

International Collaboration and Continuous Improvement



FINAL PROGRAM

February 24 – 28, 2013
Phoenix Convention Center • Phoenix, Arizona

Presented by WM Symposia, a Non-Profit Organization Dedicated to Education and Opportunity in Waste Management

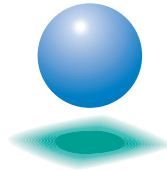
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WM2013 SCHEDULE OF EVENTS

*All Sessions will take place at the Phoenix Convention Center – West Building unless noted otherwise.
All Buses for Off-Site Events & Tours will load from the Hyatt Regency Phoenix – Monroe Street exit.*

SATURDAY, FEBRUARY 23, 2013

7:00 a.m. – 8:00 p.m.	Guest/Attendee Tour – <i>Grand Canyon*</i>
8:00 a.m. – 4:30 p.m.	Roy G. Post Foundation Fundraising Golf Tournament* – <i>Raven Golf Course</i>
8:00 a.m. – 5:00 p.m.	Registration Open – <i>Lower Level</i>
4:30 p.m. – 6:00 p.m.	Individual PAC Meetings by Track – <i>Hyatt Regency Phoenix</i>
6:00 p.m. – 9:30 p.m.	PAC Meeting and Dinner – <i>Hyatt Regency Phoenix</i>

SUNDAY, FEBRUARY 24, 2013

8:30 a.m. – 3:00 p.m.	WMS Board of Directors Meeting – <i>Hyatt Regency Phoenix</i>
9:00 a.m. – 3:00 p.m.	Manager Skills Training Workshop – <i>Projects, Safety and Risks* – Level One, 106C</i>
9:30 a.m. – 1:30 p.m.	Guest/Attendee Tour – <i>Desert Hike*</i>
11:30 a.m. – 4:30 p.m.	Project Transition Workshop – <i>You’ve Won the Contract, Now What?*</i> – <i>Level One, 106B</i>
1:00 p.m. – 8:00 p.m.	Registration Open – <i>Lower Level</i>
3:00 p.m. – 4:00 p.m.	First Time Attendee/PAC Orientation – <i>Level One, 101B</i>
4:00 p.m. – 4:45 p.m.	International PAC Meeting – <i>Level One, 102A</i>
4:00 p.m. – 4:45 p.m.	Student Assistant Training – <i>Level One, 101C</i>
5:00 p.m. – 8:00 p.m.	Welcome Reception and Exhibit Hall Open – <i>Lower Level, Exhibit Hall</i>

MONDAY, FEBRUARY 25, 2013

7:00 a.m. – 8:00 a.m.	Speaker’s Breakfast – <i>Level Three, 301A</i>
7:00 a.m. – 6:00 p.m.	Registration Open – <i>Lower Level</i>
7:30 a.m. – 11:00 a.m.	ASME Radwaste System Committee Meeting – <i>Hyatt Regency Phoenix</i>
8:00 a.m. – 10:00 a.m.	Guest Program Continental Breakfast* – <i>Hyatt Regency Phoenix, Sundance Room</i>
8:00 a.m. – 9:45 a.m.	Opening Plenary Session – <i>Level Three, 301BC</i>
8:30 a.m. – 6:00 p.m.	Exhibit Hall Open – <i>Lower Level</i>
10:00 a.m. – 4:00 p.m.	Guest/Attendee Tour – <i>Old Town Scottsdale Lunch and Shopping Day*</i>
10:00 a.m. – 5:00 p.m.	Technical Sessions 2 – 30 – <i>Level One</i>
12:00 p.m. – 1:15 p.m.	Keynote Luncheon – <i>Level Three, 301BC</i>
1:30 p.m. – 5:00 p.m.	Student Poster Competition Session 31 – <i>Lower Level, Exhibit Hall</i>
2:30 p.m. – 3:00 p.m.	Refreshment Break – <i>Lower Level, Exhibit Hall</i>
5:00 p.m. – 6:00 p.m.	International Welcome Reception – <i>Lower Level, Exhibit Hall</i>
6:00 p.m. – 7:30 p.m.	Students and Young Professionals Networking Reception – <i>Level One, 106C</i>
6:30 p.m. – 7:30 p.m.	National Museum of Nuclear Science & History Reception – <i>Level One, 102BC</i>
7:00 p.m. – 10:00 p.m.	Guest/Attendee Tour – <i>Phoenix by Night Walking Tour*</i>

TUESDAY, FEBRUARY 26, 2013

7:00 a.m. – 8:00 a.m.	Speaker’s Breakfast – <i>Level Three, 301A</i>
7:00 a.m. – 6:00 p.m.	Registration Open – <i>Lower Level</i>
8:00 a.m. – 10:00 a.m.	Guest Program Continental Breakfast* – <i>Hyatt Regency Phoenix, Sundance Room</i>
8:30 a.m. – 5:00 p.m.	Technical Sessions 32 – 64 – <i>Level One</i>
9:00 a.m. – 6:00 p.m.	Exhibit Hall Open – <i>Lower Level</i>
12:00 p.m. – 1:15 p.m.	Honors and Awards Luncheon – <i>Level Three, 301BC</i>
2:30 p.m. – 3:00 p.m.	Refreshment Break – <i>Lower Level, Exhibit Hall</i>
5:00 p.m. – 6:00 p.m.	Best of Canada Reception – <i>Lower Level, Exhibit Hall</i>
6:00 p.m. – 7:30 p.m.	Women of Waste Management (WoWM) Panel & Networking Reception – <i>Level Two, 212BC</i>
6:15 p.m. – 10:30 p.m.	Guest/Attendee Tour – <i>Phoenix Suns vs. Minnesota Timberwolves Basketball Game*</i>

WEDNESDAY, FEBRUARY 27, 2013

7:00 a.m. – 8:00 a.m.	Speaker’s Breakfast – <i>Level Three, 301A</i>
7:00 a.m. – 6:00 p.m.	Registration Open – <i>Lower Level</i>
8:00 a.m. – 10:00 a.m.	Guest Program Continental Breakfast* – <i>Hyatt Regency Phoenix, Sundance Room</i>
8:30 a.m. – 5:00 p.m.	Technical Sessions 65 – 100 – <i>Level One</i>
9:00 a.m. – 1:30 p.m.	Exhibit Hall Open – <i>Lower Level</i>
10:00 a.m. – 1:00 p.m.	Guest/Attendee Tour – <i>Cooking Class at Les Gourmette*</i>
2:30 p.m. – 3:00 p.m.	Refreshment Break – <i>Level One Foyer</i>
6:30 p.m. – 10:00 p.m.	Networking Reception & Dinner – <i>Rawhide* (Buses begin loading at 6:00 p.m.)</i>

THURSDAY, FEBRUARY 28, 2013

7:00 a.m. – 8:00 a.m.	Speaker’s Breakfast – <i>Level Three, 301A</i>
7:00 a.m. – 5:00 p.m.	Registration Open – <i>Level One, 101A</i>
8:00 a.m. – 10:00 a.m.	Guest Program Continental Breakfast* – <i>Hyatt Regency Phoenix, Sundance Room</i>
8:30 a.m. – 12:00 p.m.	Technical Sessions 101 – 124 – <i>Level One</i>
8:30 a.m. – 5:00 p.m.	Waste Incidental to Reprocessing (WIR) Workshop* – <i>Level One, 102B</i>
12:00 p.m. – 1:30 p.m.	WM2014 PAC Meeting and Luncheon – <i>Level Three, 301A</i>
1:30 p.m. – 5:00 p.m.	The Blue Ribbon Commission Panel* – <i>Session 118 – Level One, 105B</i>
5:00 p.m. – 6:00 p.m.	WIR/Blue Ribbon Commission Reception – <i>Level One Foyer</i>

FRIDAY, MARCH 1, 2013

8:00 a.m. – 5:00 p.m.	US NRC Public Meeting – <i>Changes to NRC’s Uniform LLW Manifest Guidance – presented by US NRC – Sheraton Phoenix Downtown Hotel, Room – Phoenix A</i>
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* - *Separate Registration Fees; Schedule Subject to Change.*



INTERNATIONAL COLLABORATION AND CONTINUOUS IMPROVEMENT

It gives me great pleasure to welcome you to the 39th Annual Waste Management Conference, WM2013.

Widely regarded as the premier international conference for the management of radioactive materials and related topics, WM2013 will convene at the Phoenix Convention Center (PCC) from February 24 - 28, 2013.

With over two thousand scientists, engineers and managers in attendance from various international organizations, we have made it our mission to build a conference that explores best practices from around the world.

In recognition of the growing drive towards new reactor construction and the need to demonstrate that nuclear waste management is well developed, we have adopted the theme:

International Collaboration and Continuous Improvement

The technical program is comprehensive with over 500 papers and 124 technical sessions and panels which are complemented by an extensive exhibition. This year's conference promises to have several exciting topics. We are especially proud to have Canada as our featured country to detail recent developments and ambitious plans for the future, as well as four US DOE featured sites; Idaho, West Valley, NY and Lexington, KY Office (Portsmouth, OH and Paducah, KY sites).

There will be opportunities for networking in the formal and informal activities and social events organized by both the conference and participating companies.

On Thursday, February 28, WM2013 is proud to again present the topical session entitled **Blue Ribbon Commission (BRC) on America's Nuclear Future Report – One Year Later, US and International Developments**. The BRC, which filed their charter with Congress the week before WM2010, has conducted a comprehensive review of policies for managing the back end of the nuclear fuel cycle, including all alternatives for the storage, processing and disposal of civilian and defense used nuclear fuel and nuclear waste.

The WM2013 conference will be timely in discussing the report and the recommendations of the BRC.

On Friday March 1, the US NRC will conduct a public meeting immediately following the annual WM2013, Conference. The meeting will be held from 8:00am – 5:00pm at the Sheraton Phoenix Downtown Hotel, Phoenix A Room. The purpose of the public meeting is to discuss potential changes to the Agency's low-level radioactive waste (LLRW) manifest guidance in NUREG/BR-0402, Revision 2, "Instructions for Completing NRC's Uniform Low-Level Radioactive Waste Manifest".

All are welcome to attend, including waste generators, processors, disposal facility operators, States, LLW Compacts, advocacy groups and members of the public. Although this workshop is not a part of the WM2013 Conference, it is being held the day after the conference ends to facilitate attendance and participation by members of the waste industry who utilize the waste shipping manifest regularly.

The aim of the WM Board and the Program Advisory Committee is to host an interesting, stimulating and informative program. If you have ideas on how to improve the conference, please let us know.

I would like to thank the WM team for their efforts and our sponsors for their contributions that enhance what we can accomplish. Thanks also to our attendees and exhibitors who make the conference so exciting.

We are a non-profit organization with the aim of promoting education and opportunity and your participation helps us to further these objectives.

I hope you have a very profitable time.

Fred Sheil
Chairman - WM Symposia
Sheil Consulting, Ltd, United Kingdom

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CONFERENCE REGISTRATION

Onsite Registration Fees

Conference Registration	
Full Technical includes Thursday's Blue Ribbon Commission on America's Nuclear Future Panel/Workshop	\$1,250
PAC Members - Full Technical	\$1,250
2 Day Tech - Mon/Tues or Tues/Wed	\$1,100
1 Day Tech - Mon, Tues or Wed/Thurs	\$875
Full-Time Student - Full Technical	\$50
Exhibit Hall Only Registration	
Exhibit Hall Only - Sun - Wed	\$620
1 Day Only Exhibit Hall Pass - Mon or Tues	\$400
Professional Development Workshops	
Sunday Manager Skills Training Workshop	\$125
Sunday Project Transition Workshop	\$125
The Blue Ribbon Commission on America's Nuclear Future Panel/Workshop	
• Full Technical Registrants	<i>Included</i>
• Other Conference Registrants	\$125
• Workshop & Reception Only	\$225
Guest Program and Add-on Tickets	
Guest Program Registration	\$115
Lunch Ticket - Mon or Tues	\$40 each
Lunch Ticket - Mon & Tues Save \$10	\$70
Rawhide Wednesday Evening Event	\$90

Registration Categories

Full Technical Registration includes four days of the conference, receptions, the Monday Keynote Lunch, Tuesday Awards Lunch, Wednesday Exhibit Hall lunch, Thursday lunch and workshops and online proceedings. *Please note the Wednesday evening event at Rawhide is a separate fee.*

Two Day Technical Registration includes two days of the conference, receptions, lunches and the online proceedings. You may register for Monday and Tuesday or Tuesday and Wednesday. If registering for Monday and Tuesday, the Sunday Evening Welcome Reception is also included. If registering for Tuesday and Wednesday, the Thursday sessions, workshops and lunch are included. *Please note the Wednesday evening event at Rawhide is a separate fee.*

One Day Technical Registration includes one day of the conference, reception, lunch and the online proceedings. If registering for Wednesday, the Thursday sessions, workshops and lunch are also included. *Please note the Wednesday evening event at Rawhide is a separate fee.*

Student Registration - see Full Technical Registration description. This category is open only to full-time students, 35 years of age or younger.

Speakers/Panelists/Session Co-Chairs - please note that all attendees must register in one of the listed categories. Speakers, Panelists, or Session Co-Chairs must have a Technical Registration badge.

Full Week Exhibit Hall Only Registration - includes access to Exhibit Hall only, including refreshment breaks and receptions on Sunday, Monday and Tuesday evenings. Access only to technical sessions as specially noted in program schedule - see page 11 for sessions open to Exhibitors.

One Day Only Exhibit Hall - includes access to the Exhibit Hall for that day including the refreshment breaks and evening reception. If registering for the Monday One Day Exhibit Hall Only, the Sunday Evening Welcome Reception is included. If registering for the Tuesday One Day Exhibit Hall Only, access to the Exhibit Hall Wednesday morning is also included.

Guest Registration - includes Exhibit Hall access to the social events on Sunday, Monday and Tuesday evenings and Continental Breakfast Monday through Thursday at the Hyatt Regency Phoenix hotel.

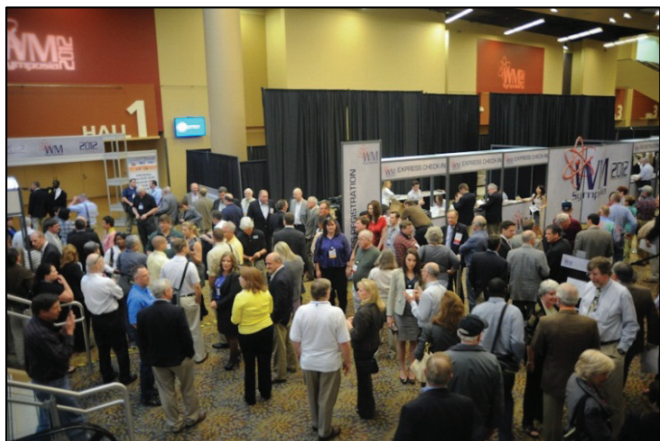
Guests are defined as spouses and significant others and are **NOT BUSINESS ASSOCIATES!** Co-workers or associates in the industry do not apply. Please note no one under the age of 18 years old is permitted to attend the conference or Exhibit Hall.

Exhibitors: Conference registration fees are in addition to exhibitor booth fees. Most booth fees include complimentary registration badges, please reference the Exhibitor Prospectus located on the website at www.wmsym.org.

Registration Policies

Purchase Orders or Training Requisition forms **DO NOT CONSTITUTE PAYMENT**. Checks are to be made payable to: WM Symposia or WM2013 Conference.

Credit cards accepted: Visa, MasterCard and American Express. All payments must be made in US dollars. Bank transfers are not accepted.



Once a check or credit card payment has been processed, the payment method cannot be changed.

Substitutions & Cancellations

The deadline for substitution requests or cancellation for the WM2013 Conference was February 15, 2013. Refunds will not be granted after that date; nor will they be given to no-shows after the conference.

Ribbons

Please stop by the Registration Desk to collect your registration ribbons which include Presenter, Session Co-Chair, PAC Member, countries and more.

Along with ribbons, you can also collect your Registration Bags that are being sponsored by **CH2M HILL** which will contain a variety of supplies sponsored by **MHF Services** and **Kurion**.

Special Needs

WMS Staff will be glad to help with any special needs (i.e., physical, dietary restrictions) as best we can onsite. Please ask for Allison Finston at the Registration Desk for assistance.

Hotel Accommodations

For onsite hotel assistance, visit Sherry Chavez at the Aquila Travel Desk in the Registration area, Lower Level of the PCC during registration hours. You may also reach her by phone at 800-595-6257 or email at sherry@aquilatravel.com.

Hyatt Regency Phoenix

P: +1 602-252-1234
122 North Second Street, Phoenix, AZ 85004

Marriott Renaissance Phoenix Downtown

(Formerly the Wyndham Hotel)
P: +1 602-333-0000
50 East Adams Street, Phoenix, AZ 85004

Sheraton Phoenix Downtown

P: +1 602-262-2500
340 North Third Street, Phoenix, AZ 85004

Hilton Suites Phoenix

P: +1 602-222-1111
10 East Thomas Road, Phoenix, AZ 85012

Holiday Inn Express Hotel Phoenix Downtown

P: +1 602-452-2020
620 North Sixth Street, Phoenix, AZ 85004

Radisson Hotel Phoenix Airport North

P: +1 602-220-4400
427 North 44th Street, Phoenix, AZ 85008

Airport Information

Phoenix Sky Harbor Airport

www.phoenix.gov/skyharborairport
P: +1 602-273-3300

Sky Harbor is conveniently located just three miles east of downtown Phoenix. The airport has three terminals – Terminal 2, Terminal 3 and Terminal 4 – each with its own parking garage, shops, restaurants and ground transportation.

Sky Harbor's easily accessible Rental Car Center houses all the airport rental car company counters and fleets. A multi-colored "Rental Car Shuttle" provides free transportation from the airport curb at the baggage claim level to the Rental Car Center, just west of Sky Harbor.

The airport also has a free shuttle to the METRO light rail station at 44th and Washington Streets using the PHX Airport Shuttle. Be sure to look for the silver and black bus that displays METRO Light Rail & Airport Terminals. From the 44th Street/Washington METRO station, passengers can cross Washington Street heading south and board the airport shuttle bus. The airport shuttle buses travel to all three terminals and parallels METRO's service schedule.

Phoenix – Mesa Gateway Airport

www.phxmesagateway.org

P: +1 480-988-7600

The Phoenix-Mesa Gateway Airport, a smaller airport with only one terminal, is located 30 miles from downtown Phoenix. It is the home of Allegiant Airlines. The terminal features three rental car companies, a gift shop and free Wi-Fi Internet.

METRO Light Rail Service

www.valleymetro.org

The METRO light rail system features state-of-the-art vehicles that include oversized air conditioning units, tinted windows, and door entries level with station platforms for easy, no-step boarding.

METRO light rail and Valley Metro bus share the same fare system. An all-day pass for METRO light rail and Valley Metro bus is \$3.50 when purchased in advance and \$5.25 when purchased on board.

Metro stations near the PCC: Van Buren and Central Avenues; Washington and Central Avenues; and 3rd Street and Jefferson.

Metro station near the Hilton Suites: Thomas and Central Avenues.

Metro station near the Radisson Phoenix Airport North: 44th Street and Washington.

