarding Environmental Remediation the Agency organized the International Conference on Remediation of Land Contaminated by Radioactive Material Residues in Astana/Kazakhstan from 18 to 22 May 2009. This conference discussed in technical sessions elements of financing of ER projects, the role of multilateral organisations, regulatory aspects, established and innovative technologies, life-cycle planning and stakeholder participation in ER projects decision making. Study cases from different countries were also presented. A summary of the discussions and presentations that took place in each of the sessions of this conference can be found at (http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=35422).

IAEA supported projects are aimed at enhancing the capability of the Member States to cope with specific challenges and they allow for the organization of workshops, scientific visits, expert missions, training courses and equipment acquisition (procurement). Some of these projects will be presented and discussed during WM 2010 under the sessions dedicated to the ENVIRONET – The IAEA Network on Environmental Management and Remediation. Networking is a way that IAEA is implementing aiming at expediting knowledge transfer, experience exchange and partnership formation. As such, WM2010 will be an excellent forum to create appropriate synergies between solution donors and problem holders. For more information on the ENVIRONET please refer to (http://www.iaea.org/OurWork/ST/NE/NEFW/wts_ENVIRNET_homepage.html)

Listed bellow some of the projects that the IAEA supports under the Technical Cooperation framework:

- Establishment of Radioecological Monitoring and of Rehabilitation Programmes for the Contaminated Areas of the Absheron Peninsula
- Decommissioning and Remediation of the Former Nuclear Facilities and Sites in Iraq
- Supporting Preparation for Remediation of Uranium Production Legacy Sites
- Providing Practical Guidance for the Implementation of a Decommissioning and Remediation Plan for the Minas Gerais Uranium Mining and Milling Production Centre
- Radiological Support for the Rehabilitation of the Areas Affected by the Chernobyl Nuclear Power Plant Accident

Awards Luncheon

In keeping with the WMS' mission of providing education and opportunity, the following awards and scholarships will be presented during the Tuesday Honors and Awards Luncheon beginning at 12 PM on the Third Level of the PCC.

This luncheon is included in the Full Technical, Tuesday Only; Monday/Tuesday and Tuesday/Wednesday registration fees. Please be sure to bring your lunch ticket. Add-on tickets are available for Exhibitors and Guests, please see the Registration Desk to purchase.

Roy G. Post Foundation Scholarships
These scholarships are awarded in memory of Dr. Roy G. Post. The Scholarships and the Foundation carry on Dr. Post's vision of education in this field and honor the Founder of the annual Waste Management Conference.

Scholarships will be presented to:

Omar Al-Qudah, *University of Texas – El Paso,*
Kevin Arpin, *Kansas State University,*
Braden Goddard, *Texas A&M University,*
Christina J. Leggett, *University of California – Berkeley,*
Jessica M. O'Brien, *University of Ontario, Institute of Technology,*
Hayes F. Stripling, IV, *Texas A&M University,*
Thea R. Tadlock, *Missouri University of Science & Technology, and*
Jamie L. Warburton, *University of Nevada – Las Vegas.*

Receptions

Tuesday Reception:
Best of Arizona Reception in Exhibit Hall
Experience the Southwest at the Best of Arizona Reception from 4:30 PM to 6:00 PM. We'll highlight the state of Arizona, serving hors d'oeuvres from around this great state, and beverages including Margaritas.

Women of Waste Management Presentation and Reception
Women delegates - and anyone interested in opportunities for women in our industry – should attend the **Women of Waste Management Reception**.

***Rebecca Schmidt*,** Director of Congressional Affairs for the US NRC, will be the featured speaker for the Women of Waste Management Presentation & Networking Reception. Her presentation will begin at 6:00 PM and the reception follows immediately in the same room. Share experiences and learn about opportunities, while enjoying a glass of wine and light hors d'oeuvres from 6:00 PM – 7:30 PM.

Thank you to ***Fluor*** for sponsoring the Women in Waste Management Presentation & Reception.