Car Rental Options

- Avis – www.avis.com
Discount Code: A198399
- Enterprise - www.enterprise.com
Discount Code: #L508512, WM2
- Hertz - www.hertz.com
Meeting CV Code: 02RE0023

SuperShuttle Shared-Ride Van Service To and From Airport

Advanced reservations are required for WM2013 discounted rates through www.supershuttle.com. Enter online discount code: **SPET2** to receive \$2.00 off one-way or \$4.00 off a round trip.

\$12 per person/one way when booked online. All major credit cards and cash are accepted; pay online or directly to the SuperShuttle driver. Personal checks are not accepted on board.

Advance reservations are required for your return to the airport. Call +1 602-244-9000 at least 24 hours in advance of your departure time. A reservation agent will suggest a pick up time from your hotel.

Taxis

Three taxi companies have contracted with Sky Harbor Airport to provide service; you may choose any taxi you wish from the waiting line.

Apache Taxi	+1 480-557-7000
AAA/Yellow Cab	+1 480-888-8888
Mayflower Cab	+1 602-955-1355

Lunches

Monday and Tuesday lunches are ticketed, sit-down events with programs, the Wednesday lunch will be a casual boxed lunch in the Exhibit Hall and the Thursday lunch will be a casual, buffet-style lunch on Level One in the foyer area. These lunches are included with a full technical or individual day registration fees.

Please note that the lunch on Wednesday in the Exhibit Hall will be available to exhibitors as well as attendees.

Meal tickets are required for the lunches. Please remember to bring your ticket for entry into the lunch. If you have previously requested a special meal such as vegetarian option, you will receive an additional meal ticket to give to your server. Food orders cannot be changed as meal counts are guaranteed in advance. Please remember meal tickets are non-refundable. Meals are not guaranteed to anyone arriving more than 20 minutes late to meal functions.

Monday's Keynote Luncheon is **sponsored by Waste Control Specialists, LLC.**

During the Wednesday lunch in the Exhibit Hall, **sponsored by Perma-Fix**, winners of Exhibitors' individual booth drawings will be announced. Be sure to attend as some of these drawings require attendance to win.

Should you be interested, a list of local restaurants is available at the Registration desk. The PCC also has a food court featuring Crust, City Central Coffee and others in the North Building.

Refreshment Breaks

Refreshment breaks will be served in the morning and afternoon Monday through Wednesday in the Exhibit Hall. Coffee service only will be served Monday through Thursday near the meeting rooms, on the First Level of the PCC in the morning and afternoon.

Monday refreshment breaks are sponsored by **Waste Control Specialists LLC** in the morning and **Siempelkamp Nuclear Technology, Inc.** in the afternoon.

Tuesday refreshment breaks are sponsored by both **Federal Engineers and Constructors (FE&C)** and **EnergySolutions** in the morning and **Spectra Tech Inc.** and **EnergySolutions** in the afternoon.

On Wednesday morning, the refreshment break will be sponsored by **Nuclear Engineering International**.

Conference Proceedings

The conference proceedings are included with a full technical registration. *Approximately May 2013*, the conference proceedings will be available online for all technical registrants. If you would like a CD-Rom and mailed to you, there will be a \$10 handling fee.

Cyber Cafés

Cyber Cafés are located in the Lower Level of the PCC in the Exhibit Hall as well as on Level One near the meeting rooms. Attendees will be able to access the Internet and print. Presenters may use the computers to upload their presentations without assistance online through www.wmsym.org. The Cyber Cafés are sponsored by **AREVA**.

Lost and Found

Please visit the Registration Desk for any lost and found items during the conference at the PCC.

First Aid

If first aid assistance is needed, please notify any WMS, PCC Security or hotel staff member.

Each meeting room at the PCC has a Security Monitor System that is a direct link to the Security department for emergencies.

The PCC is also equipped with Automated External Defibrillators (AED) throughout the building. An AED is a device about the size of a laptop computer that analyzes the heart's rhythm for any abnormalities and, if necessary, directs the rescuer to deliver an electrical shock to the victim. This shock, called defibrillation, may help the heart to reestablish an effective rhythm of its own.

Smoke Free Arizona Act

The Phoenix Convention Center is a smoke-free facility complying with the Smoke-Free Arizona Act. The Smoke-Free Arizona Act restricts smoking in public places and workplaces including but not limited to bars, restaurants, stadiums, reception areas, theatres and designated non-smoking hotel rooms. Should you wish to smoke, please look for the designated smoking areas outside of the building.

Translation Services

Should you need translation assistance during the conference, please ask for Allison Finston at the Registration Desk for assistance. WMS PAC Members who are multi-lingual have volunteered to assist others as needed. Please note that all WM2013 sessions are presented in English.

"INSIGHT" Daily Newsletter

Insight, the WM Symposia daily conference newsletter, reports on technical topics addressed during the sessions, exhibitor and sponsor information, industry and important daily conference news and announcements.

The first issue, Sunday/Monday, will be provided in the attendee registration bags. Be sure to pick up your Tuesday and Wednesday copies at the Registration Desk, Exhibit Hall and near the meeting rooms on the First Level of the PCC.

Newsletter Editor:

- **Linda Lehman**, *Consultant*
llehman@wmarizona.org
- **Mike Berriochoa**, *Professional Communications Services*

Contributing Editors:

- **Joy Shoemake**, *Jacobs Engineering*
- **Nan Kilkeary**, *B&W Conversion Services, LLC*

Charging Stations

Attendees will have the convenience of charging their Smartphones, iPads and laptops at the WMS Charging Stations throughout the conference. Each station will include a security attendant, allowing attendees to leave their devices to charge and return at a later time.

NEW THIS YEAR - WM2013 Mobile App
Sponsored by Canberra Industries Inc –
AREVA Group



www.wmsym.org/MobileApp

To download the WM2013 Mobile Application, please follow these instructions:

Scan the QR code with your iPad, iPhone, Android phone or tablet, or your Blackberry Playbook. The QR code will open the WM2013 Mobile App through your device browser. For those who do not have a scanner to scan the QR code, simply type the URL listed above into your device's browser. The first download will require a Wi-Fi or network connection; however you can come back anytime to use the Mobile App without a connection in the future. Be sure to setup a bookmark icon on your device's home page in to easily return to the Mobile App before and during the conference.

Be sure to check back often to get the most recent and up-to-date conference information.

Twitter and Facebook Updates

WM2013 will be online with updates throughout the conference. On Facebook, you can find the conference at **WM Symposia**. And if you tweet, please post to our hash tag of **#wmsym2013** so we can see all your Twitter comments.

Daily Exhibitor Meeting

Each morning, Exhibitors will have the opportunity to meet with Allison Finston, Exhibits Manager, right inside the Exhibit Hall door to give any feedback, concerns or suggestions.

An Exhibitor feedback form is included in the Exhibitor Welcome Packet distributed to booths prior to the show opening. Please be sure to complete the form and bring it to the one of the meetings:

Monday, February 27 – 8:00 AM
Tuesday, February 28 – 8:30 AM
Wednesday, February 29 – 8:30 AM

Speaker and Co-Chair Check-In

WMS asks that all Presenters (oral, panelist and poster) and Session Co-Chairs check-in at Registration on the Lower Level of the PCC. For presenter changes or other questions on your session, the Speaker and Co-Chair Check-In room is located on Level One of the PCC Room 101A.

Speaker's Lounge

Starting on Monday morning, February 25, coffee will be available throughout the day for all presenters in the Speaker and Co-Chair Check-In, Room 101A.



Speaker and Co-Chair Breakfast

All Presenters, Session Co-Chairs and Student Assistants are required to attend the Speaker and Co-Chair Breakfast on the day of their session. Each session will have an assigned table where Session Co-chairs can discuss and organize their sessions. The breakfast will be held at 7:00 am in 301A on the Third Level of the PCC on Monday through Thursday. It is optional for Poster Presenters.

Please note: A conference name badge is required for entry. If you do not have a name badge, please visit the registration desk on the Lower Level of the Convention Center.

Speakers who have not checked in at Registration before the breakfast begins will have their presentation shown as canceled at the session room entrance or poster space.

The Monday Speaker Breakfast will be sponsored by **CH2M HILL, Inc.** and the Tuesday Speaker Breakfast will be sponsored by **Savannah River National Laboratory.**

PowerPoint Presentations

WMS encourages presenters to upload their presentations before the conference on the web at www.wmsym.org using their own login and password. Presentations should be in .PPTX format and any videos be inserted into the presentation using PowerPoint 2010 or later.

PLEASE NOTE: PRESENTATIONS MUST BE UPLOADED 24 HOURS PRIOR TO PRESENTATION TIME

Presenters who have not uploaded their presentation by this deadline will have their presentation shown as canceled at the session room entrance, unless prior arrangements have been made with WMS staff and they have received an email confirmation.

A/V Presentation Support

If presenters need assistance with uploading or inserting videos into their PowerPoint presentations, A/V staff will be available in Room 101A at the specified times for their session number. Please see the table below by using your session number to locate the date and time assistance is available to you.

Sessions	Date	Time
1 - 31	Sun. Feb. 26	3 – 7 PM
32 - 49	Mon. Feb. 27	11 AM – 1 PM
50 - 64		2 – 5 PM
65 - 80	Tues. Feb. 28	9 AM – 1 PM
81 - 100		2 – 5 PM
101 - 124	Wed. Feb. 29	9 AM – 1 PM

Additional A/V Technical Support

Presenters who require additional assistance to finish their presentations may schedule a 15 minute one-on-one technical support appointment in Room 101A on Level One of the PCC. This service is only provided if staff time is available. Should additional time be requested, a fee may be charged.

Presenters who have presentations with videos are encouraged to schedule a 15 minute session to ensure their video files work properly with the provided audio visual equipment.

Conference Support Service Center

The UPS Store located in the PCC will provide copy services and is staffed Monday through Friday from 7:00 AM - 6:00 PM and Saturday from 8:00 AM - 2:00 PM.

For anyone needing copy work/posters prepared in advance of your arrival at the conference, please contact The UPS Store, 125 N 2nd Street, Suite 110, Phoenix, AZ 85004. P: +1 602-251-0135. E: store5750@theupsstore.com.



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.

Funds are raised through the **Official Roy G. Post Benefit Golf Tournament** held annually on the Saturday preceding the WMS Conference. The tremendous support of the WMS community allows the Post Foundation to achieve their charitable goals.



The charitable giving is directed toward scholarships for students throughout the world pursuing an education in nuclear waste management and provides assistance for students to attend the conference each year.

In addition, the Post Foundation sponsors the Student Poster Competition held on Monday afternoon during the conference. The student winner of that competition is awarded \$500 cash.

WM Symposia and the Post Foundation offer students housing assistance, onsite technical session positions and a Student & Young Professionals Reception on Monday night.

If you are interested in supporting the Post Foundation's mission, donations are accepted at the Registration Desk during the conference. Also, raffle tickets for the daily exhibit hall drawings are available for sale.

For more information on the Post Foundation, please visit www.roygpost.org.

SPECIAL MEETINGS, TRAINING AND EVENTS

Saturday, February 23, 2013

Program Advisory Committee (PAC) Meeting 4:30 PM – 9:30 PM

This pre-conference meeting will be held at the Hyatt Regency Phoenix. A separate invitation was sent to all PAC volunteers and their guests on the event details. For additional information, contact Gary Benda, PAC Chair at GBenda@wmarizona.org.

Sunday, February 24, 2013

Manager Skills Training Workshop – Projects, Safety and Risks 9:00 AM – 3:00 PM Room 106C

This workshop is intended as a condensed but intense training aimed at new managers and to enhance the management skills of experienced scientists, engineering managers and project managers. The topics covered will include managing projects for successful outcome, tools of the trade, managing safety, and managing risks. The workshop agenda is of interest to professionals working in nuclear projects, remediation projects, radioactive waste management, and decommissioning. The primary instructor for the workshop is **Dr. Jas Devgun**. He will be assisted by distinguished industry leaders as guest lecturers.

Participants will receive a certificate of training completion and a complete set of workshop notes. Professional training credits will be available from IHMM. Professional development hours may also be available from ASME and other organizations.

This workshop includes breakfast, lunch and refreshments. A separate registration fee of \$125 onsite will apply.

Project Transition Workshop - You've Won the Contract, Now What? Using Configuration Management and Commercial Grade Dedication Programs to Improve the Transition Experience 11:30 AM – 4:30 PM Room 106B

This workshop reviews project transition activities, and incorporates configuration management (CM) and commercial grade dedication (CGD) processes to improve the transition experience. The CM process addresses Item 1: Program-Based Issues by establishing a triangular equilibrium connecting a facility's design basis, physical configuration and documentation. The CGD process addresses Item 2: Workforce-Based Issues by linking design basis requirements, engineering, quality, procurement and stores operations for incoming items not found in the original design basis.

The CM and CGD processes can be used as part of a due diligence review enabling the transition team to understand the operating environment and resolve program and workforce barriers that may not be discovered until after the transition period.

The instructor for the workshop is **James M. Hylko**. Participants will receive a certificate of training completion, a complete set of workshop notes and professional training credit.

This workshop includes lunch and refreshments. A separate registration rate of \$125 onsite will apply.

First Time Attendee Session & Program Advisory Committee (PAC) Orientation 3:00 PM – 4:00 PM Room 101B

WMS is a non-profit organization dedicated to education and opportunity in waste management. It was founded to provide a forum for discussing and seeking cost-effective and environmentally responsible solutions to the safe management and disposition of radioactive waste and radioactive materials. Join us for this open session to learn more about WM Symposia, how to volunteer for our Program Advisory Committee, and the WM2013 and WM2014 conferences.



Student Assistant Training Session 4:00 PM – 4:45 PM Room 101C

Calling all Student Assistants! Be sure to attend this mandatory training session. We'll cover the basics of your job duties as a Session Assistant including the important details such as how to fill out your timecard. There will also be time to meet other students to kick off your WM2013 conference experience. For more information on participating as a Student Assistant, please contact LeighAnn Spadola at papers@wmarizona.org.

Sunday, February 24 - Continued

International Program Advisory Committee (IPAC) Meeting
4:00 PM – 4:45 PM **Room 102A**

This pre-conference meeting will be held at Phoenix Convention Center. A separate invitation was sent to all IPAC volunteers on the meeting details, but the meeting is open to all. For additional information, contact Gary Benda, PAC Chair at GBenda@wmarizona.org.



WM2013 Conference Welcome Reception
5:00 PM – 8:00 PM **Lower Level Exhibit Hall**

Come meet new and old friends while browsing the WM2013 exhibits. The Registration Desk is open from 1:00 PM on, so stop by and pick up your badge any time before the reception starts in the Exhibit Hall on the Lower Level of the PCC. Light hors d'oeuvres and refreshments will be served. This event is **sponsored by FLUOR**.

Monday, February 25, 2013

ASME Radwaste Systems Committee Meeting
7:30 AM – 11:00 AM

The annual meeting of the ASME Radwaste Systems Committee will be held on Monday morning at the Hyatt Regency Phoenix, beginning with a Continental Breakfast.

Any questions, please contact Andy Armbrust at aarmbrust@ecologyservices.com.



Facebook: WM Symposia

WM2013 Plenary Session
8:00 AM – 9:45 AM

Room 301BC

The WM2013 Plenary Session will feature world leaders speaking on the pressing issues being faced by Waste Management in 2013 and beyond.

A Continental Breakfast will be served beginning at 7:00 AM before the program begins on the Third Level of the PCC – **sponsored by CH2M HILL**.

Panelists include:

William C. Ostendorff, Commissioner, US Nuclear Regulatory Commission (NRC); **Jonathan Will**, Director General of Electricity Resources, Natural Resources Canada and **David G. Huizenga**, Senior Advisor, US DOE - EM.



William C. Ostendorff is currently serving his second term as a Commissioner of the US Nuclear Regulatory Commission (NRC). Commissioner Ostendorff has had a distinguished career as an engineer, legal counsel, policy advisor and naval officer. Before joining the NRC, he served as the Director of the Committee on Science, Engineering and Public Policy and as Director of the Board on Global Science and Technology at the National Academies.

Mr. Ostendorff also served as Principal Deputy Administrator at the National Nuclear Security Administration. He was a member of the staff of the House Armed Services Committee. There, he served as counsel and staff director for the Strategic Forces Subcommittee with oversight responsibilities for the Department of Energy's Atomic Energy Defense Activities as well as the Department of Defense's space, missile defense and intelligence programs.

He was an Officer in the United States Navy, retiring with the grade of Captain. During his naval career, he commanded an attack submarine, an attack submarine squadron and served as Director of the Division of Mathematics and Science at the United States Naval Academy.

Monday, February 25 - Continued

Jonathan Will is Director General of Electricity Resources at Natural Resources Canada, where he is responsible for policy concerning electricity, nuclear energy and radioactive waste management. He has held this position since the beginning of 2010.



Prior to this position, Mr. Will worked for three years as Director of Operations at the Privy Council Office, the department that supports the Prime Minister. Here he was responsible for policies concerning climate change and other environmental issues, energy, including nuclear, and other natural resources issues.

Jonathan has held other positions of increasing importance in the Government of Canada since 1994: at Finance Canada, Agriculture Canada and the Privy Council Office.



David G. Huizenga is the Senior Advisor for Environmental Management for the US Department of Energy. He is responsible for the management and oversight of the world's largest environmental remediation program.

Since July 2011, when President Obama designated him as the Acting Assistant Secretary for EM; Mr. Huizenga has reorganized EM to provide more effective assistance from EM Headquarters to the cleanup activities that are executed in the field at EM sites across the nation. Under Mr. Huizenga's leadership, EM has also commenced a major replanning initiative to update the EM baseline and prioritize cleanup activities within the funding constraints realized in the EM program.

A nationally and internationally recognized expert in nonproliferation and nuclear waste management issues, Mr. Huizenga has over 25 years of leadership, management, and technical experience in a wide variety of programs across the Department of Energy.

Mr. Huizenga is well-known and respected for being a consensus builder and team player both within the US government and in the international community.

In recognition of his international credentials, Mr. Huizenga served four years as the US Senior Technical Advisor on the International Atomic Energy Agency (IAEA) Radioactive Waste Advisory Committee.

WM2013 Keynote Monday Luncheon 12:00 PM – 1:15 PM Room 301BC

The Monday Keynote Luncheon ticket is included with the purchase of a full technical registration. For exhibitors and attendees who do not have full technical registrations, tickets can be purchased on-site for an additional cost of \$40.00 per ticket.



Dr. Peter B. Lyons was confirmed by the Senate as the Assistant Secretary for Nuclear Energy on April 14, 2011. Dr. Lyons was appointed to his previous role as Principal Deputy Assistant Secretary of the Office of Nuclear Energy in September, 2009. As Assistant Secretary, Dr. Lyons is responsible for all programs and

activities of the Office of Nuclear Energy.

Dr. Lyons' luncheon presentation will be on "Current Issues in DOE's Nuclear Energy Programs". Dr. Lyons is also a returning panelist for the Thursday afternoon Session 118, The Blue Ribbon Commission on America's Nuclear Future Report – One Year Later, US and International Developments.