Roy G. Post Foundation Golf Tournament was a Success

Thanks to our tournament hosts Teledyne Brown Engineering, Inc., and Tetra tech.

Thanks to our sponsors: Bartlett, American Nuclear Society, Cabrera Services, CDM, EnergySolutions, Terranear PMC, Waste Control Specialists, LLC.

Winners will be announced in the Wednesday issue of Insight.

Session 55

Mark your itinerary to attend Session 55, Panel: Blending US Commercial Low-Level Waste to Modify its Class for Disposal: Risk Informed or Deregulation?

On Wednesday morning at 8:30-10:00 in Room 105AB. The panel is Co-Chaired by Larry W. Camper, Director, Division of Waste Management and Environmental Protection, USNRC and Christine Gelles, Director, Disposal Operations, DOE. The panel will address the timely and controversial issue of blending homogenous Class B and C waste with Class A waste in order to lower the overall waste classification to Class A waste.

This process is designed to facilitate disposal at a Low-Level Waste disposal facility. This important issue is currently under review by the NRC as directed by Chairman Jazcko on October 8, 2009, with the staff scheduled to provide the Commission with a vote policy paper in April, 2010. The panel will discuss whether this approach should be viewed as risk informed or deregulation and the related overall implications associated with this process.

The issue of blending homogenous waste such as resin beads from power reactors has emerged since the closure of the Barnwell site to thirty-six states, thus resulting in the need for long-term storage of Class B and C waste.

The panel includes: Christianne Ridge, Ph.D., USNRC; Tom Magette, Energy Solutions; James Clark, Ph.D., Vanderbilt University; William Dornsife, Waste Control Specialists; Michael Mobley, Southeast Compact Commission and Diane D'Arrigio, Nuclear Information Resource Services. All of the panelists are very familiar with this topic and several of them recently participated as panelists in the NRC public meeting on blending held in January, 2010.

Do not miss this informative and lively discussion by this excellent group of individuals on this important and timely issue. Mark your calendar-this session is not to be missed!

WM2011 Conference Planning

Planning for the next conference for February 27-March 3, 2011 is well underway. If you would like to participate as a presenter, or would like to volunteer with WMS, here are some milestones for your planning:

***June 14, 2010* — Call for Abstracts Issued**

WM2011 will solicit abstracts describing research, development and operational experience over the complete spectrum of nuclear waste activities.

Proposed topics are categorized into general tracks that are reviewed by the WMS Program Advisory

Committee Members and will be posted o nwww.wmsym.org and mailed in early June.

***Sept. 13 & 14, 2010* — PAC Abstract Review Meeting**

PAC Members gather in Phoenix to review submitted abstracts and create the preliminary program for the WM2011 Conference. Once finalized, authors are notified and draft papers are written.

***November 12, 2010* — Draft Papers Due**

Draft papers are submitted and reviewed in November by members of the PAC in their area of expertise. Authors are given several weeks for any requested updates or revisions and submit their final paper in January. The final program is updated and ready to be printed.

***November 1, 2010* — Registration Opens**

Registration for the conference is open online at www.wmsym.org in early November. Feb. 27 – March 3, 2011 WM2011 Conference

For more information on the WM2011 Conference, please visit: www.wmsym.org

PAC Volunteers

If you are interested in learning more about the Program Advisory Committee, please contact Gary Benda at gbenda@wmarizona.org for more information.

Hanford Cleanup Progress

continued from page 1

WTP will immobilize the waste using a process called "vitrification." Vitrification involves blending the waste with molten glass and heating it to high temperatures. The mixture is then poured into stainless steel canisters. In this glass form, the waste is stable and impervious to the environment, and its radioactivity will dissipate over hundreds to thousands of years. The WTP will cover 65 acres with four nuclear facilities -- Pretreatment, Low-Activity Waste Vitrification, High-Level Waste Vitrification and Analytical Laboratory-- as well as operations and maintenance buildings, utilities and office space. The Pretreatment Facility, when complete, will be the world's largest nuclear separations facility and the largest of the four WTP facilities.