The Honorable Peter B. Lyons was sworn in as a Commissioner of the Nuclear Regulatory Commission on January 25, 2005 and served until his term ended on June 30, 2009. At the NRC, Dr. Lyons focused on the safety of operating reactors and on the importance of learning from operating experience, even as new reactor licensing and possible construction emerged.

He emphasized that NRC and its licensees remain strong and vigilant components of the Nation's integrated defenses against terrorism, and was a consistent voice for improving partnerships with international regulatory agencies. He emphasized active and forward-looking research programs to support sound regulatory decisions, address current issues and anticipate future ones. He was also a strong proponent of science and technology education, recruiting for diversity, employee training and development programs, and an open and collaborative working environment.

Monday, February 25 – Continued

From 1969 to 1996, Dr. Lyons worked in progressively more responsible positions at the Los Alamos National Laboratory. During that time he served as Director for Industrial Partnerships, Deputy Associate Director for Energy and Environment, and Deputy Associate Director-Defense Research and Applications.

While at Los Alamos, he spent over a decade supporting nuclear test diagnostics. Before becoming a Commissioner, Dr. Lyons served as Science Advisor on the staff of U.S. Senator Pete Domenici and the Senate Committee on Energy and Natural Resources where he focused on military and civilian uses of nuclear technology, national science policy, and nuclear non-proliferation. Dr. Lyons has published more than 100 technical papers, holds three patents related to fiber optics and plasma diagnostics, and served as chairman of the NATO Nuclear Effects Task Group for five years.

International Welcome Reception 5:00 PM – 6:00 PM Lower Level Exhibit Hall

Please join us for the **International Welcome Reception** in the Exhibit Hall. We are appreciative of our international delegates for their participation and contributions that make WM2013 a truly worldwide event. Traveling to Phoenix from nearly 40 countries, our attendees represent many ongoing and emerging markets. In keeping with WMS' mission of education and opportunity, participation of a number of these global delegates is sponsored by the IAEA and WMS.

Light hors d'oeuvres and refreshments will be served. This event is **sponsored by Westinghouse Electric Company.**

Student and Young Professionals Networking Reception 6:00 PM – 7:30 PM Room 106C



All students, young professionals and conference attendees looking to meet and mingle with the next generation are welcome at the **Student and Young Professionals Networking Reception**, just after the close of the International Welcome Reception. Here's your chance to meet our student attendees and find out more about the next generation of WM professionals.

National Museum of Nuclear Science & History Reception 6:30 PM – 7:30 PM Room 102BC

Please join WMS and the National Museum of Nuclear Science & History as they welcome local middle school science and math teachers to inform, excite and encourage them to participate in 2013 National Nuclear Science Week. A short discussion on the background and history of the museum as well as National Science Week will follow by a short reception and opportunity to network.

National Nuclear Science Week will be celebrated October 21 – 25, 2013 throughout the US with a week-long observation focused on local, regional and national interest on all aspects of nuclear science. Here's a great opportunity to learn more about the museum, public education of nuclear science and network with the next generation of the nuclear industry. Open to all WM2013 attendees!

For more information, visit www.nuclearscienceweek.org

Phoenix by Night Walking Tour - Blending the Old and New 7:00 PM – 10:00 PM

Please join us and explore some of the diverse, historical and cultural aspects of downtown Phoenix. Starting from the Hyatt, this newly created walking tour route will be led by the Downtown Phoenix Ambassadors and will visit several fascinating points of interest all within one square mile of the PCC such as the Hotel Palomar, St. Mary's Church, CityScape, The Westin Downtown and many more.

We will enjoy complimentary appetizers at a couple of our stops while listening to the stories of Phoenix from its time as an old west town to current day. We highly recommend wearing comfortable walking shoes for this tour.

The tour will be limited to the first 60 people and a nominal fee of \$15.00 will be charged.

Tuesday, February 26, 2013

Honors & Awards Luncheon

12:00 PM – 1:15 PM

Room 301CD

Join us at the Tuesday Honors & Awards Luncheon to honor the best presentations from the WM2012 conference, 2013 award winners and scholarship recipients. The luncheon is included with the purchase of a full technical registration.

For exhibitors and attendees who do not have a full technical registration, tickets can be purchased onsite for an additional cost of \$40.00 per ticket.

Best of Canada Reception

5:00 PM – 6:00 PM

Lower Level Exhibit Hall

Experience the **Best of Canada** at our evening reception in the Exhibit Hall. Our featured country for 2013 is Canada, so be sure to attend the panels and sessions taking place on Monday and Tuesday.



Tonight's reception, **sponsored by Atomic Energy of Canada Limited**, will feature some favorites from the Great White North. Enjoy items such as Atlantic Salmon Pinwheels, Tourtière Mini Beef Pies, Molson Beer, Beaver Tails and Nanaimo Bars! This is sure to be an evening enjoyed by all.

Women of Waste Management Networking Reception - Megatrends & Networking: Game Changers for Today's Professional Women

6:00 PM – 7:30 PM

Room 212BC

Megatrends are the tremendous forces in societal development that are impacting our lives every day and shaping what our environment will be in 10-15 years and beyond. Many forward-looking companies and organizations track and use megatrends in developing their business and marketing strategies to help them be more competitive in the future. Network organizing – or networking – has now risen to be considered one of the top 12 megatrends toward 2020. Networking isn't just socializing. It's building a framework of relationships among people with diverse experience yet linked by a chain of common interests. Network organizing is a megatrend because "networking" has become a central term that permeates our way of thinking – not just in communications, but in establishing better infrastructures, hastening globalization and increasing prosperity.

Sponsored by Fluor for the fourth year, this year's event brings together four women leaders from diverse backgrounds (government, small business, R&D, international agency) who will share their ideas on game-changing trends from their personal

perspectives. Join us for a stimulating discussion and an evening that will give you new insights to successful leadership in the future.

Four women leaders will share their views:

- **Alice Williams**, Associate Principal Deputy Assistant Secretary (US DOE)
- **Roxie Schescke**, President, Indian Eyes
- **Joan Miller**, VP & GM, Decommissioning & Waste, AECL Nuclear Laboratories
- **Beth Sellers**, Deputy Director, Los Alamos National Laboratory

Refreshments will be offered throughout the event with informal seating to foster conversation and encourage sharing ideas. The 30-minute panel session will be followed by a moderated 10-minute Q&A period. A 45-minute networking opportunity with the speakers and industry colleagues is an integral part of the evening. **This event is open to men and women - all WM2013 attendees are welcome!**

As with last year's event, in lieu of "logoed" items as giveaways, Fluor will make a \$25 donation to a woman-focused organization, Women for Wounded Warriors (www.womenforwoundedwarriors.com) on behalf of every person who attends the event. We are also pleased that Terri McNally and Lisa Hanlon, co-founders of the organization will join us for the evening (schedule permitting).

Wednesday, February 27, 2013

Rawhide Networking Event

6:30 PM – 10:00 PM

Rawhide Western Town and Steakhouse*



Hey Y'all! Come on out to experience the real Wild West! Join us for an evening of networking, dinner and cowboys at Rawhide Western Town and Steakhouse.

The event includes transportation, two drink tickets and all the food and fun you desire.

***Please note that this event is no longer included in a technical registration fee. You may purchase tickets onsite at the registration desk for \$90.**

Wednesday, February 27 – Cont.

Buses will pick up at the Monroe Street Exit at the Hyatt Regency Phoenix at 6:00 PM and the event will begin at 6:30 PM.

Now ya'll don't forget, the Wild West is a bit dusty and can get mighty chilly after that sun goes down. Please be sure to bring a light jacket and wear comfortable, close-toed shoes.

**If you have allergies to horses, animal hair or ranch related items, we suggest that you do not participate in the Rawhide event.*

Thursday, February 28, 2013

Panel Session 101
Waste Incidental to Reprocessing and Lessons Learned - EFCOG Workshop (Part 1 of 2)
8:30 AM – 12:00 PM **Room 102B**

Panel Session 117
Waste Incidental to Reprocessing and NDAA Section 3116 Lessons Learned - EFCOG Workshop (Part 2 of 2)
1:30 PM – 5:00 PM **Room 102B**

This all-day "Lessons Learned" workshop is jointly sponsored by EFCOG and WM2013. The session will explore the regulatory processes for disposal of waste incidental to reprocessing, review and approval of WIR Citations and Evaluations (US DOE O 435.1), review and approval of the Secretarial Waste Determinations in consultation with the US NRC under §3116 of the FY2005 National Defense Authorization Act, and subsequent closure of the HLW storage tanks. The interactions of the regulators' functions with the NRC's consultation/monitoring responsibilities under §3116 will be discussed.

The workshop will walk through the HLW systems and programs at each of the four US DOE sites that manage HLW (Hanford, Savannah River, West Valley and Idaho National Laboratory) and the complexities, similarities and differences at each site. Each site is in various stages of management of the HLW system and their interaction with their regulators and stakeholders. The requirements, laws and regulations at each will be explored and each of the regulatory bodies associated with each site will provide their insight as well as the US DOE and its Contractors.

All workshop participants are invited to relax and enjoy a drink while networking after the wrap-up of the afternoon session.

Program Advisory Committee (PAC)
Meeting and Luncheon
12:00 PM – 3:00 PM **Room 301A**

This conference wrap-up meeting and planning for WM2014 will be held at the PCC following the conclusion of the technical program. PAC Members were sent a separate invitation and agenda. Lunch will be provided. Contact Gary Benda, PAC Chair at GBenda@wmarizona.org for more information.

Panel Session 118
The Blue Ribbon Commission on America's Nuclear Future Report – One Year Later, US and International Developments
1:30 PM – 5:00 PM **Room 105B**

Co-Chairs: **Larry W. Camper**, US NRC; **George Dials**, B&W Conversion Services, LLC. (USA)
Lead Organizer: **Larry W. Camper**
Panel Reporter: **Chad Glenn**

The Blue Ribbon Commission filed their charter with Congress the week before WM2010 and conducted a comprehensive review of policies for managing the back end of the nuclear fuel cycle, including all alternatives for the storage, processing, and disposal of civilian and defense used nuclear fuel and nuclear waste. During WM2012 a Topical Workshop was held addressing the Blue Ribbon Commission Report which included seven high profile panelists involved with the Report and its recommendations.

By WM2013, it will be approximately one year since the President's Blue Ribbon Commission issued its report containing a number of recommendations to address the facility siting, storage and disposal of spent nuclear fuel.

While the BRC recommended creation of a Federal Corporation to be responsible, the US DOE is still the primary US Federal Agency implementing the recommendations.

During the past year, DOE responded with its own plans and this workshop will provide a forum to discuss America's path forward. There have also been a number of key actions taking place outside of the US in addressing the same issues. The session will provide the current status of those various worldwide activities and will consist of both US and non-US representatives, followed by an evening reception.

Invited panelists will include both US and International people and organizations addressing the BRC recommendations or addressing the important issues associated with the storage or disposal of HLW elsewhere around the world.

NETWORKING RECEPTION & DINNER AT RAWHIDE ON WEDNESDAY, FEBRUARY 27

“Rollin’, rollin’, rollin’, keep them doggies rollin’ Rawhide!”

Wednesday evening is the time to meet in a casual outdoor setting under the stars. This year, we are heading to Rawhide Western Town and Steakhouse, where the West is still Wild!

This authentic frontier town, celebrating 40 years of entertainment, is Arizona's largest western-themed attraction. Browse the specialty shops with everything from authentic western wear to Native American art to handmade jewelry to cowboy toys.

The town of Rawhide promises to deliver up a true western experience with western attractions, cowboy games and action-packed shows throughout town. Check out the Arizona Roughriders in the Six Gun Theater or enjoy action, laughs and a whole lot of fun at the shows at the Spirit of the West Theater. Take a ride back in time on the Butterfield Stagecoach or the Huntington Express Train to get a glimpse of good ol’ western transportation.



And, you’d better come hungry cause we’ve got a cowboy feast too good to resist! At Rawhide, yipee-kiyay never tasted so gourmet. Sample some tasty appetizers and when you hear the dinner bell, treat yourself to mesquite-broiled steaks, chicken and salmon served with all the fixin’s. Be sure to save room for dessert like homemade apple pie a la mode.

Please note, there is a separate fee for this event. You may purchase tickets onsite prior to the event at the WM registration desk for \$90. The event includes transportation, two drink tickets, and all the food and fun you desire, until the street lamps go dark. Then we’ll get y’all back on the buses and head on home for some shut-eye.

Buses will pick up at the Monroe Street Exit at the Hyatt Regency Phoenix at 6:00 PM and the event will begin with cocktails at 6:30 PM. Buses will return guests to the conference hotels beginning at 8:30 PM. The last bus will depart Rawhide at approximately 9:45 PM.

Now ya’ll don’t forget, the Wild West is a bit dusty and can get mighty chilly after that sun goes down. Please be sure to bring a light jacket and wear comfortable, close-toed shoes.

For more information on Rawhide, visit www.rawhide.com.

Please Note:

If you have allergies to horses, animal hair or ranch related items, we suggest that you do not participate in the Rawhide event.

CANADA

WM Symposium 2013

Atomic Energy of Canada Limited (AECL) is Canada's premier nuclear science and technology organization. AECL's Nuclear Environmental Stewardship Program comprises activities that are focused on addressing the Government of Canada's commitment to a clean and healthy environment. Many of these decommissioning and waste management activities occur across the country and are carried out through the Nuclear Legacy Liabilities Program, the Port Hope Area Initiative and the Low-Level Radioactive Waste Management Office.



Chalk River Laboratories
www.aecl.ca



Whiteshell Laboratories
www.nuclearlegacyprogram.ca



Port Granby Project

Port Hope Project



Canada-Wide
www.llrwm.org

FEATURED SESSIONS:

Monday & Tuesday – Featured Country – Canada

Tuesday – US DOE Featured Site – ID

Wednesday – US DOE Featured Sites –OH, NY & KY

Monday, February 25, 2013

WMS is proud to announce **Canada** as the featured country for WM2013.



Plenary Session
8:00AM – 9:45 AM

Room 301BC

Mr. Jonathan Will, Director General of Electricity Resources at Natural Resources Canada, will set the stage in his opening plenary session address on Monday morning.

This will be followed by two panel sessions and more than 40 papers and poster presentations throughout the conference, including a focus on the Port Hope Area Remediation Initiative. This is a wonderful opportunity to learn about Canada's recent developments and ambitious plans for the future.

Panel Session 3
Canadian Perspectives - Building Consensus with Potential Host Communities and the General Public
10:00AM – 12:00 PM **Room 105B**

This panel will discuss the status of Canada's challenges and successes in communicating with the general public on matters dealing with radioactive waste remediation and disposal. Key representatives will share their experiences and views.

Panel Session 13
Featured Country: Canada
1:30 PM – 5:00 PM **Room 102B**

This panel will focus on the status of Canada's sites and WM programs and policies. This session will provide an overview of its activities by Senior Managers.

Tuesday, February 26, 2013

Oral Session 43 - (Part 1 of 2)
Canada's Flagship Remediation Project: Overview of the Port Hope Area Initiative
10:15 AM – 12:00 PM **Room 106A**

Oral Session 54 - (Part 2 of 2)
Canada's Flagship Remediation Project: Getting the Job Done in Port Hope and Port Granby
1:30 PM – 5:00 PM **Room 106A**

The Port Hope Remediation Area Initiative - Canada's flagship remediation project will be presented in a dedicated two part session, providing overview and technical perspectives on the cleanup of historic low-level radioactive wastes generated by the former Eldorado Nuclear Limited.

Panel Session 50
US DOE Featured Site: Idaho
1:30 PM - 5:00 PM **Room 102B**

This session will have two sequential panels and will focus on the US DOE Idaho Site and the fulfillment of the Idaho Cleanup Project (ICP) mission through people, partnerships and innovation. The two panels will present the history and significant accomplishments achieved in cleaning up the Idaho Site and how the cleanup successes enable the future nuclear energy mission of the Idaho National Laboratory.

Wednesday, February 27, 2013

Panel Session 69
US DOE Featured Site: West Valley, NY
10:15 AM – 12:00 PM **Room 104AB**

This panel focuses on the challenges and successes in decommissioning the West Valley site as well as the management of LLW, waste incidental to reprocessing and management of HLW. The discussion will include consideration of Phase I and Phase II decommissioning at the site and the related segmented environmental impact statement along with stakeholder perspectives in addressing this very complex site being decommissioned under the West Valley Demonstration Project Act of 1981.

Panel Session 88
US DOE Featured Site: Lexington, KY Office (Portsmouth, OH and Paducah, KY Sites)
3:15 AM – 5:00 PM **Room 103AB**

This panel will focus on the developments and successes of the US DOE Lexington office. The office manages US DOE activities at the Portsmouth, OH and Paducah, KY sites and their clean-up efforts.

CONTRACTING SESSIONS & YOUNG PROFESSIONALS

CONTRACTING SESSIONS

For WM2013, four business and contracting sessions will discuss upcoming opportunities and administrative issues in the waste management industry.

SPECIAL NOTE TO EXHIBITORS

These sessions are open to all attendees including Exhibitors without a Technical registration badge who may attend at no additional cost.

Panel Session 51B
Addressing the Small Business Barriers in Contracting with the US DOE
Tuesday 3:15 PM - 5:00 PM Room 104B

This panel will focus on the barriers for small businesses in contracting with the US DOE. In 2012, the US DOE has increased its small businesses contracting goal from 6% to 10%. The US DOE only receives credit as a prime contractor when subcontracting to these small businesses. During a declining US federal budget, with less contracting dollars and more going for base prime contractor services, these goals are challenging. This panel will interact extensively with the audience in listening and discussing methods to achieve these goals and barriers that need to be mitigated.

Panel Session 65
US DOE Procurement and Contracting Opportunities
Wednesday 8:30 AM - 10:10 AM Room 102B

This panel will look at how US DOE and NNSA have integrated project management principles into the overall procurement process. The panel will highlight lessons learned and best practices over the past year that have been developed and are being implemented across the complex with the objective to streamline the acquisition process.

Panel Session 66
Procurement and Contracting Opportunities with US DOE Prime Contractors
Wednesday 10:15 AM - 12:00 PM Room 102B

This panel will focus on small business procurement/contracting opportunities within the US DOE Complex. US DOE encourages prime contractors to obtain goods and services from small businesses, often tying these goals to contract award fees. In April 2012, the Secretary of Energy increased the Department's small business goal from 6% to 10% of US DOE's prime contracting dollars. Panel members will discuss what their company is doing to identify

additional scope to meet US DOE's increased small business goal.

Panel Session 98
Legal Lessons for Small Contractors
Wednesday
3:15pm - 5:00pm Room 106C

This session focuses on legal issues related to small business federal contractors. Using case studies, keen insight, and edgy humor, our panelist will address SBA/VA ownership and control rules, teaming and affiliation, joint ventures, bonding assistance, limits on subcontracting, cost accounting and audits, protests and appeals and dispute resolution. This no-nonsense, high-energy short course on doing things right and avoiding self-inflicted wounds will arm attendees with the information they need to recognize legal boundaries and distinguish themselves in the competitive federal marketplace.