"Designing, constructing and commissioning this first-of-a-kind waste treatment plant presents unique technical challenges that we continue to address and resolve using advanced technologies and solutions," Greg Ashley, WTP Project technical director, said. "The Pretreatment Engineering Platform, for example, was a quarter-scale demonstration facility that we used to confirm and validate some of our most complex and essential waste separations processes -- ultrafiltration and leaching."

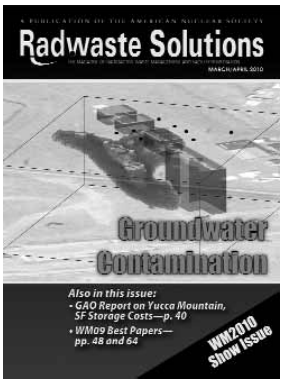
The WTP is currently more than 50 percent complete and is scheduled to be operational in 2019.

New to the Hanford contracting arena is the Mission Support Alliance (MSA) which has taken over many of the site-wide services including site infrastructure and utilities, site business management, portfolio management, as well as safety and security.

"We are the first Hanford contractor to provide commercial-like site-wide services and provide site-wide integration for DOE," said MSA President and General Manager Frank Figueroa. MSA also provides IT service to the site including high speed networking, wireless networking anywhere on the site and a single, integrated emergency communications system.

Providing a variety of technical support services to Hanford cleanup is the Pacific Northwest National Laboratory. The Office of Science facility is a multi-program national lab doing $1.1 billion in business volume with a staff of 4,600.

"Our core capabilities support the site through chemical and molecular science, biological systems science, subsurface science, chemical engineering, applied materials science and applied nuclear science and technology," said Wayne Johnson, PNNL's Director of the Environmental Sustainability Division. PNNL has a strong foundation in nuclear chemistry and processing and its science and innovation underpins Hanford cleanup decisions.



Radwaste Solutions, a publication of the American Nuclear Society, is a bimonthly specialty magazine containing articles that discuss practical approaches and solutions to everyday problems and issues in all fields of radioactive waste management and environmental restoration. Included is coverage of the generation, handling, removal, treatment, cleanup, and disposal of radioactive (including mixed) waste. Articles are contributed by people working with utilities and those involved in U.S. Department of Energy site work; in the medical, legal, university, consulting, and commercial areas; as well as from all levels of government. Also included are articles on radwaste management programs and practices outside the United States, as well as perspective pieces by industry experts, letters to the editor, and articles on recent academic/technical advances, detailing their immediate or planned practical applications.

With the Yucca Mountain waste repository now most likely history, and the Blue Ribbon Commission ready to begin work to look for a new future for the country's high-level waste and spent nuclear fuel, *Radwaste Solutions* will become an even more important volume in your professional library.

Be sure to read the complimentary issue on Groundwater Contamination, included in your registration packet. Articles in this issue look at the work being done to monitor and mitigate groundwater contamination, both at commercial nuclear power plant sites and at former weapons sites. Come visit us at booth #539 if you would like to subscribe, advertise, or if you have an idea for an article.

Mike Lawrence

continued from page 1

Lawrence said he believes an additional disposal site is needed, either to replace Yucca Mountain or for a second repository. "Once additional sites are characterized, the department can make a selection from two or three sites, weighing their strengths and weaknesses," he said. He acknowledged that no site is perfect but said this approach will allow careful consideration and balancing of the tradeoffs and benefits.

Lawrence said there is no technical urgency to construct and operate the repository, noting used fuel and other waste material can be stored in dry casks indefinitely, but he said there is an urgency on the part of electrical utilities that expect their contracts to be honored. He said the government needs to establish the capability to begin accepting used fuel, initially from orphan sites. He said additional storage capacity at operating sites can also be compensated for with the government paying the cost from the waste fund.

Lastly, Lawrence called for an international effort to establish a regional/international geologic disposal capability. "How can we expect all of the countries around the world currently considering nuclear power as a means of meeting their energy needs and climate change obligations to have their own indigenous waste disposal and repository programs?"