YOUNG PROFESSIONALS

WMS is proud to offer opportunities for students and young professionals from around the world. Sessions & events geared towards the future leaders include:

Student Posters - Session 31: The Next Generation - Industry Leaders of Tomorrow
Monday 1:30 PM - 5:00 PM Exhibit Hall

Be sure to visit the Student Posters display on Monday afternoon and vote for your selection for Best Student Poster. The winner will receive \$500 cash at the Tuesday Honors and Awards Luncheon. **Pacific Northwest National Laboratory** has been kind enough to donate to the Student Support Fund which helps to allow these students to participate.

SCHOLARSHIPS, HONORS AND AWARDS

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 12:00 PM.

This luncheon is included in the Full Technical and Daily Technical registration fees. Add-on tickets are available for Exhibitors and Guests; please see the Registration Fees page for more information.

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. The Roy G. Post Foundation is a 501c3 tax-deductible foundation dedicated to education in the safe management of nuclear materials.

The 2012-2013 scholarship recipients are:

Graduate Awards - \$5,000

Chad Durrant, Pennsylvania State University
Shanna Estes, Clemson University
Ivan Fast, RWTH Aachen University, Germany
Roger Kapsimalis, University of Texas at Austin
Leslie Kerby, University of Idaho
Benjamin Lindley, University of Cambridge
Matthew Over, UC Berkeley
Hayata Shinmura, Graduate School of Engineering, Tohoku University, Japan

Undergraduate Awards - \$2,500

Shona Draper, Univ. of Ontario Institute of Technology, Canada
Kevin Kronvall, University of Washington
Paul Rose, Jr., Georgia Institute of Technology
David Zwick, Georgia Institute of Technology

Best Oral Presentations

At each conference, WMS recognizes the two best oral presentations/papers. In order to honor high quality presentations, the American Nuclear Society (ANS) and the American Society of Mechanical Engineers (ASME) presents an award for the Best Presentations/Papers.

The "*Best Oral Presentations Awards*" from last year's WM2012 Conference will be presented at the Tuesday luncheon. They are:

ANS Award – Best Oral Presentation/Paper “Technical and Policy Challenges in Deep Vadose Zone Remediation of Metals and Radionuclides”. Presented by **Dawn Wellman**, Kirk Cantrell, Mark Freshley, Michael Truex, Pacific Northwest National Laboratory; **Evan Dresel**, Future Farming Systems Research Division (USA). Session 76, Abstract 12025. (Session Lead Organizer: Kurt Gerdes).

ASME Award – Best Oral Presentation/Paper “Impact Analyses and Tests of Metal Cask Considering Aircraft Engine Crash”. Presented by **Sanghoon Lee**, Woo-Seok Choi, Ki-Young Kim, Ki Seog Seo, Korea Atomic Energy Research Institute (Korea). Session 37, Abstract 12308. (Session Lead Organizer: Olaf Oldiges).

Best Poster Presentations

In order to honor high quality presentations/papers, the American Nuclear Society (ANS) and the American Society of Mechanical Engineers (ASME) also present awards for the Best Poster/Paper.

Judges select the poster/paper based on technical quality and preparation of the work as described in the guidelines as well as attendee judging forms. Each track selects the best poster/paper which are then displayed and re-judged on Wednesday afternoon for the best of the conference. These awards are presented to the recipients at the next WM conference, WM2014.

The "*Best Poster Awards*" from last year's WM2012 Conference will be presented at the Tuesday luncheon. The recipients are:

ANS Award – Best Poster Presentation/Paper: “Surface Decontamination Using Laser Ablation Process”. **Fabrice Moggia**, **Xavier Lecardonnell**, **Frederique Damerval**, AREVA (France). Abstract 12032; from Track 6 – D&D

ASME Award – Best Poster Presentation/Paper: “Transport of Organic Compounds in Old Salvage Yard, Oak Ridge, TN”. **Siamak Malek-Mohammadi**, **Georgio Tachiev**, **David Roelant**, Florida International University; **Kent Bostick**, **Anamary Daniel**, Pro2Serve (USA). Abstract 12089; from Track 7 - ER

WMS/ASME Sarge Ozker Award

Named in honor of M. Sacid (*Sarge*) Ozker and established in 1980, this award is bestowed for distinguished service and eminent achievement in the commercialization of nuclear power/energy with particular emphasis in the field of radioactive waste management. It is presented by the Nuclear Engineering Division - Radwaste Systems Operating Committee of ASME.

The 2013 Sarge Ozker Award recipient is **Virgil R. Autry, State of South Carolina, Retiree.**

James A. Glasgow Scholarship

This WM Symposia scholarship is given in recognition of the contributions of James Glasgow, Esq. for his support of WMS, and is designed to assist a second or third-year law student who demonstrates a meaningful interest in environmental law.

The 2013 James A. Glasgow Scholarship recipients are **Jacob M. Kavkewitz** and **Brian J. Tedder**, University of Arizona, James E. Rogers College of Law.

WMS /Wendell D. Weart Lifetime Achievement Award

Named in honor of Wendell D. Weart, the WMS Lifetime Achievement Award recognizes the long-term commitment of the recipient to solving major nuclear waste challenges, which may include education, research, public policy, or implementation of solutions for managing nuclear wastes, and whose actions have contributed to the resolution of significant nuclear waste management issues.



The 2013 WMS Lifetime Achievement Award, sponsored by Sandia National Laboratories, is presented to **Jack McElroy, Consultant.**

Program Advisory Committee Award

WMS has established the Program Advisory Committee (PAC) Award to annually recognize an individual whose outstanding contributions have helped make and keep the annual Waste Management Conference the world's premier technical conference on the management and disposal of nuclear waste.

The first WMS PAC Award was given to Dr. Mort Wacks at WM03, in recognition of his significant contributions in establishing and maintaining the Waste Management technical conference.



The 2013 WMS Program Advisory Committee Award recipient is **Lance Mezga, Oak Ridge National Laboratory.**

WMS Fellow Award

Newly established, WMS established the honor of WMS Fellow in 2011 to recognize volunteers for distinguished contributions to the advancement of radioactive waste and radioactive material management.

Elevation to the status of WMS Fellow is attained through peer recognition and confirmation by the WMS Board of Directors.

The 2013 Fellow Award Recipients are:

- **Gary Benda**, *Bartlett Services, Inc.*
- **Ned Bibler**, *Consultant*
- **Erich Evered**, *Jacobs*
- **William T. Gregory III**, *Vinculum Marketing*
- **Lawrence Harmon**, *Project Enhancement Corp.*
- **Paul Macbeth**, *US DOE*
- **Lance Mezga**, *Oak Ridge National Laboratory*
- **James W. Voss**, *Predicus, LLC*

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 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. In 2013, the Foundation awarded twelve scholarships to students.

WMS will be selling raffle tickets during the evening receptions in the Exhibit Hall starting on Sunday evening and at the Registration Desk for the Roy G. Post Foundation's Fundraising Raffle.

Raffle tickets are just \$10 each or five for \$40. For more information about the Roy G. Post Foundation, please visit www.roygpost.org.

GUEST AND ATTENDEE TOURS AND ACTIVITIES

*Last day to register for tours and activities is Friday, February 15, 2013, unless otherwise noted.

Saturday, February 23, 2013

Day Tour of Grand Canyon, Sedona & the Navajo Nation

7:00 AM – 8:00 PM **\$130.00/pp**

The day begins with a scenic drive through the Sonoran Desert to Sedona. Here guests will have a chance to photograph the famous red rocks and stretch their legs. Next, we'll pass through Oak Creek Canyon, a scenic byway that winds through 2,000 vertical feet of red-walled canyons to emerge in a Ponderosa Forest.

While at the South Rim of the Grand Canyon National Park, guests will enjoy a three-hour guided tour with lunch and an opportunity to walk the rim, shop, or just relax with a view. We'll also explore a 30-mile section of road that winds along the rim of the canyon.

Returning to Phoenix from the canyon, we will enjoy views of the Navajo Nation and Painted Desert, with a stop at an authentic Navajo Trading Post. The tour includes lunch, National Park entry fees and bottled water.

Sunday, February 24, 2013

Sonoran Desert Guided Hike

9:30 AM – 1:30 PM **\$50.00/pp**

Located in the East Valley, the Scottsdale McDowell Sonoran Preserve has a number of award-winning hiking trails to choose from.

More than just a nature walk, the exploratory hikes (we will split into multiple groups for the day) are designed for individuals of all fitness levels. Walk beneath towering Saguaros, witness breathtaking views of the city of Scottsdale and Camelback Mountain, capture photographs of the wildlife, geology, and flowers while listening to the fascinating stories from the knowledgeable tour guides.

Healthy trail snacks and bottled water will be provided along with all entry and permit fees and a First Aid/CPR Certified Guide.

Hikers will be required to sign a Waiver of Liability while on the vehicle.

Comfortable athletic shoes or hiking shoes are required. No flip flops or loose fitting footwear is permitted. Guests are strongly urged to wear a hat, sunglasses and sunscreen.

Monday, February 25, 2013

Old Town Scottsdale Lunch

& Shopping Day

10:00 AM – 4:00 PM **\$60.00/pp**

Take a walk through the historic Old Town Scottsdale and get a flavor of the old west. Wooden sidewalks and rustic traditions are preserved as you tie your horse to each shop's hitching post. Browse the many quaint stores that line the streets of Old Town and you'll find a mix of traditional Western-wear retailers, Southwestern specialty shops, art galleries and cultural attractions. We will also head over to a wonderful shopping mall nearby, so you can find some great goodies to take home with you!

Guests will be transported via Ollie the Trolley and accompanied by a certified Arizona guide who will provide great information on the area and answer any questions you may have. A tasty lunch at a unique Old Town restaurant will be included in the price of the tour.



Phoenix by Night Walking Tour – Blending the Old and New

7:00 PM – 10:00 pm **\$15.00/pp**

With last year's walking tour success, please join us again to explore some of the diverse, historical and cultural aspects of downtown Phoenix. Starting from the Hyatt, this newly created walking tour route will be led by the Downtown Phoenix Ambassadors and will visit several fascinating points of interest all within one square mile of the PCC such as the Hotel Palomar, St. Mary's Church, CityScape, The Westin Downtown and many more.

We will enjoy complimentary appetizers at a couple of our stops while listening to the stories of Phoenix from its time as an old west town to current day. We highly recommend wearing comfortable walking shoes for this tour.

Tuesday, February 26, 2013
Phoenix Suns vs. Minnesota Timberwolves
6:15 PM – 10:30 PM **\$55.00/pp**



Come join us and watch the Phoenix Suns take on the Minnesota Timberwolves at 7:00 pm. We will depart from the Hyatt Regency Downtown lobby at 6:15 pm, and will walk as a group to the US Airways Arena.

The seats for this game will be located behind the net, somewhere near the 8th row. Each ticket will include a souvenir Suns jersey, as well as a \$10 dollar food voucher to use while at the game. You won't want to miss this!

Wednesday, February 27, 2013
Cooking Class at Les Gourmette
10:00 AM – 1:30 PM **\$75.00/pp**
***Last day to register for this activity is February 8, 2013. If the minimum number of guests needed for this activity is not met, activity may be cancelled.**



Here's your chance to cook authentic Southwestern Cuisine on state of the art equipment at Les Gourmette, a locally owned culinary treasure in the heart of Phoenix. Chef Barbara Fenzl is a member of the James Beard Restaurant Award committee, as well as a cookbook author and television host. While she is a woman of many talents, her first love has always been teaching!

Our morning will start with an amazing cooking demonstration of techniques, and will then lead into a three course, five-recipe meal, with wine pairing.

Important Tour Information

Pre-registration for tours is highly recommended, you may register onsite if space is still available. All tours depart from the Monroe Street exit of the Hyatt Regency Phoenix.

Boarding time is 15 minutes prior to scheduled departure. Be sure to pack a jacket, hat, sunscreen and your camera. Please refrain from wearing perfumes as some guests may be sensitive.

The Guest Program is organized by WMS and provided by Detours of Arizona, Arizona Outback Adventures and other vendors. WM Symposia reserves the right to cancel any tour or activity not reaching the minimum number of participants.

Guest Program Activities

Stop by to see old friends and meet new from around the world. We'll have information available from the Phoenix Convention & Visitors Bureau daily to help you plan your day.

The Guest Program includes a light continental breakfast at the Hyatt Regency Phoenix, Monday through Thursday from 8:00 am – 10:00 am and the evening receptions on Sunday, Monday and Tuesday in the Exhibit Hall.

The registration fee is just \$75 prior to the December 31st Early Bird deadline.

**Please note that the Wednesday evening event or reception drinks are not included in the Guest Program Registration fee.*

Additional Resources

Below you will find additional resources to help you enjoy your stay in Phoenix.

Greater Phoenix Convention and Visitors Bureau
www.visitphoenix.com

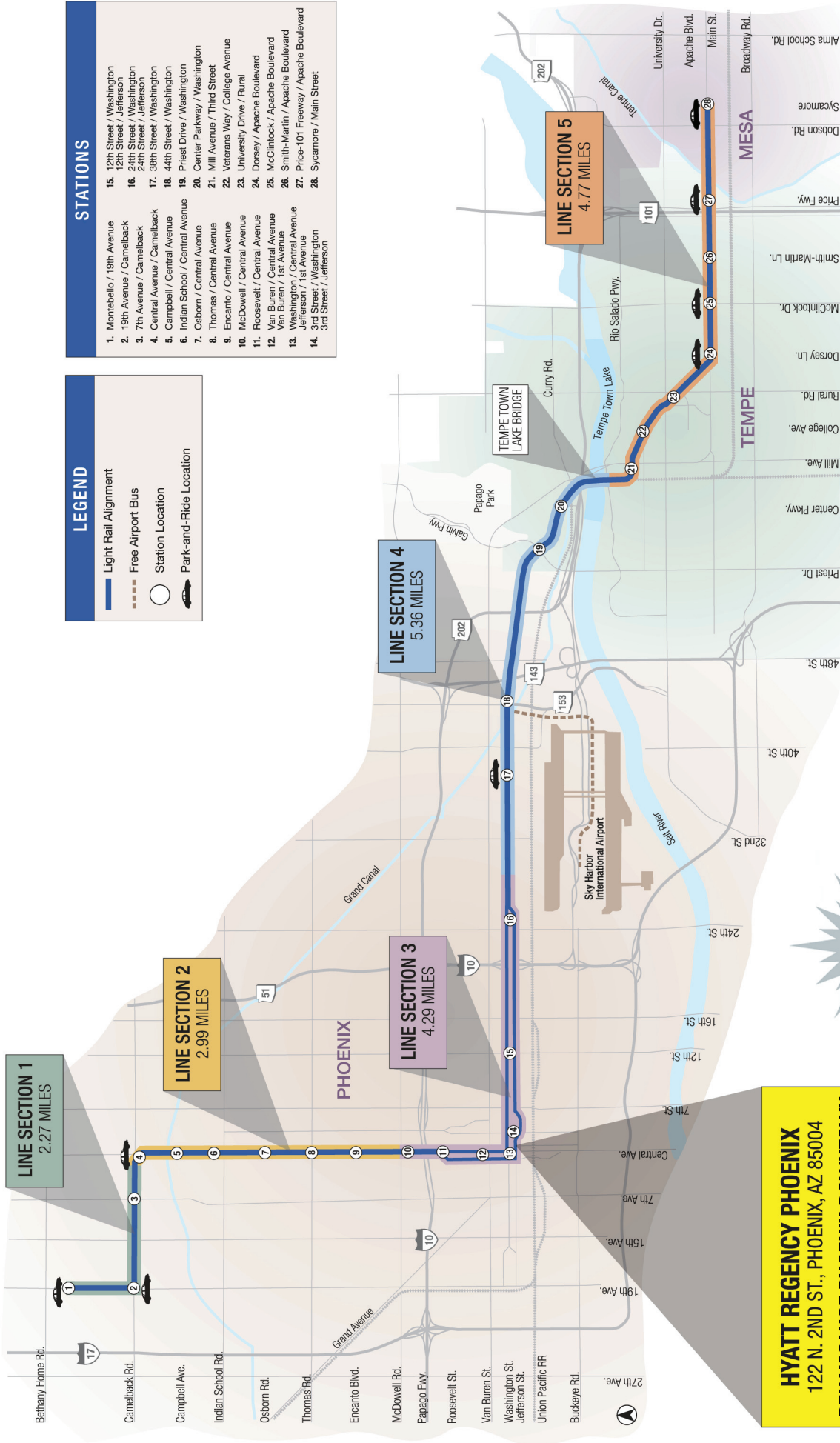
Downtown Phoenix Partnership
www.downtownphoenix.com/directory

Official Webpage for the State of Arizona
www.az.gov

National Weather Service
<http://www.wrh.noaa.gov>

Phoenix Convention Center
www.ci.phoenix.az.us/CIVPLAZA/plazaidx.html

Phoenix Metro Light Rail | Light Rail Line Map



LEGEND

- Light Rail Alignment
- Free Airport Bus
- Station Location
- Park-and-Ride Location

STATIONS

1. Montebello / 19th Avenue
2. 19th Avenue / Camelback
3. 7th Avenue / Camelback
4. Central Avenue / Camelback
5. Campbell / Central Avenue
6. Indian School / Central Avenue
7. Osborn / Central Avenue
8. Thomas / Central Avenue
9. Encanto / Central Avenue
10. McDowell / Central Avenue
11. Roosevelt / Central Avenue
12. Van Buren / Central Avenue
13. Washington / Central Avenue
14. 3rd Street / Washington
15. 12th Street / Washington
16. 24th Street / Washington
17. 38th Street / Washington
18. 44th Street / Washington
19. Priest Drive / Washington
20. Center Parkway / Washington
21. Mill Avenue / Third Street
22. Veterans Way / College Avenue
23. University Drive / Rural
24. Dorsey / Apache Boulevard
25. McClintock / Apache Boulevard
26. Smith-Martin / Apache Boulevard
27. Price-101 Freeway / Apache Boulevard
28. Sycamore / Main Street

HYATT REGENCY PHOENIX
122 N. 2ND ST., PHOENIX, AZ 85004

RENAISSANCE PHOENIX DOWNTOWN
50 E. ADAMS ST., PHOENIX, AZ 85004

PHOENIX CONVENTION CENTER
111 N. 3RD ST., PHOENIX, AZ 85004



PHOENIX CONVENTION CENTER

Walking & Parking Guide



WM2013 HOTELS

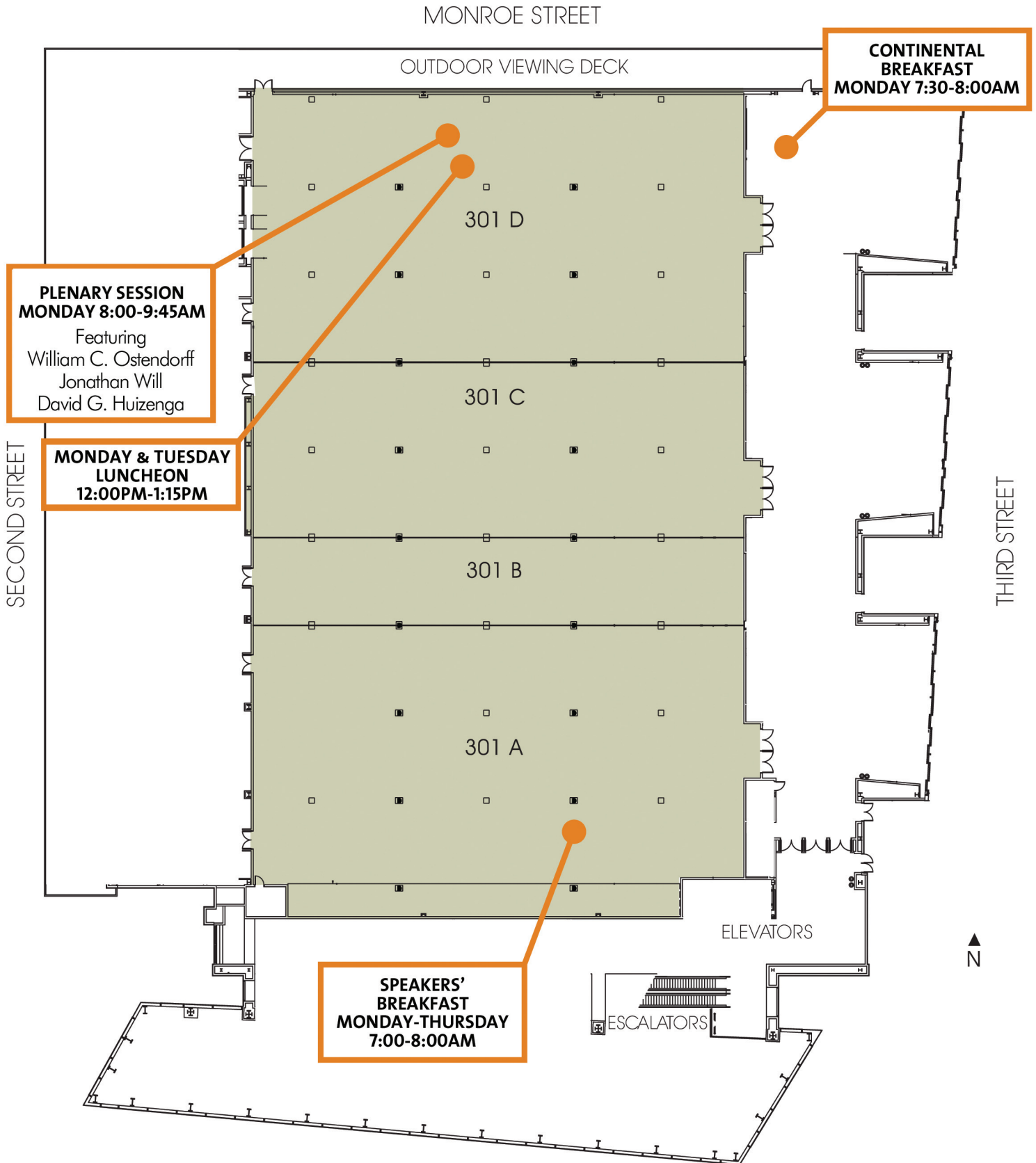
- Hyatt Regency Phoenix** • 122 North 2nd Street • Phoenix, AZ 85004 • (602) 252-1234
- Renaissance Phoenix Downtown** • 50 East Adams Street • Phoenix, AZ 85004 • (602) 333-0000
- Holiday Inn Express** • 620 North 6th Street • Phoenix, AZ 85004 • (602) 452-2020
- Radisson Hotel Phoenix Airport North** • 427 North 44th Street • Phoenix, AZ 85008 • (602) 220-4400
- Hilton Suites** • 10 East Thomas Road • Phoenix, AZ 85012 • (602) 222-1111

LEGEND

- P** Parking Garages
- ▶** Parking Garage Entrance
- M** Metro Station

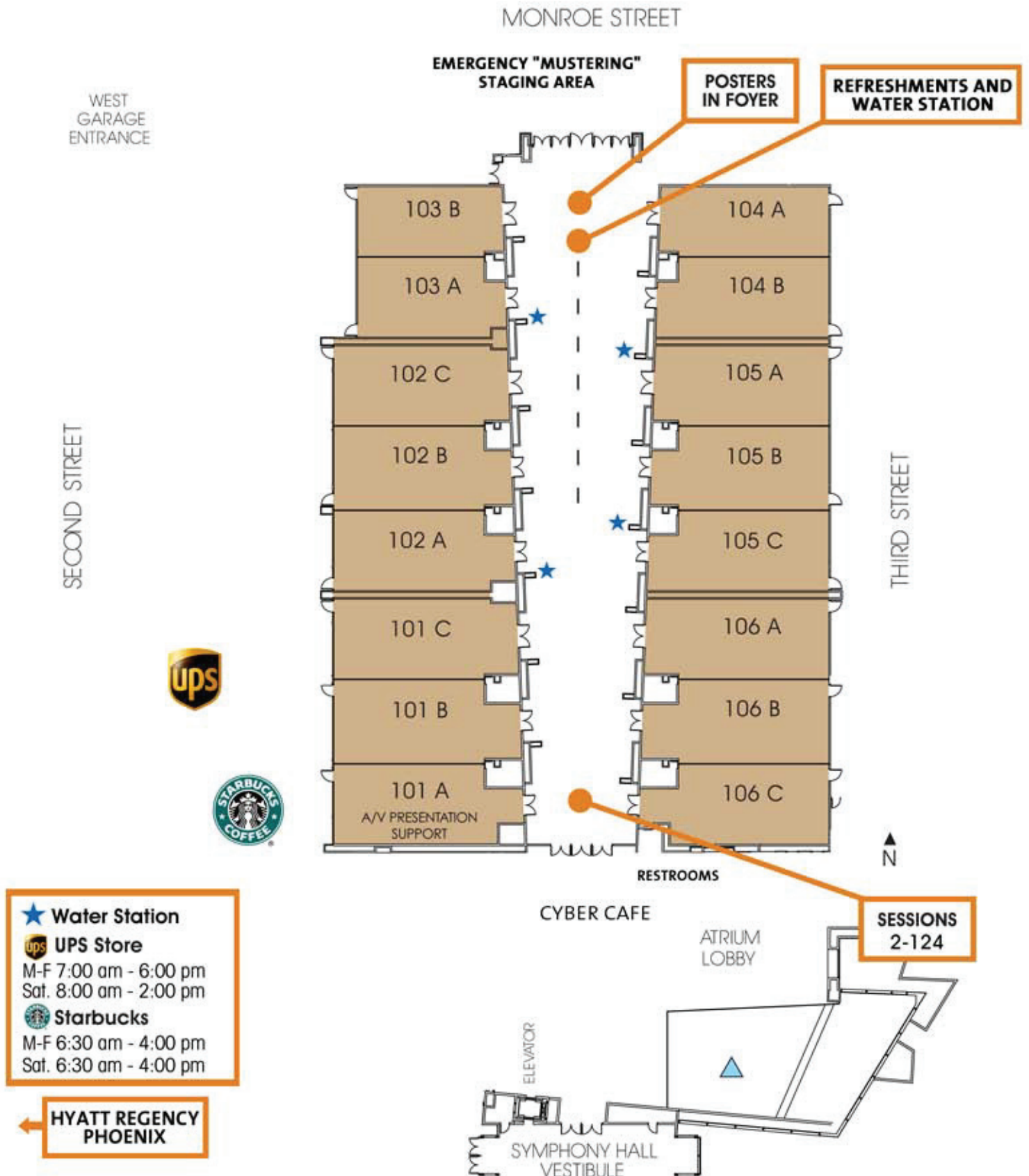
PHOENIX CONVENTION CENTER

West Building | West Ballroom | 300 Level



PHOENIX CONVENTION CENTER

West Building | 100 Level | Street Level



PHOENIX CONVENTION CENTER

West Building | Exhibit Hall | Lower Level

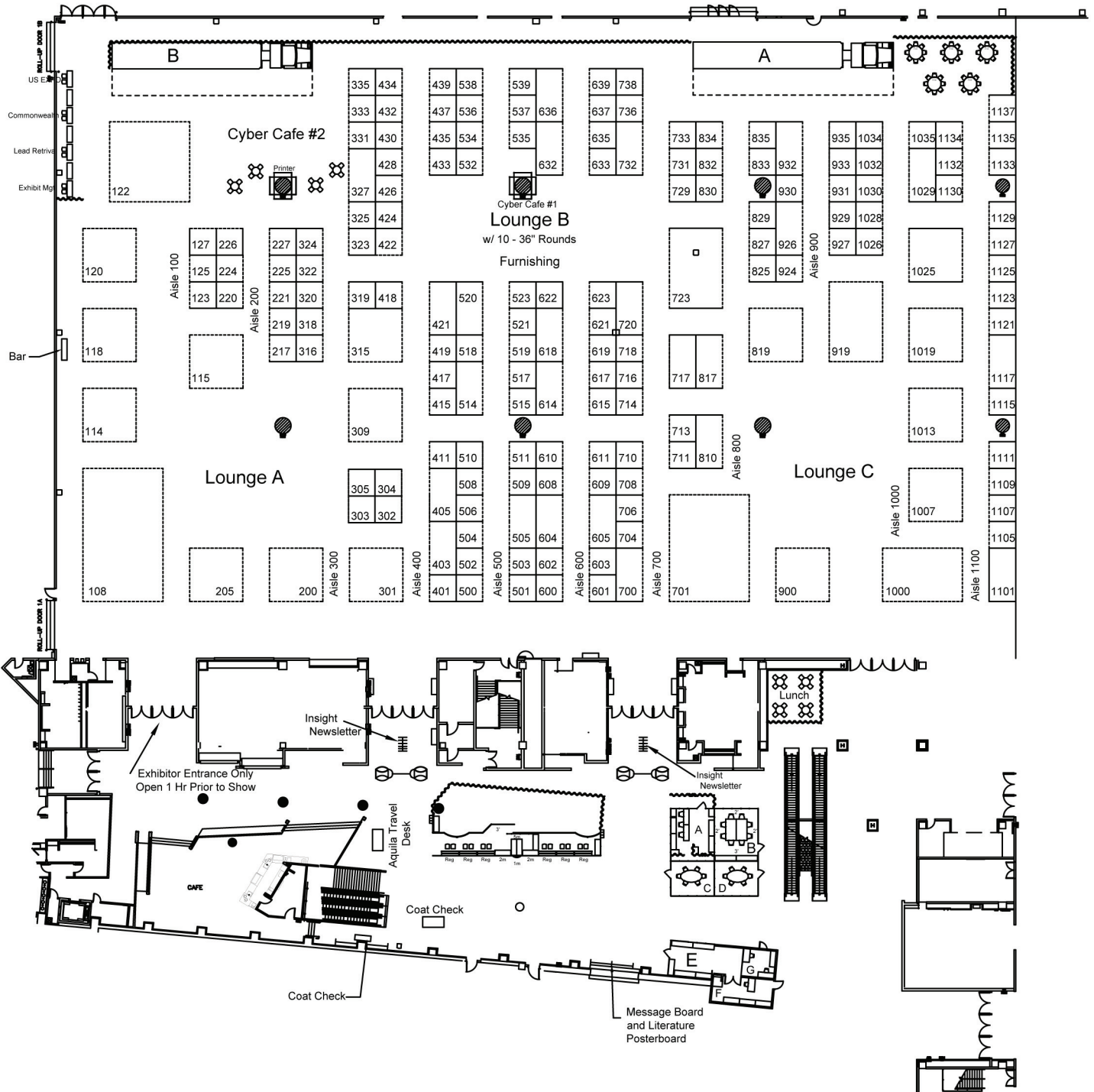


EXHIBIT HALL HOURS	
SUNDAY, February 24, 2013	5:00 PM - 8:00 PM
MONDAY, February 25, 2013	8:30 AM - 6:00 PM
TUESDAY, February 26, 2013	9:00 AM - 6:00 PM
WEDNESDAY, February 27, 2013	9:00 AM - 1:30 PM

WM2013 Comprehensive List of Acronyms

** Acronyms are US unless noted otherwise*

A

ACRS Advisory Committee on Reactor Safety
ADA Americans with Disabilities Act
AEA Atomic Energy Agency or the Atomic Energy Act of 1954
AECL Atomic Energy of Canada Limited*
AFCEE Airforce Center for Engineering and the Environment
AFR Away-From-Reactor Storage
ALARA As Low As Reasonably Achievable
ANDRA Agence nationale pour la gestion des déchets radioactifs (France)*
ANL Argonne National Laboratory
ANS American Nuclear Society
ARM Accelerator-Produced Radioactive Material
ASME American Society of Mechanical Engineers
ASTM American Society for Testing Materials

B

BNL Brookhaven National Laboratory
BRC Below Regulatory Concern or Blue Ribbon Commission on America's Nuclear Future
BTP NRC Branch Technical Position
BWR Boiling Water Reactor

C

CE&T Public Communication, Participation, Education & Training
CEA Commissariat à l'Énergie Atomique (France)*
CERCLA Comprehensive Environmental Response, Compensation and Liability Act
CNSC Canadian Nuclear Safety Commission*
CFR Code of Federal Regulations
CH-TRU Contact-Handled Transuranic Radioactive Waste
CPP Crosscutting Policies & Programs

D

DAS Deputy Assistant Secretary
DAW Dry Activated Waste
DCS Dry Container Storage
D&D Decontamination & Decommissioning
DNFSB Defense Nuclear Facility Safety Board
DOD US Department of Defense
DOE US Department of Energy
DOT US Department of Transportation
DU Depleted Uranium
DWPF Defense Waste Processing Facility

E

EC European Commission*
EDF Electricité de France (France)*
EFCOG Energy Facilities Contractors Group
EIS Environmental Impact Statement
EM Environmental Management
ENEA National Agency for New Technologies, Energy and Environment (Italy)*

EPA US Environmental Protection Agency
EPRI Electric Power Research Institute
ER Environmental Remediation
EU European Union*
ES&H Environment, Safety & Health

F

FUSRAP Formerly Utilized Sites Remedial Action Program

G

GAO United States Government Accountability Office
GIS Geographical Information System
GNEP Global Nuclear Energy Partnership
GTCC Greater Than Class C Low-Level Radioactive Waste

H

H&S Health and Safety
HEPA High Efficiency Particulate Air
HEU Highly Enriched Uranium
HLW High-Level Radioactive Waste

I

IAEA International Atomic Energy Agency (Austria)*
ICRP International Commission on Radiological Protection
IFNEC International Framework for Nuclear Energy Cooperation *
ILW Intermediate Level Radioactive Waste
INL Idaho National Laboratory
IPAC International Program Advisory Committee
IPSN Institute de Protection et de Sureté (France)*
ITRC Interstate Technology Roundtable Commission

J/K

JAEA Japan Atomic Energy Agency (Japan)*
KAERI Korea Atomic Energy Research Institute (Korea)*

L

LAW Low-Activity Radioactive Waste
LANL Los Alamos National Laboratory
LBL Lawrence Berkeley National Laboratory
LCA Life-cycle Assessment
LEU Low Enriched Uranium
LL/ILW Low- and Intermediate-Level Radioactive Waste
LLNL Lawrence Livermore National Laboratory
LLRW/LLW Low-Level Radioactive Waste
LLRWMO Low-Level Radioactive Waste Management Office (Canada)*
LM Office of Legacy Management, US DOE
LSA Low Specific Radioactive Activity
LTM Long Term Monitoring
LWR Light-Water Reactor

M

M&I Management & Integration
M&O Management & Operation
MRS Monitored Retrievable Storage
MW Mixed Hazardous and Radioactive Wastes

N

NAGRA National Cooperative for the Disposal of Radioactive Waste (Switzerland)*
NCRP National Council on Radiation Protection
NDA Nuclear Decommissioning Authority (UK)* or Non-Detectable Activity
NDAA National Defense Authorization Act of 2005
NEA Nuclear Energy Agency (France)*
NEI Nuclear Energy Institute
NEPA National Environmental Policy Act of 1969
NFDI National Facility Disposition Initiative
NNSA National Nuclear Security Administration
NNSS Nevada National Security Site
NORM Naturally Occurring Radioactive Material
NPP Nuclear Power Plant
NRC US Nuclear Regulatory Commission
NTS Nevada Test Site
NWMO Nuclear Waste Management Organization (Canada)*
NWPA Nuclear Waste Policy Act of 1982
NWPAA Nuclear Waste Policy Amendments Act of 1987
NWTRB Nuclear Waste Technical Review Board

O

OECD Organization for Economic Cooperation & Development (France)*
OPG Ontario Power Generation Inc.*
ORNL Oak Ridge National Laboratory

P

PA Performance Assessment
PAC Program Advisory Committee
PCC Phoenix Convention Center
PFP Plutonium Finishing Plant
PHAI Port Hope Area Initiative (Canada)*
PNNL Pacific Northwest National Laboratory
PM Particulate Matter or Project Manager
PRA Probabilistic Risk Analysis
PROC People's Republic of China*
PWR Pressurized Water Reactor

Q

QA Quality Assurance
QAPP Quality Assurance Program Plan
QC Quality Control

R

R&D Research and Development
RCRA Resource Conservation and Recovery Act of 1976
RDD Radiological Dispersion Devices

R,D&D Research, Development and Demonstration
RH-TRU Remote-Handled Transuranic Radioactive Waste
RI/FS Remedial Investigation/Feasibility Study
ROK Republic of Korea*
RPV Reactor Pressure Vessel

S

SAR Safety Analysis Report
SARP Safety Analysis Reports for Packaging
SFEN Société Française d'Énergie Nucléaire (France)*
SKB Swedish Nuclear Fuel and Waste Management Company*
SNF Spent Nuclear Fuel
SNL Sandia National Laboratories
SNM Special Nuclear Material
SPAs Special Packaging Authorizations
SPRU US DOE Separations Process Research Unit
SRNL Savannah River National Laboratory
SRS Savannah River Site
SRW Solid Radioactive Waste
ST Special Topics including Security, Safety & Safeguards
SVE Soil Vapor Extraction

T

TENORM Technologically-Enhanced Naturally Occurring Radioactive Material
TER – US NRC Technical Evaluation Report
TRU Transuranic (elements with atomic number > than 92)
TRUPACT Transuranic Waste Package Transporter
TSD Treatment Storage and Disposal

U

UK United Kingdom
US/USA United States of America
USACE US Army Corps of Engineers
USAF US Air Force
UNF Used Nuclear Fuel

W/Y

WAC Waste Acceptance Criteria
WD Waste Determination
WERC Waste-management Education & Research Consortium
WIPP Waste Isolation Pilot Plant
WIR Waste Incidental to Reprocessing
WM Waste Management
WMS Waste Management Symposia, Inc.
WRAP Waste Receiving and Processing
WS Wet Storage
WTP Waste Treatment Plant at Hanford
WVDP West Valley Demonstration Project
WVDPA West Valley Demonstration Project Act
YM Yucca Mountain

Track List with Related Sessions

The WM Technical Program is organized by volunteers in nine Tracks. Listed below are the descriptions of these tracks and the sessions organized for WM2013.