He said some form of international disposal regime will inevitably be required, saying this could be tied to the Reliable Fuel Services concept based upon a fuel leasing suggested by the United States which deals simultaneously with global nuclear expansion, waste disposal and non-proliferation issues. "While still a huge political issue, geologic disposal of nuclear waste is the safest disposal technique for such a hazardous material," he said.

Lawrence concluded his remarks by noting it has been 40 years since the Atomic Energy Commission decided it was time to solve the permanent disposal problem for nuclear waste. Four decades later the problem is still not solved.

Insight Newsletter

— Editors—

Linda Ulland,
University of Minnesota, Regional Sustainable Development Partnerships

Linda Lehman,
CH2M Hill Plateau Remediation Company

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— Layout / Graphics —

Pam Bradford
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Editors welcome articles or news of interest to symposia attendees.

Deadline 2 p.m.
Tuesday

— Email —
llehman@wmarizona.org

— Phone —
612-978-9725

A reminder to all Waste Management 2010 guests and attendees. The Phoenix Convention Center is a public facility so you should take care to watch your belongings while in the building. A coat check desk is available to you on the lower level through Wednesday afternoon where you can check your bags as well as your coats.

Fundraising Raffle for Roy G. Post Foundation

Founded in 2000, the Roy G. Post Foundation is a charitable trust dedicated to the education for the safe management of nuclear materials, honoring Dr. Roy G. Post and his substantial contributions in the field. The WM Conference, held annually in Phoenix, brings together over 2,000 of the world's leading nuclear waste specialists. The Roy G. Post Foundation awards students scholarships to pursue an education in nuclear waste management and provides assistance for students to attend the conference each year.

Be sure to purchase your raffle tickets for the Roy G. Post Foundation's Fundraising Raffle. The list of donated items includes Lunch for Four at the World Famous Arizona Biltmore Resort's Wright's restaurant; Dinner for Two at the Hyatt Regency Phoenix's Compass Room; a Golf Bag donated by Tetra Tech; a deluxe Gift Basket including a Two Night Stay at the Springhill Suites Phoenix; a black leather computer case donated by Longenecker & Associates; two golf outing goodie bags donated by Reef Industries and much more.

Raffle Tickets are just $10 each or five for $40 and are available at the Registration Desk.

Camper Discusses Past Innovations and Future of Low-Level Waste Industry

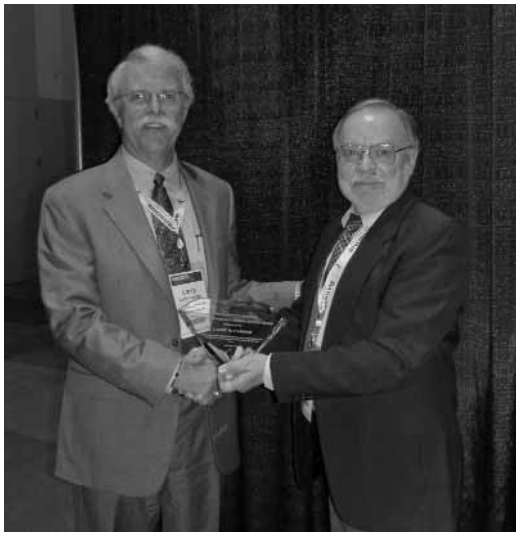
"We currently have a complex regulatory infrastructure that works to adequately protect public health and safety. Low-level waste (LLW) is safely managed and disposed," said Mr. Larry Camper, Director of the Radioactive Materials Division of the U.S. Nuclear Regulatory Commission (NRC). "However, a number of very challenging issues are emerging that will test the existing regulatory infrastructure. Given the record for developing new commercial LLW disposal capacity, it may be time to consider what actions should be taken to ensure that there will be viable commercial disposal available in the future."