1 - CROSSCUTTING POLICIES AND PROGRAMS (CPP)

This Track includes overall crosscutting policies and major programs. Similar topics that are not Track crosscutting and thus specific to a single waste type (e.g. HLW, SNF, LLW, etc.) or program (e.g. ER, D&D, etc.) will be presented in the specific Track for that waste type or program. Presentations of waste management programs and policies at the national, multi-national and international level are particularly encouraged. Other potential crosscutting or general topics include crosscutting regulatory issues, contracting, legal aspects, permitting (licensing) and compliance activities, criteria and standards development, privatization issues, legislation, US Price-Anderson Act, Paris Conventions, enforcement agency and state issues (including multiparty agreements), interface, and other high level crosscutting issues that involve multiple waste types/programs or Tracks.

Sessions related to this Track: 1, 2, 5, 13, 14, 15, 16, 31, 32, 33, 34, 35, 36, 50, 51A, 51B, 53, 65, 66, 68, 69, 81, 83, 85, 86, 88, 98, 100, 101, 111, 117, 118

2 - HIGH-LEVEL RADIOACTIVE WASTES (HLW), SPENT/USED NUCLEAR FUEL (SNF/UNF), AND LONG-LIVED ALPHA/TRANSURANIC RADIOACTIVE WASTE (TRU)

This Track covers all long-lived alpha/TRU waste, SNF and HLW operations from generation and storage through characterization, treatment and disposal. It also covers associated technology development and deployment; recycling/reprocessing strategies and technologies; periodic progress updates oriented to specific achievements in waste removal and disposal activities, and overlapping issues including: interim and final disposition strategies for SNF and HLW, associated environmental permitting and monitoring of stored waste, waste processing alternatives, waste form, deep geologic disposal and operating facility performance and risk assessment, and the impacts of directly associated regulations and standards.

Sessions related to this Track: 6, 7, 12, 19, 22, 23, 24, 30A, 30B, 30C, 30D, 30E, 37, 38, 39, 47, 55, 56, 57, 58, 70, 71, 91, 92, 93, 102, 104, 105, 116, 122

3 - LOW-LEVEL WASTE (LLW), INTERMEDIATE LEVEL WASTE (ILW), MIXED WASTE (MW), BY PRODUCT MATERIAL, TENORM, NORM RESIDUES & DEPLETED URANIUM

The LLW, ILW, MW (radioactive & hazardous), Naturally Occurring Radioactive Material (NORM) and Technologically Enhanced NORM (TENORM) Track encompasses: Operations from generation through treatment and disposal; Technology development, demonstration, and deployment; Overlapping issues including waste minimization, waste characterization and analysis, effluent monitoring, waste form and facility performance assessment, regulations and standards; and for all types of facilities from hospitals, accelerators, research reactors, government facilities, disposal sites, etc. This Track covers waste management of uranium or thorium ores as well as "Greater than Class C - LLW", byproducts or tailings, NORM residues and waste, and TENORM. This track also includes radioactive materials, articles and consumer products. (NPP operational waste is covered in Track 4. TRU and similar alpha waste is covered in Track 2.)

Sessions related to this Track: 8, 9, 17, 18, 21, 27, 47, 48, 49A, 49B, 49C, 49D, 49E, 52, 59, 67, 75, 79, 84, 87, 90, 94, 95, 99, 106, 107, 114, 121, 123

4 - NUCLEAR POWER PLANT (NPP) WASTE MANAGEMENT

The Nuclear Power Plant (NPP) Waste Management Track encompasses waste characterization and minimization, treatment, packaging and management of NPP operational wastes and NPP SNF storage and management.

Sessions related to this Track: 40, 41, 60, 76, 77, 80A, 89, 90, 123, 124

5 - PACKAGING AND TRANSPORTATION (PAT)

The Packaging and Transportation Track includes all activities and issues related to the safe, secure, and economical packaging and transportation of radioactive materials. This includes HLW, TRU, LLW, ILW and MW; fresh and irradiated nuclear fuel; contaminated media and debris; isotopes and radioactive sources; uranium hexafluoride, etc. Topic areas include: International regulatory activities, issues, and initiatives; packaging development and related issues; logistics and transportation operations, including large items from decommissioning; integrated planning and scheduling; status and issues for large shipping campaigns; and stakeholder and public interactions and issues.

Sessions related to this Track: 6, 45, 67, 80B, 84, 99, 116, 121

6 - DECONTAMINATION & DECOMMISSIONING (D&D)

This Track includes all aspects of D&D from shutdown and planning to license termination and/or greenfield, including characterization, decontamination, dismantling, demolition, waste handling, final survey, and associated new technology development for both government and commercial nuclear power and non-power facilities. It also includes decommissioning technologies and program strategies worldwide, as well as the regulatory aspects.

Sessions related to this Track: 4, 27, 44, 60, 78, 80C, 80D, 82, 87, 90, 108, 123, 124

7 - ENVIRONMENTAL REMEDIATION (ER)

This Track includes all activities associated with the assessment, cleanup, and closure of contaminated sites. The topics will explore how to restore and protect human health and the environment through investigation, cleanup, closure, and long-term site management. The focus is on above and below ground remedial actions and cleanup activities including site inspection, characterization and evaluation; sampling and analysis; compliance monitoring; resolving regulatory issues that impact cleanup; aquifer and soil remediation; managing waste resulting from cleanup activities; remedial design and implementation; accelerating cleanup through technological or process improvements; closure; sustainable green remediation processes and legacy management/long-term stewardship.

Sessions related to this Track: 3, 4, 10, 11, 25, 26, 42, 43, 54, 64A, 64B, 64C, 64D, 64E, 73, 74, 79, 82, 96, 97, 103, 109, 110, 121

8 - COMMUNICATION OF TECHNICAL ISSUES AND IMPACTS, EDUCATION AND TRAINING (CE&T)

This Track is divided into multiple diverse topics including techniques for communicating technical issues, education and training, social justice and equity, intergovernmental and sustainability issues, knowledge management, public involvement and risk communications, preserving cultural resources while demolishing aging facilities and infrastructure. This Track incorporates a broad range of issues that shape decisions involving waste management, including cultural, equity, social, environmental, policy, communications, training and education. This Track also addresses environmental assessment issues (Environment Impact Statements) in the context of National Environmental Policy regulations.

Sessions related to this Track: 3, 28, 29, 61, 62, 63, 64F, 72, 113, 119

9 - SPECIAL TOPICS AND MULTI-TRACK CROSS CUTTING TECHNOLOGY TOPICS (ST)

This Track includes all Special Topics including the aspects of US and non-US International Safety, Security, and Safeguards and US Homeland and international security issues. It also includes technical track crosscutting topics or special WM topics on programs associated with orphan and sealed sources, Integrated Risk Management, modeling, compliance activities, criteria and standards development, Natural Resource damage Assessment (NRDA), technology deployment, instruments, filtration, advanced technologies, extreme environment operations enabling technologies, technology driven program implications and drivers, and/or other technical crosscutting issues that involve multiple waste forms or radioactive materials.

Sessions related to this Track: 12, 19, 20, 30G, 46, 47, 67, 79, 99, 100, 103, 112, 114, 115, 120, 121, 122

#	Technical Program - Schedule at a Glance - Annotated Session Titles <i>(for full session titles, please see individual listing)</i>	Time	Room	1: Policies/Programs	2: HLW/SNF/TRU	3: L/ILW, NORM	4: Nuclear Power Pl.	5: Packag./Trans.	6: D&D	7: Environ. Rem.	8: Commun., E & T	9: Special Topics	Canada Presentations	WIR Topical Sessions
Monday Morning, February 25				The 9 WM Tracks for Subject Reference										
1	WM2013 Symposium Plenary Session	8:00	301BC	X									X	
2	Panel: Hot Topics in US DOE Environmental Management	10:00	102B	X										
3	Panel: Canadian Perspectives - Building Consensus with Potential Host Communities	10:00	105B							X	X		X	
4	Panel: Fukushima D&D (Part 1 of 4)	10:00	104AB						X	X				
5	Worldwide WM Regulatory and Oversight Crosscutting Programs (Part 1 of 3)	10:00	103AB	X										
6	Strategies for Used Nuclear Fuel	10:00	102A		X			X						
7	HLW Reprocessing Evaluations	10:00	101C		X									
8	Operating Experience in the Treatment and Storage of LLW, ILW, MW	10:00	105C			X							X	
9	LL/ILW Characterization (Part 1 of 3)	10:00	106A			X								
10	Integrating Sustainability Principles into Site Closure and Reuse	10:00	106B							X				
11	Technical Innovations in ER and Site Closure (Part 1 of 2)	10:00	106C							X				
12	Subsurface Mass Transport and Environ. Assessment of Geological Disposal	10:00	101B		X								X	
Monday Afternoon, February 25														
13	Panel: Featured Country - Canada	1:30	102B	X										X
14	Panel: Policy Makers' Perspectives on §3116 Waste Determination and WIR	1:30	103AB	X										X
15	Panel: Recent Successes with the Waste Incidental to Reprocessing Processes	3:15	103AB	X										X
16	Panel: Future Vision: A View of What the US DOE Complex Will Look Like in 2020	1:30	104AB	X										
17	Panel: Hot Topics and Emerging Issues in US Commercial LLRW	1:30	105B			X								
18	Selected Key Topics in Commercial LLW Management	3:20	105C			X								
19	Subsurface Mass Transport and Environ. Assessment of Geological Disposal	1:30	105C		X								X	
20	Panel: Culture - The Linchpin for Safety	3:15	105B										X	
21	LL/ILW Characterization (Part 2 of 3)	1:30	102A			X								X
22	Integrated HLW System Planning - Policies and Programs	1:30	101C		X									
23	Special Material Recovery from SNF/HLW	1:30	101B		X									
24	Advanced Fuel Cycle Development/Process and Equipment Improvement	3:15	101B		X									
25	Groundwater Remediation Process	1:30	106B							X				
26	Technical Innovations in ER and Site Closure (Part 2 of 2)	1:30	106C							X				
27	Waste Optimization/Minimization During D&D	3:15	106C			X		X						
28	Communication of Technical Issues	1:30	106A								X			
29	Panel: The Effectiveness of Advisory Boards; the US DOE - EM Experience	3:15	106A								X			
30	Posters: HLW, SNF/UNF and Long-lived Alpha TRU; Special Topics	1:30	Foyer		X							X	X	
31	Student Posters: Industry Leaders of Tomorrow	1:30	Exh. Hall	X										
Tuesday Morning, February 26														
32	Panel: US DOE Support for Fukushima Cleanup Efforts (Part 2 of 4)	8:30	102B	X										
33	Panel: Progress in Implementing US Support to Japan (Part 3 of 4)	10:15	102B	X										
34	Panel: Emerging Issues that Challenge Traditional Contractor Roles at US & International Sites	8:30	105B	X										
35	Worldwide WM Regulatory and Oversight Crosscutting Programs (Part 2 of 3)	8:30	102A	X										X
36	Issues Related to Waste Incidental to Reprocessing (WIR)	10:15	102A	X										X
37	Panel: Used Nuclear Fuel and HLW from National and International Perspectives	8:30	103AB		X									
38	Panel: Realigning TRU Disposal Priorities in the Aftermath of New Mexico's Wildfire	10:15	103AB		X									
39	Geologic Disposal (Part 1 of 2)	8:30	101C		X									
40	Panel: NPP WM - LLW Disposal Issues	8:30	104AB				X							
41	Panel: NPP WM - LLW Processors' Issues	Aft #40	104AB				X							
42	Experiences in ER of Radioactivity Contaminated Sites in Urban and Suburban Areas	10:15	106A							X			X	
43	Canada's Flagship Remediation Project: The Port Hope Area Initiative (Part 1 of 2)	8:30	106A							X			X	
44	D&D of Nuclear Contaminated Facilities	8:30	106B					X					X	
45	Operational Challenges and Lessons Learned for RM Packaging and Transportation	8:30	106C				X							
46	Advances in Nuclear Safety Management	8:30	105C									X	X	

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Tuesday Morning (Continued), February 26														
47	Crosscutting Performance Assessments, Risk Management, & Modeling (Part 1 of 2)	10:15	105C		X	X						X		
48	Emerging Treatment Technologies for LLW, ILW, MW, NORM and TENORM	8:30	101B			X								
49	Posters: LLW, ILW, MW, NORM and TENORM	8:30	Foyer			X							X	
Tuesday Afternoon, February 26														
50	Panel: US DOE Featured Site: Idaho	1:30	102B	X										
51A	Panel: Update on International Framework for Nuclear Energy Cooperation (IFNEC)	1:30	104AB	X										
51B	Panel: Addressing the Small Business Barriers in Contracting with the DOE	3:15	104AB	X										
52	Panel: US DOE Mixed Waste Disposition: Dealing with Reduced ARRA Funding	1:30	105B			X								
53	Panel: US DOE/Energy Facility Contractors Group (EFCOG) Review	3:15	105B	X										
54	Canada's Flagship Remediation Project: Port Hope and Port Granby (Part 2 of 2)	1:30	106A							X			X	
55	Spent Nuclear Fuel - Dry Storage Issues	1:30	101C		X									
56	International Developments in SNF/UNF Management	3:15	101C		X								X	
57	Geologic Disposal (Part 2 of 2)	1:30	102A		X									
58	Advances in HLW Form Development, Qualification and Production	1:30	101B		X									
59	Performance of Disposal Systems, Facilities and Sites for LLW, ILW, MW and NORM	1:30	106C			X								X
60	D&D of Nuclear Power Plants	1:30	106B				X		X					
61	Engaging Citizens - Lessons Learned from Around the World	1:30	105C								X		X	
62	Panel: Graduating Students and New Engineers - Their Wants and Needs	1:30	103AB								X			
63	Panel: Young Professionals	Aft #62	103AB								X		X	
64	Posters: ER; CE&T	1:30	Foyer							X	X		X	
Wednesday Morning, February 27														
65	Panel: US DOE Procurement and Contracting Opportunities	8:30	102B	X										
66	Panel: Procurement and Contracting Opportunities with US DOE Prime Contractors	Aft #65	102B	X										
67	Panel: IAEA Session on the Management of Disused Sealed Sources (Part 1 of 3)	8:30	103AB			X		X				X		
68	Panel: Regulatory Challenges and Innovations Related to US DOE Sites	8:30	104AB	X										X
69	Panel: US DOE Featured Site: West Valley, NY	10:15	104AB	X										X
70	Panel: International Deep Repository Progress	8:30	105B		X									
71	HLW/Tank Waste Immobilization Process Testing	8:30	105C		X									
72	The Stakeholder's Voice - Involvement on Issues Related to WIR Issues at SRS	10:15	105C								X			X
73	US FUSRAP and Other USACE ER Projects	8:30	106A							X				
74	Environmental Remediation Progress Towards Closure of Contaminated Sites	8:30	106B							X				
75	Regulatory and Programmatic Issues and Solutions for LLW, ILW, MW and NORM	8:30	106C			X								
76	Management of Nuclear Power Plant Dry Waste	8:30	102A				X							
77	Nuclear Power Plant Material Characterization and Onsite SNF/UNF Storage	10:15	102A				X							
78	Application of Innovative D&D Technologies	8:30	101C						X					
79	Crosscutting Performance Assessments, Risk Management, & Modeling (Part 2 of 2)	8:30	101B			X				X		X		
80	Posters: NPP; PAT; D&D	8:30	Foyer				X	X	X					
Wednesday Afternoon, February 27														
81	Panel: UK/USA Partnering - Accomplishments and Lessons Learned	1:30	102B	X										
82	Panel: Contract Transition: Dounreay's Interim End State	3:15	102B						X	X				
83	Worldwide Perspectives of Radioactive WM - Challenges and Solutions	1:30	102A	X									X	
84	Roundtable: WM Energy Facilities Contractor Operating Group (EFCOG)	1:30	106A			X		X						
85	Panel: Worldwide Regulatory Challenges of Radioactive Legacy Sites - (Part 1 of 2)	1:30	105B	X										
86	Panel: Worldwide Regulatory Challenges of Radioactive Legacy Sites - (Part 2 of 2)	Aft #85	105B	X										
87	Panel: Characterization & Survey for Decommissioning and Waste Management	1:30	103AB			X			X					
88	Panel: US DOE Featured Site: Lexington, KY Office (Portsmouth and Paducah sites)	3:15	103AB	X										
89	Management of Nuclear Power Plant Liquid and Wet Waste	1:30	101C				X							
90	Fukushima NPP Liquid Waste and Processing (Part 4 of 4)	3:15	101C			X	X		X					

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Wednesday Afternoon (Continued), February 27														
The 9 WM Tracks for Subject Reference														
91	Progress in HLW and TRU Retrieval	1:30	101B		X									X
92	Advancements in HLW Closure	3:15	101B		X									X
93	Innovative Solutions to Complex Plutonium & TRU Issues	1:30	105C		X									
94	Waste Certification, Acceptance and Disposal for LLW/ ILW	1:30	106B			X								
95	Pollution Prevention/Waste Minimization for LLW, ILW, MW and TENORM	3:15	106B			X								
96	Innovative Field Monitoring for Environmental Remediation	1:30	104A							X				
97	Subsurface Characterization and Remediation	1:30	106C							X				
98	Roundtable: Legal Lessons for Small Contractors	3:20	106C	X										
99	Worldwide Management of Sealed Sources, HEU and Orphan Material (Part 2 of 3)	1:30	104B			X	X					X		
100	Non-Paper Poster Session for Emerging Issues	1:30	Foyer	X								X		
Thursday Morning, February 28														
101	Panel: WIR and Lessons Learned - EFCOG Workshop (Part 1 of 2)	8:30	102B	X										X
102	Panel: The Future of Consent-Based SNF/HLW Disposal Siting and the Alternatives	8:30	105B		X									
103	Panel: Recent Developments and Trends in Integrated Risk Assessment Methods	8:30	103AB							X		X		
104	US DOE Tank Farm Aspects of HLW Retrieval	8:30	102A		X									
105	Enabling Technologies for HLW Retrieval	10:15	102A		X									
106	The US & Canadian Uranium Industry - Current Topics and Issues	8:30	101B			X								X
107	LL/ILW Characterization (Part 3 of 3)	10:15	101B			X								
108	D&D of US DOE Facilities	8:30	101C						X					
109	ER Challenges - Alternative Approaches to Achieving End State	8:30	106B							X				
110	ER Post Closure Challenges and Long Term Stewardship/Legacy Management	8:30	106A							X				
111	Worldwide WM Regulatory and Oversight Crosscutting Programs (Part 3 of 3)	8:30	104A	X										X
112	Project Management Improvements - Planning through Completion	10:15	104A									X	X	
113	Information Communication Tech., Knowledge Management, and Other Approaches	8:30	105C							X				
114	Worldwide Management of Sealed Sources, HEU and Orphan Material (Part 3 of 3)	8:30	106C			X						X		
115	Crosscutting Filtration Systems in the Nuclear Industry	10:15	106C									X		
116	Management, Planning, Testing, and Regulation for Spent Fuel Transportation	8:30	104B		X		X							
Thursday Afternoon, February 28														
117	Panel: WIR and NDAA §3116 Lesson Learned - EFCOG Workshop (Part 2 of 2)	1:30	102B	X										X
118	The Blue Ribbon Commission on America's Nuclear Future Report – One Year Later, US and International Developments	1:30	105B	X										
119	Early Communication and Involvement in Deployment of Advanced Technologies	1:30	101C							X				
120	Project Management Improvements - Planning through Completion	1:30	101B									X		
121	Radiological Dispersion Devices and Other Nuclear Weapons of Mass Destruction	1:30	106B			X	X	X	X		X			
122	Will There Be A Thorium Fuel Cycle?	1:30	102A		X							X		
123	Graphite & Decommissioning of Graphite Containing Reactors	1:30	106A			X	X	X						
124	Innovative D&D Technologies	3:15	106A				X	X						
Friday Morning and Afternoon, March 1														
N/A	NRC Public Meeting, Changes to NRC's Uniform LLW Manifest Guidance	8:00	Sheraton Phoenix Downtown Hotel, Phoenix A Room			X	X	X				X		

Sessions are subject to change. Please check signage onsite at the conference session room and onsite errata sheet.

February 25, Monday AM

Session 1**8:00 AM - 9:45 AM Room 301BC****Panel: WM Symposium Plenary Session**

Co-Chairs: **Fred Sheil**, *Sheil Consulting, Ltd.* (United Kingdom); **James Gallagher**, *Gallagher Consulting*
 Lead Organizer: **Fred Sheil**
 Add'l Organizers: **James Voss, Gary Benda, Jim Fiore**
 Panel Reporter: **Jim Fiore**

The WM2013 Plenary session will feature government and industry world leaders speaking on the pressing issues facing radioactive waste management in 2013 and beyond from around the world.

Panelists include: William C. Ostendorff, *Commissioner, US NRC*; **Jonathan Will**, *Director General of Electricity Resources, Natural Resources Canada*; and **David G. Huizenga**, *Senior Advisor for the US DOE – Office of Environmental Management*.

Session 2**10:00 AM - 12:00 PM Room 102B****Panel: Hot Topics in US DOE Environmental Management**

Co-Chairs: **James Gallagher**, *Gallagher Consulting*; **Martin Schneider**, *Exchange Monitor Publications*
 Lead Organizer: **Jim Fiore**
 Add'l Organizers: **Gary Benda, Mark Gilbertson**
 Panel Reporter: **Linda Lehman**

This panel will include senior managers speaking on the pressing issues facing US DOE sites. Senior managers will update the attendees on what has transpired over the last year and provide detailed information on the future US DOE-EM goals and objectives.

Panelists include: Alice Williams, *Associate Principal Deputy Assistant Secretary (DAS)*; **Mark Gilbertson**, *DAS for Site Restoration*; **Kenneth Picha**, *DAS for Tank Waste and Nuclear Material*; **Frank Marciniowski**, *DAS for Waste Management*; **Matthew Moury**, *DAS for Safety, Security and Quality Programs*; **Jack Surash**, *DAS for Acquisition and Project Management*; and **Melody Bell**, *Assistant DAS for Human Capital and Corporate Services (US DOE)*.

Session 3**10:00 AM - 12:00 PM Room 105B****Panel: Canadian Perspectives/Building Consensus with Potential Host Communities and the General Public**

Co-Chairs: **Tjalle "Chuck" Vandergraaf**, *Consultant*; **Christine Fahey**, *Atomic Energy of Canada Limited (Canada)*
 Lead Organizer: **Christine Fahey**
 Add'l Organizer: **Tjalle "Chuck" Vandergraaf**
 Panel Reporter: **Nina Baba**

This panel will discuss the status of Canada's challenges and successes in communicating with the general public on matters dealing with radioactive waste remediation and disposal. Key representatives will share their experiences and views.

Panelists include: Heather Kleb, *Acting President and Chief Executive Officer of the Canadian Nuclear Association, Regulatory Affairs, Canadian Nuclear Association*; **Jo-Ann Facella**, *Director of Social Research and Dialogue, Nuclear Waste Management Organization*; **Linda Thompson**, *Mayor, Municipality of Port Hope*; and **Larry Kraemer**, *Mayor, Municipality of Kincardine (Canada)*.

Session 4**10:00 AM - 12:00 PM Room 104AB****Panel: Fukushima D&D (Part 1 of 4)**

Co-Chairs: **Rick Dearholt**, *Consultant*; **Angie Jones**, *AMEC*
 Lead Organizer & Panel Reporter: **Rick Dearholt**
 Add'l Organizers: **Jas Devgun, Al Freitag**

This panel will focus on the progress made in recovery efforts and D&D associated with the incident at the Fukushima Dai-ichi NPP that effected the surrounding area. This is the first of four sessions discussing the status of cleanup efforts. Last year, Japan was the featured country at WM2012. These sessions will update the WM attendees on the year's accomplishments and future goals and challenges.

Panelists include: Masumi Ishikawa, *General Manager, Nuclear Fuel Cycle Department, Tokyo Electric Power Company (Japan)*; **Steve Rima**, *VP Radiological Services & Engineering, AMEC*; and **Kurt Kehler**, *VP Nuclear Liabilities D&D Program Manager, CH2M HILL*.

Session 5

10:00 AM - 12:00 PM Room 103AB

Worldwide WM Regulatory and Oversight Crosscutting Programs (Part 1 of 3)

Co-Chairs: **Ray Clark**, *US EPA*; **Malgorzata K. Sneve**, *Norwegian Radiation Protection Authority (Norway)*

Lead Organizer: **Ray Clark**

Add'l Organizers: **Christopher Timm**, **Malgorzata K. Sneve**

Paper Reviewer: **Christopher Timm**

10:05 Safety-Related Activities of the IAEA for Radioactive Waste, Decommissioning and Remediation - 13473

Pil-Soo Hahn, *Magnus Vesterlind, IAEA (Austria)*

10:30 Early Regulatory Engagement for Successful Site Remediation - the UK Experience - 13173

Ryan Maitland, *David Senior, Office for Nuclear Regulation (United Kingdom)*

10:55 The Environmental Protection Agency's Safety Standards for Disposal of Spent Nuclear Fuel: Potential Path Forward in Response to the Report of the Blue Ribbon Commission on America's Nuclear Future - 13388

Betsy Forinash, *Daniel Schultheisz, Thomas Peake, US EPA*

11:20 Are We Serious in the US about the Disposal of HLW? - 13561

Robert Neill, *New Mexico Environmental Evaluation Group*

Session 6

10:00 AM - 12:00 PM Room 102A

Strategies for Used Nuclear Fuel

Co-Chairs: **John Gregory**, *AREVA Federal Services*; **Edward Ketusky**, *Savannah River Remediation, LLC*

Lead Organizer: **Keith Miller**

Paper Reviewer: **John Gregory**

10:05 Categorization of Used Nuclear Fuel Inventory in Support of a Comprehensive National Nuclear Fuel Cycle Strategy - 13575

John Wagner, *Joshua Peterson, Don Mueller, Jess Gehin, Andrew Worrall, Oak Ridge National Laboratory; Temitope Taiwo, William Nutt,*

Mark Williamson, Argonne National Laboratory; Mike Todosow, Brookhaven National Laboratory; Roald Wigeland, Idaho National Laboratory; William Halsey, Lawrence Livermore National Laboratory; Ronald Omberg, Pacific Northwest National Laboratory; Peter Swift, Sandia National Laboratories; Joe Carter, Savannah River National Laboratory

10:30 Nuclear Industry Input to the Development of Concepts for the Consolidated Storage of Used Nuclear Fuel - 13411

Ivan Thomas, *Chris Phillips, Steven McNiven, EnergySolutions; Gary Lanthrum, NAC International*

10:55 Integrated System for Retrieval, Transportation and Consolidated Storage of Used Nuclear Fuel in the US - 13312

Catherine Shelton, *William Bracey, Jayant Bondre, AREVA Transnuclear; Robert Edmonds, AREVA Federal Services, LLC*

11:20 Used Fuel Management System Interface Analyses - 13578

Robert Howard, *Ingrid Busch, Oak Ridge National Laboratory; William Nutt, Edgar Morris, Francesc Puig, Argonne National Laboratory; Thomas Cotton, Complex Systems Group LLC; Ernest Hardin, Elena Kalinina, Sandia National Laboratories; Joe Carter, Philip Rodwell, Savannah River National Laboratory; Alexcia Delley, Savannah River Nuclear Solutions; Robert Clark, US DOE*

Session 7

10:00 AM - 12:00 PM Room 101C

HLW Reprocessing Evaluations

Co-Chairs: **Keith Miller**, *National Nuclear Laboratory (United Kingdom)*; **Sal Golub**, *US DOE*

Lead Organizer: **Bernard Vigreux**

Add'l Organizers: **John Gregory**, **Robert Jubin**

Paper Reviewer: **Keith Miller**

10:05 Improving the Estimates of Waste from the Recycling of Used Nuclear Fuel - 13410

Chris Phillips, *William Willis, Robert Carter, EnergySolutions; Stephen Baker, National Nuclear Laboratory (United Kingdom)*

10:30 Waste Estimates for a Future Recycling Plant in the US Based Upon AREVA Operating Experience - 13206

Sven Bader, *Don McGee, Paul Murray, AREVA Federal Services, LLC; Genevieve Foare, Florian Meze, AREVA SGN (France); Pascal Prud'Homme, Frederic Bailly, TOUR AREVA (France)*

10:55 Impact of Storage Time on the Needed Capture Efficiency for Volatile Radionuclides - 13369

Robert Jubin, Germina Ilas, Oak Ridge National Laboratory; Nick Soelberg, Idaho National Laboratory; Denis Strachan, Pacific Northwest National Laboratory

11:20 Recovery and Blend-Down of Uranium for Beneficial Use in Commercial Reactors - 13373

Virginia Magoulas, Savannah River National Laboratory

Session 8

10:00 AM - 12:00 PM Room 105C

Operating Experience in the Treatment and Storage of LLW, ILW, MW, NORM and TENORM

Co-Chairs: **Andreas Roth**, AMR German Products & Services GmbH (Germany); **Linda Beach**, Consultant

Lead Organizer: **Linda Beach**

Add'l Organizer: **Paul Larsen**

Paper Reviewer: **Hans-Juergen Steinmetz**

10:05 The Low-Level Radioactive Waste Management Office: Thirty Years of Experience in Canada - 13308

Robert Zelmer, Mark Gardiner, Atomic Energy of Canada Limited (Canada); Liliana Benitez, Natural Resources Canada (Canada)

10:30 Radioactive Waste Management and Nuclear Facility Decommissioning Progress in Iraq - 13216

John Cochran, Sandia National Laboratories; Fouad Al-Mousawi, Emad Shamsaldin, Hadi Jassim, Iraq Ministry of Science and Technology (Iraq)

10:55 Studies, Transport and Treatment Concept for Boiler from Berkeley NPP, England - 13599

Joe Robinson, Dave Saul, Gavin Davidson, Studsvik UK Ltd (United Kingdom); Bo Wirendal, Studsvik Nuclear AB (Sweden)

11:20 Handling Radioactive Waste from the Accelerator Facility at Paul Scherrer Institute (PSI) - Always Surprising? - 13320

Joachim Mueth, Paul Scherrer Institute (Switzerland)

Session 9

10:00 AM - 12:00 PM Room 106A

LL/ILW Characterization (Part 1 of 3)

Co-Chairs: **Frazier Bronson**, Canberra Industries Inc - AREVA Group; **Lance Mezga**, Oak Ridge National Laboratory

Lead Organizer & Paper Reviewer: **Frazier Bronson**

Add'l Organizers: **Heinz Kroeger**, **Dale Bignell**, **Lance Mezga**

10:05 Design Study of an Incinerator Ash Conveyor Counting System - 13323

Henrik Jäderström, Frazier Bronson, Canberra Industries Inc - AREVA Group

10:30 A Single Tower Configuration of the Modular Segmented Gamma Box Counter System - 13392

Kara Morris, Dante Nakazawa, James Francalangia, Hiram Gonzalez, Canberra Industries Inc - AREVA Group

10:55 A Method for Optimizing Waste Management and Disposal Practices Using a Group-Based Uncertainty Model for the Analysis of Characterization Data - 13191

Alan Simpson, Randy Lucero, Martin Clapham, John West, Pajarito Scientific Corporation (United Kingdom)

11:20 A Mobile Automated Tomographic Gamma Scanning System - 13231

John Kirkpatrick, Paul LeBlanc, Dante Nakazawa, D. Petroka, Susan Smith, Ram Venkataraman, Marcel Villani, Canberra Industries Inc - AREVA Group

Session 10

10:00 AM - 12:00 PM Room 106B

Integrating Sustainability Principles into Site Closure and Reuse

Co-Chairs: **Susan A. Walter**, AECOM; **Jennifer C. MacDonald**, US DOE

Lead Organizer & Paper Reviewer: **Susan A. Walter**

Add'l Organizer: **Moses Jaraysi**

10:05 Giving Back: Collaborations with Others in Ecological Studies on the Nevada National Security Site - 13058

Scott Wade, NNSA NV Site Office; Cathy Wills, National Nuclear Security Technologies; Kathryn Knapp, US DOE

Monday AM

10:30 Natural Capital Management: An Evolutionary Paradigm for Sustainable Restoration Investment - 13455
Maureen Koetz, Koetz and Duncan LLC; Jeannette Hyatt, Savannah River National Laboratory; Andrew Albenesius, Savannah River Nuclear Solutions; Karen Guevara, US DOE

10:55 Oak Ridge Cleanup Vision: Moving to the Future by Cleaning Up the Past - 13291
Susan Cange, US DOE; Christopher Wieland, Susan M DePaoli, Pro2Serve

11:20 Lessons Learned from the 200 West Pump and Treatment Facility Construction Project at the US DOE Hanford Site - A Leadership for Energy and Environmental Design (LEED) Gold-Certified Facility - 13113
Moses Jaraysi, Kent Dorr, Jhivaun Freeman-Pollard, Michael Ostrom, CH2M HILL PRC

Session 11

10:00 AM - 12:00 PM Room 106C

Technical Innovations in ER and Site Closure (Part 1 of 2)

Co-Chairs: **Leo van Velzen**, *NRG-Arnhem (Netherlands)*; **Del Baird**, *Pro2Serve*
Lead Organizer & Paper Reviewer: **David W. Wallace**
Add'l Organizer: **Del Baird**

10:05 Preliminary Evaluation of Cesium Distribution for Wet Sieving Process Planned for Soil Decontamination in Japan - 13104
Youichi Enokida, Yusuke Tanada, Daisuke Hirabayashi, Kayo Sawada, Nagoya University (Japan)

10:30 Strategies for Treating and Dewatering Contaminated Soils and Sediments Simultaneously - 13389
Jody Bickford, Martin Foote, MSE Technology Applications, Inc.

10:55 Decontamination of Radioactive Cesium Released from Fukushima Daiichi Nuclear Power Plant - 13277
Durga Parajuli, Kimitaka Minami, Hisashi Tanaka, Tohru Kawamoto, National Institute of Advanced Industrial Science and Technology (AIST) (Japan)

11:20 Application of Ultrasonic for Decontamination of Contaminated Soil - 13142
Denis Fedorov, Alexander Savkin, SIA Radon; Albert Vasilyev, ANO MCEB; Nikolay Lebedev, Alexandra Plus Ltd. (Russia)

Session 12

10:00 AM - 12:00 PM Room 101B

Crosscutting Subsurface Mass Transport and Environmental Assessment of Geologic Disposal Systems (Part 1 of 2)

Co-Chairs: **Simon Kwong**, *National Nuclear Laboratory (United Kingdom)*; **Ming Zhang**, *Geological Survey of Japan, AIST (Japan)*
Lead Organizer & Paper Reviewer: **Simon Kwong**
Add'l Organizers: **Andrew Martin, Tjalle "Chuck" Vandergraaf, Ming Zhang**

10:05 A Safety Case Approach for Deep Geologic Disposal of US DOE HLW and US DOE SNF in Bedded Salt - 13350
S. David Sevougian, Robert MacKinnon, Christi Leigh, Frank Hansen, Sandia National Laboratories

10:30 Long-term Performance of Engineered Barrier Systems (PEBS) - An International EURATOM Project on the Study and Testing of Engineered Barriers for the Final Disposal of HAW Using PEBS as an Example - 13299
Michael Mente, Federal Institute for Geosciences and Natural Resources (Germany)

10:55 Preliminary Safety Analysis of the Gorleben Site: One and Two Phase Fluid Flow Calculations - 13310
Ingo Kock, Martin Navarro, Heidemarie Fischer, Holger Seher, Gerd Frieling, Jürgen Larue, GRS mbH (Germany)

11:20 Hydrologic Nuclide Transport Models in Cyder, A Geologic Disposal Software Library - 13328
Kathryn Huff, University of Wisconsin

February 25, Monday PM

Session 13**1:30 PM - 5:00 PM Room 102B****Panel: Featured Country - Canada**

Co-Chairs: **Tjalle "Chuck" Vandergraaf**, *Consultant*; **Christine Fahey**, *Atomic Energy of Canada Limited (Canada)*

Lead Organizer: **Tjalle "Chuck" Vandergraaf**

Add'l Organizers: **John Mathieson**, **Gary Benda**, **Christine Fahey**

Panel Reporter: **Nina Baba**

This panel will focus on the status of Canada's sites and WM programs and policies. Over 40 presentations and four separate sessions address the progress and challenges in managing Canada's radioactive waste. Canada is the featured country for WM2013. This session will provide an overview of its activities by Senior Managers.

Panelists include: **Peter Elder**, *Canadian Nuclear Safety Commission*; **Joan Miller**, *Atomic Energy of Canada Limited*; **Liam Mooney**, *Cameco Corporation*; **Doug Metcalfe**, *Natural Resources Canada*; and **Kathryn Shaver**, *Nuclear Waste Management Organization (Canada)*.

Session 14**1:30 PM - 3:10 PM Room 103AB****Panel: Policy Makers' Perspectives on the Framework for §3116 Waste Determination and WIR**

Co-Chairs: **Virginia (Ginger) Dickert**, *Savannah River Remediation, LLC*; **Linda Suttora**, *US DOE*

Lead Organizer: **W.T. (Sonny) Goldston**

Add'l Organizers: **John Tseng**, **Linda Suttora**, **Virginia (Ginger) Dickert**

Panel Reporter: **Mark Mahoney**

This panel will focus on the policies that define the basis of determining when HLW or structures contaminated with HLW have been sufficiently decontaminated, such that they can be managed as LLW and the processes used to make this determination (e.g., §3116 Waste Determination or US DOE 435.1 WIR by Evaluation).

Panelists will also provide their perspectives of their role in the development, implementation and use of those policies.

Panelists include: **Larry Camper**, *Division Director, US NRC*; **Inés Triay**, *Executive Director, Applied Research Center at Florida International University*; and **Mark Gilbertson**, *Deputy Assistant Secretary for Site Restoration, US DOE-EM*.

Session 15**3:15 PM - 5:00 PM Room 103AB****Panel: Recent Successes with the Waste Incidental to Reprocessing (WIR)/§3116 Processes**

Co-Chairs: **Terrel Spears**, **Bill Levitan**, *US DOE*

Lead Organizer: **W.T. (Sonny) Goldston**

Add'l Organizers: **John Tseng**, **Virginia (Ginger)**

Dickert, **Steven Thomas**

Panel Reporter: **Steven Thomas**

This panel will focus on recent results achieved through the use of §3116 Waste Determinations or the US DOE 435.1 WIR by Evaluation processes and the results of those successes.