Mr. Camper received the 2010 Richard S. Hodes, M.D. Honor Lecture Award yesterday in recognition of his contributions to low-level radioactive waste management in the U.S. through his role in the development and implementation of substantial regulatory and management improvements in several key NRC regulatory programs.

"I appreciate Mr. Camper sharing his perspective of the LLW industry. He provided a very concise picture of how we got to where we are in the US today and presented some very insightful thoughts on current and future issues," said Michael Mobley, Chairman of the Southeast Compact Commission, who presented the Award to Mr. Camper.

"It is reasonable to assume that the LLW industry will continue to be a stimulating and rewarding part of the larger nuclear industry in which to work and make professional contributions," Mr. Camper stated in his closing remarks. "Hopefully, these issues will continue to attract young scientists, physicists, and engineers into the LLW arena, so that they may work toward finding solutions to the challenges facing the industry. The next thirty years promise to be as exciting or even more exciting than the past thirty years within the LLW industry."

The Southeast Compact Commission for Low-Level Radioactive Waste Management established the Richard S. Hodes, M.D. Honor Lecture Award to honor the memory of Dr. Richard S. Hodes, who served as chair of the Southeast Compact Commission from its inception in 1983 until his death in 2002.



Larry Camper (left) Director of the Division of Waste Management and Environmental Protection for the US Nuclear Regulatory Commission receives the annual Hode Award from Mike Mobley, Southeast Compact Commission for Low Level Waste.

Nominations for the 2011 Hodes Honor Lecture Award are now being accepted. The deadline for submittal of nominations is June 30, 2010. Details are on the Commission website at www.secompact.org or you may contact Ted Buckner at 919/821-0500 or tedb@secompact.org.

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ON THE FLOOR AT THE EXHIBIT HALL

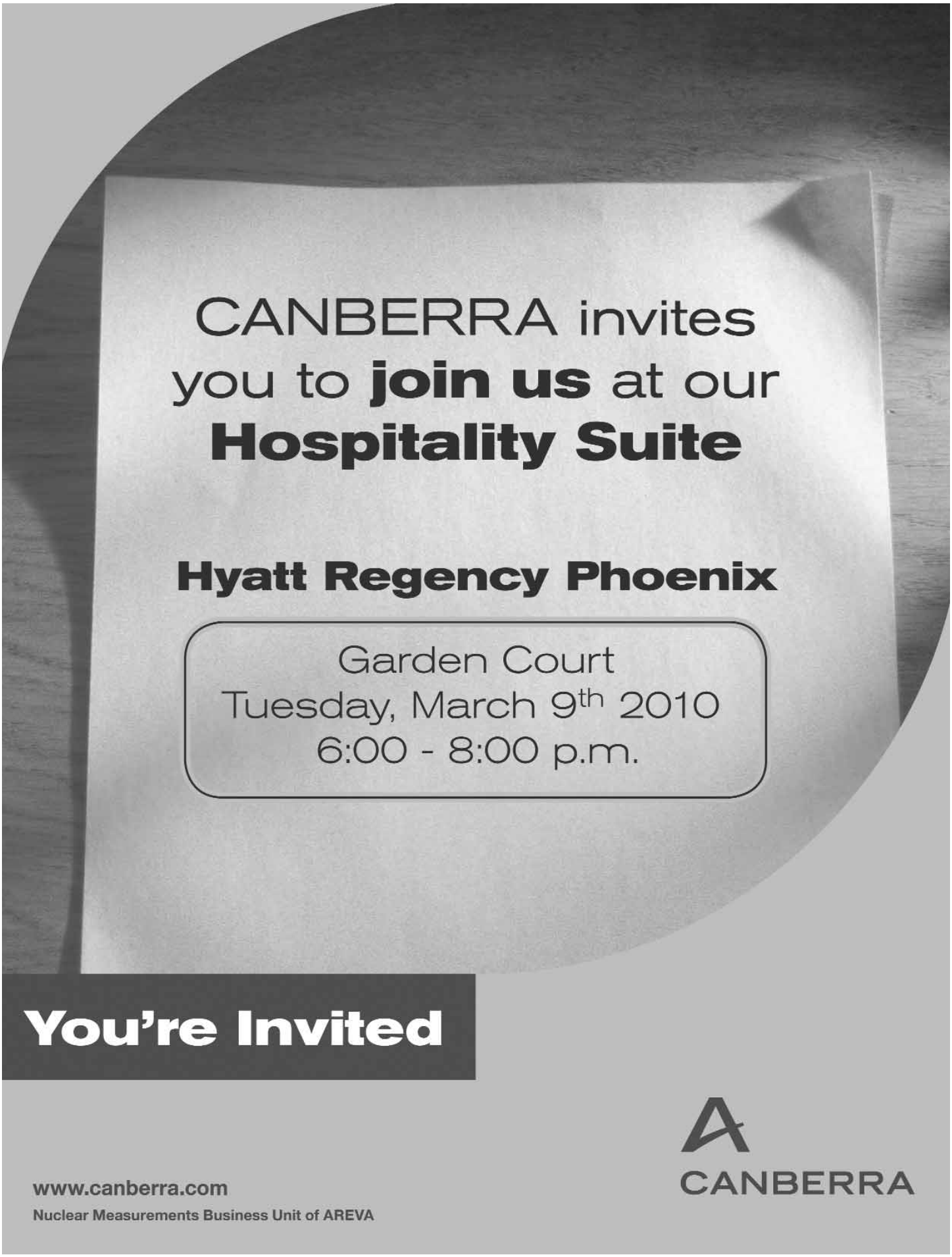
DRAWINGS, DRAWINGS, DRAWINGS

WM2010 is a great year at the Exhibit Hall! Loads of drawings and some fun and interesting give-aways are attracting a lot of attention. Be sure to stop by each day as some vendors are changing out their gifts daily. Drawings are being held multiple times a day so be sure you get registered for cash and state of the art electronics.

- Two **digital cameras** in drawings on Tuesday and Wednesday at **SM&A** Booth # 128
- **Digital photo frame** plus $200 cash in daily drawings at **NNL** Booth # 200
- **GPS** – drawing Tuesday at 5 PM at **Metal Solutions** Booth # 339
- **Navajo Pottery** Wednesday at closing at **Test America, Inc.** Booth # 500
- **Cash** $100 Daily drawings at **American Crane and Equipment Corporation** Booth #503
- **Nukeworker Bobble-heads** multiple drawings daily at **Nukeworker.com** Booth # 505
- **IPOD** drawings Tuesday and Wednesday **Spectra Tech, Inc.** Booth # 506
- **Amazon Kindle** Wednesday **Environmental Management Services** Booth # 521
- **GPS or 2007 French Wine** Wednesday at **Robatel Technologies, LLC.** Booth # 523
- **Golf shirts** Daily drawings and **GPS** Wednesday at **I.C.E. Service Group** Booth # 1019
- **Flat Screen TV** End of show at **Cabrerra Services, Inc.** Booth # 1023
- **Toy Trucks** drawings done after show **R&R Trucking**, Booth # 1027
- **IPOD Touch** Tuesday Evening at **Kelly Services** Booth # 1031

GIFTS, GIFTS, GIFTS, GIFTS, GIFTS

- Get really **BIG CHOCOLATE BARS** at **ENERCON** Booth # 522
- Spilled on your shirt? Use **Tide sticks** at **Siempelkamp Nuclear Services, Inc**. Booth # 120
- **Flashy Sunglasses** (while they last) at **DZ Atlantic** Booth # 411
- Home improvement buffs find **levels and tool kits** at **Burns and Roe** Booth # 114
- Would you believe **Talking Bobblehead Pens**! Check them out at **Project Services Group** Booth # 1015
- Need an extra set of hands? Check in with **AttentionIT, Inc**. for **handy phone holders and neon nail files** at Booth # 517
- **Battery-less flashlights** can be found at **Columbia Energy & Environmental Services, Inc.** Booth # 331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