Panelists include: **David Moody**, *Savannah River Field Office Manager, US DOE-EM*; **Alice Williams**, *US DOE*; **Karen Patterson**, *Chair, South Carolina Governor's Nuclear Advisory Council*; **Rob Pope**, *Senior Remedial Project Manager, US EPA Region 4*; **Chris McKenney**, *Manager of Performance Assessments, US NRC*; and **Dave Olson**, *President and Project Manager, Savannah River Remediation*.

Session 16**1:30 PM - 5:00 PM Room 104AB****Panel: Future Vision: A View of What the US DOE Complex Will Look Like in 2020**

Co-Chairs: **Helen Belencan**, *US DOE*; **Cathy Hickey**, *CH2M HILL, Inc.*

Lead Organizer: **Cathy Hickey**

Add'l Organizers: **Helen Belencan**, **Jenny Freeman**

Panel Reporter: **Jeff Holland**

This panel will focus on the US DOE vision and view of what the US DOE-EM Complex will look like by 2020. US DOE and industry representatives will discuss current initiatives, plans and achievements to date.

Monday PM

An update on the progress and implementation of the US DOE Asset Revitalization Initiative will be provided with insight into the plans for the reutilization of their diverse mix of assets to reduce the overall cost of cleanup. This panel will include perspectives from both US DOE-HQ, the Field Offices and Industry representatives.

Panelists include: **Tania Smith**, Program Manager, US DOE-HQ; **Mark Gilbertson**, Deputy Assistant Secretary for Site Restoration, US DOE-HQ; **William Murphie**, Manager, US DOE - Portsmouth/Paducah Project Office; **Larry Kelly**, Manager, US DOE - Oak Ridge Office; **Dave Moody**, Manager, US DOE - SRS; **Craig Rieman**, Deputy Director, US DOE - West Valley; **Maureen Koetz**, President and Owner, Koetz and Duncan; **Betsy Child**, Vice President, Renewable Energy, Restoration Services, Inc.; **Jeff Deardoff**, Vice President and Chief Operating Officer, Community Reuse Organization of East Tennessee; and **Rick McLeod**, Executive Director, Savannah River Site Community Reuse Organization.

Session 17

1:30 PM - 3:10 PM Room 105B

Panel: Hot Topics and Emerging Issues in US Commercial LLRW

Co-Chairs: **Leonard Slosky**, Rocky Mountain LLW Board; **Todd Lovinger**, LLW Forum, Inc.
Lead Organizer & Panel Reporter: **Todd Lovinger**
Add'l Organizer: **Leonard Slosky**

This panel will focus on emerging issues in commercial LLW management in the US from the perspective of five active members of the Low-Level Radioactive Waste Forum, Inc. State, compact, federal and industry officials will share their views on a variety of timely and significant topics related to low-level radioactive waste management and disposal, including regulatory interactions, waste estimating techniques and licensing issues.

Panelists include: **Brad Broussard**, Technical Specialist/Health Physicist, Texas Commission on Environmental Quality; **Aby Mohseni**, Deputy Director, Environmental Protection and Performance Assessment Directorate, US NRC; **Rusty Lundberg**, Director, Division of Radiation Control, State of Utah; **Paul Lemieux**, Associate Division Director, ORD/NHSRC/DCMD, US EPA; and **Brooke Smith**, Senior International Policy Analyst, Office of International Programs, US NRC.

Session 18

3:20 PM - 5:00 PM Room 105C

Selected Key Topics in Commercial LLW Management

Co-Chairs: **Ted Buckner**, Southeast Compact Commission; **Linda Beach**, Consultant
Lead Organizer: **Ted Buckner**
Add'l Organizers: **Colleen Owens**, **Linda Beach**
Paper Reviewer: **Linda Beach**

The Richard S. Hodes M.D. Honor Award will be presented to James Kennedy, US NRC.

This ceremony is followed by the WM2013 Richard S. Hodes Honor Lecture.

LLW Regulation: Putting Principles Into

- Practice** - 13297
James Kennedy, US NRC
- Collaboration and Commitment to Sealed Source Safety, Security, and Disposition** - 13627
Meaghan Jennison, US DOE; **David Martin**, Energetics Incorporated
- Texas' Solution to Irradiated Hardware Disposal Needs** - 13337
Jay Britten, Waste Control Specialists LLC

Session 19

1:30 PM - 3:15 PM Room 105C

Crosscutting Subsurface Mass Transport and Environmental Assessment of Geological Disposal Systems (Part 2 of 2)

Co-Chairs: **Simon Kwong**, National Nuclear Laboratory (United Kingdom); **Ming Zhang**, Geological Survey of Japan, AIST (Japan)
Lead Organizer & Paper Reviewer: **Simon Kwong**
Add'l Organizers: **Andrew Martin**, **Tjalle "Chuck" Vandergraaf**, **Ming Zhang**

- 1:35 Preliminary Safety Analysis of the Gorleben Site: Thermo-mechanical Analysis of the Integrity of the Geological Barrier in the Gorleben Salt Formation** - 13307

Till Popp, Wolfgang Minkley, Markus Knauth, Institute for Geomechanics GmbH; **Stefan Heusermann**, **Ralf Eickemeier**, **Hans-Konstantin Nipp**, Federal Institute for Geosciences and Natural Resources (BGR) (Germany)

2:00 A Proposal for Geologic Radioactive Waste Disposal Environmental Zero-State and Subsequent Monitoring Definition - First Lessons Learned from the French Environment Observatory - 13188
Patrick Landais, Elisabeth Leclerc, Andra (France)

2:25 Main Features for the Conceptualization of the Post-Closure Evolution Scenario of the Cigéo LIL-HL Waste Repository - 13105
Patrick Landais, Eric Giffaut, Frederic Plas, Stephan Schumacher, Guillaume Pepin, Andra (France)

2:50 Diffusion Dominant Solute Transport Modeling in Deep Repository under the Effect of Emplacement Media Degradation - 13285
Simon Kwong, National Nuclear Laboratory; Andrey Jivkov, University of Manchester (United Kingdom)

Session 20

3:15 PM - 5:00 PM Room 105B

Panel: Culture - The Linchpin for Safety

Co-Chairs: **Joseph Yanek**, Fluor Government Group; **Tony Umek**, Fluor Corporation
 Lead Organizer & Panel Reporter: **Judith Connell**
 Add'l Organizers: **Joseph Yanek**, **Tony Umek**

This panel will focus on the critical role that culture plays in successful safety programs. While requirements, procedures and training courses are elements of a safety program, culture is the linchpin that holds them all together. Building a strong safety culture is like a marathon, not a sprint; it demands tenacity, leadership and trust.

Less than 100% safe performance is unacceptable. For example, a 1.7% error rate by US pharmacies in dispensing prescriptions results in 30 million mistakes each year. Come share a spirited discussion with our expert world-wide panelists on the importance of culture in building a safety program.

Panelists include: Rik Vanbrabant, Belgoprocess (Belgium); **Bill Rigot**, Fluor Technical Support Services; **Tony Muschara**, Muschara Error Management Consulting, LLC; and **Andy Campbell**, Deputy Director, Office of Enforcement, US NRC.

Session 21

1:30 PM - 5:00 PM Room 102A

LL/ILW Characterization (Part 2 of 3)

Co-Chairs: **Frazier Bronson**, Canberra Industries Inc - AREVA Group; **Loong Yong**, Spectra Tech, Inc.
 Lead Organizer: **Frazier Bronson**
 Add'l Organizers: **Heinz Kroeger**, **Dale Bignell**, **Lance Mezga**
 Paper Reviewer: **Loong Yong**

1:35 Screening and Spectral Summing of LANL Empty Waste Drums - 13226
Randy Lucero, Pajarito Scientific Corporation; Kathleen Gruetzmacher, Roland Bustos, Scott Ferran, Lucas Gallegos, Los Alamos National Laboratory

2:00 Validation of Non-Invasive Waste Assay System (Gamma Box Counter) Performance at AECL Whiteshell Laboratories - 13136
E. Michael Attas, Ernie Bialas, Michael Rhodes, Atomic Energy of Canada Limited (Canada)

2:25 Design Process for the Development of a New Truck Monitoring System - 13306
Paul LeBlanc, Frazier Bronson, Canberra Industries Inc - AREVA Group

2:50 Performance of a HPGe System for Surface and Container Measurements - 13582
Tim Twomey, ORTEC; Ron Keyser, Software & Information Services
- 5 Minute Break - Optional -

3:20 Waste Characterization Using Gamma Ray Spectrometry with Automated Efficiency Optimization - 13404
Ram Venkataraman, Andrey Bosko, Frazier Bronson, William R. Russ, Paul LeBlanc, Gabriela Ilie, Canberra Industries Inc - AREVA Group

3:45 Particle Swarm Imaging (PSIM) - Innovative Gamma-Ray Assay - 13497
Daniel Parvin, Sean Clarke, Sarah Humes, Babcock International Group (United Kingdom)

4:10 Design and Testing of a Novel Wide Range - Segmented Gamma Scanner Incorporating Tomographic Gamma Scanning for Measuring Both Low and Intermediate Level Waste in Drums - 13470
John Mason, ANTECH Corporation; Marc Looman, Antony Towner, Lawrence Odell, Adam Poundall, Matt Piotrowski, ANTECH (United Kingdom); Dae-Seok Hong, Won-Hyuk Jang, Kyung-Kil Kwak, Korea Atomic Energy Research Institute (Republic of Korea); Seung-Min Seo, Young-In Scientific Company (Republic of Korea)

Monday PM

4:35 Use of a Shielded High Resolution Gamma Spectrometry System to Segregate LLW from Contact Handleable ILW Containing Plutonium - 13046

Rosemary Lester, Patrick Chard, Canberra UK Ltd - AREVA Group (United Kingdom); Colin Wilkins, Henrik Jäderström, Paul LeBlanc, Rick Mowry, Canberra Industries Inc - AREVA Group (United Kingdom); Sanders MacDonald, William Gunn, Dounreay Site Restoration Ltd (Scotland)

Session 22

1:30 PM - 5:00 PM Room 101C

Integrated HLW System Planning - Policies and Programs

Co-Chairs: **Sal Golub**, US DOE; **Magnus Vesterlind**, IAEA (Austria)

Lead Organizer: **Harry Babad**

Add'l Organizers: **Eric Knox**, **Sal Golub**

Paper Reviewer: **Eric Knox**

1:35 Integrated High-Level Waste System Planning - Utilizing an Integrated Systems Planning Approach to Ensure End-State Definitions are Met and Executed - 13244

Larry Ling, David Chew, Savannah River Remediation, LLC

2:00 Optimisation of the Management of Higher Activity Waste in the UK - 13537

Ciara Walsh, Matthew Buckley, Nuclear Decommissioning Authority (United Kingdom)

2:25 Main Principles of the Perspective System of SNF Management in Russia - 13333

Mikhail Baryshnikov, ROSATOM (Russia)

2:50 R&D Programs and Policy within the CEA-AREVA Joint Vitrification Lab (LCV) - 13592

J rome Brueziere, Jean Christophe Piroux, Eric Chauvin, AREVA; Christian Ladirat, Luc Paradis, CEA Marcoule (France)

- 5 Minute Break - Optional -

3:20 Utilization of UNF in a Potential Future US Fuel Cycle Scenario - 13499

Andrew Worrall, Oak Ridge National Laboratory

3:45 Consolidated Storage Facilities: Camel's Nose or Shared Burden? - 13112

James Williams, Western Interstate Energy Board

4:10 The Time Needed to Implement the Blue Ribbon Commission Recommendation on Interim Storage - 13124

Michael Voegele, Consultant; Donald Vieth, Yucca Mountain Project Manager 1982-1987 (Retired)

4:35 Societal-Equity-Enhancing Criteria and Facility-Host Incentives Supporting Five Key Elements in the January 2012 Blue Ribbon Commission Report - 13015

Leif Eriksson, Nuclear Waste Dispositions; George Dials, B&W Conversion Services, LLC; Critz George, Retired US DOE and Consultant

Session 23

1:30 PM - 3:15 PM Room 101B

Special Material Recovery from SNF/HLW

Co-Chairs: **Robert Jubin**, Oak Ridge National Laboratory; **Paul Bredt**, Pacific Northwest National Laboratory

Lead Organizer: **Bernard Vigreux**

Add'l Organizers: **Robert Jubin**, **John Gregory**

Paper Reviewer: **Robert Jubin**

1:35 Processing and Disposition of Special Actinide Target Materials - 13138

Sharon Robinson, Bradley Patton, Oak Ridge National Laboratory; Jeffrey Allender, Savannah River National Laboratory

2:00 Adsorption of Ruthenium, Rhodium and Palladium from Simulated High-Level Liquid Waste by Highly Functional Xerogel - 13286

Takashi Onishi, Shinichi Koyama, Japan Atomic Energy Agency; Hitoshi Mimura, Tohoku University (Japan)

2:25 Deployment of Cesium Recovered from High Level Liquid Waste for Irradiation - Indian Scenario - 13128

SB Patil, Tessy Vincent, Jayesh Shah, Amar Kumar, Pyari Kishore Wattal, Bhabha Atomic Research Centre (India)

Session 24

3:15 PM - 5:00 PM Room 101B

Advanced Fuel Cycle Development/Process and Equipment Improvement

Co-Chairs: **Robert Jubin**, Oak Ridge National Laboratory; **Paul Bredt**, Pacific Northwest National Laboratory

Lead Organizer & Paper Reviewer: **Bernard Vigreux**, French Nuclear Energy Society

Add'l Organizers: **John Gregory**, **Robert Jubin**

3:20 Exploratory Design of a Reactor/Fuel Cycle Using Spent Nuclear Fuel Without Conventional Reprocessing - 13579
Timothy Bertch, Robert Schleicher, John Rawls, General Atomics

3:45 Nuclear Materials: Reconsidering Wastes and Assets - 13193
Terry Michalske, Savannah River National Laboratory

4:10 Spectroscopic Online Monitoring for Process Control and Safeguarding of Radiochemical Fuel Reprocessing Streams - 13553
Sam Bryan, Tatiana Levitskaia, Amanda Casella, James Peterson, Pacific Northwest National Laboratory

4:35 Life Extension Program for the Modular Caustic Side Solvent Extraction Unit at Savannah River Site - 13179
Azadeh (Azi) Samadi, Savannah River Remediation, LLC

Session 25

1:30 PM - 5:00 PM Room 106B

Groundwater Remediation Process

Co-Chairs: **Briant Charboneau**, *US DOE*; **Bob Popielarczyk**, *CH2M HILL PRC*

Lead Organizer: **John Kristofzski**

Add'l Organizers: **Kurt Gerdes, Bob Popielarczyk**

Paper Reviewer: **Kurt Gerdes**

1:35 Startup of the New 200 West Pump-and-Treat Facility, Hanford Site, Richland, WA - 13214

Bob Popielarczyk, Mark Byrnes, CH2M HILL PRC; Sally Simmons, Fluor Federal Services; John Morse, US DOE

2:00 The Use of Subsurface Barriers to Support Treatment of Metals and Reduce the Flux of Tritium to Fourmile Branch at the Savannah River Site in South Carolina - 13358

Brian Looney, Savannah River National Laboratory; Gerald Blount, Leslie Wells, Jeffrey Thibault, Savannah River Nuclear Solutions; Phil Prater, US DOE

2:25 Site-wide Integrated Water Monitoring - Defining and Implementing Sampling Objectives to Support Site Closure - 13060
Irene Farnham, Sam Marutzky, Navarro-Intera, LLC; Kathryn Knapp, Bill Wilborn, US DOE

2:50 Active-to-Passive Environmental Cleanup Transition Strategies - 13220
Carol Eddy-Dilek, Robert Aylward, Miles Denham, Savannah River National Laboratory; Tom Gaughan, Savannah River Nuclear Solutions; Gary Mills, Savannah River Site; Wade Whitaker, US DOE

- 5 Minute Break - Optional -

3:20 Environmental Aspects of Two Volatile Organic Compound Groundwater Treatment System Designs at the Rocky Flats Site - 13135

Casey Michalski, Rick Di Salvo, John Boylan, S.M. Stoller Corporation

3:45 2011 Mound Site Groundwater Plume Rebound Exercise and Follow-Up - 13440
Gwen Hooten, US DOE; Rebecca Cato, Greg Lupton, S.M. Stoller Corporation

4:10 Two and Three Dimensional Depiction of Subsurface Geology Using Commercial Software for Support of Groundwater Contaminant Fate and Transport Analysis - 13345

Kristine Ivarson, North Wind, Inc; Charles Miller, Craig Arola, CH2M HILL PRC

4:35 Coupling and Testing the Fate and Transport of Heavy Metals and Other Ionic Species in a Groundwater Setting at Oak Ridge, TN - 13498

Nantaporn Noosai, Hector R. Fuentes, Florida International University

Session 26

1:30 PM - 3:10 PM Room 106C

Technical Innovations in ER and Site Closure (Part 2 of 2)

Co-Chairs: **David W. Wallace**, *Parsons Brinckerhoff*; **Del Baird**, *Pro2Serve*

Lead Organizer & Paper Reviewer: **David W. Wallace**

Add'l Organizer: **Del Baird**

1:35 A Case Study Correlating Innovative Gamma Scanning Detection Systems Data to Surface Soil Gamma Spectrometry Results - 13580

Shannon Thompson, Rene Rodriguez, Paul Billock, HydroGeoLogic, Inc.; Peter Lit, Nomad Science Group

2:00 Innovative Remedial Approaches to Accelerated Site Closure - 13427

Rula Deeb, Suthan Suthersan, Scott Potter, ARCADIS US, Inc.

Monday PM

2:25 An Exploration of Mercury Soils Treatment Technologies for the Y-12 Plant - 13217
John Wrapp, Michael Kane, John Witzeman, URS | CH2M Oak Ridge LLC; Chuck Estes, EnergySolutions; Katherine Whaley, RSI; Debbie Browning, Strata-G; Jonathon Julius, US DOE

Session 27

3:15 PM - 5:00 PM Room 106C

Waste Optimization/Minimization During D&D

Co-Chairs: **Maria Lindberg**, Studsvik Nuclear AB (Sweden); **Ted Gado**, Burns and Roe
Lead Organizer & Paper Reviewer: **Maria Lindberg**,
Add'l Organizers: **Jas Devgun**, **Michelle Gresalfi**

3:20 Comparative Evaluation of Cutting Methods of Activated Concrete from Nuclear Power Plant Decommissioning - 13548
Hak-Soo Kim, Central Research Institute of Korea Hydro & Nuclear Power Co., Ltd; Sung Maeng, Sunghwan Chung, Korea Hydro & Nuclear Power Co., Ltd (Republic of Korea)

3:45 Waste Management Strategy for Dismantling Waste to Reduce Costs for Power Plant Decommissioning - 13543
Arne Larsson, Per Lidar, Studsvik Nuclear AB; Niklas Bergh, Gunnar Hedin, Westinghouse Electric Sweden AB (Sweden)

4:10 Optimization of Waste Disposal - 13338
Eugene Shephard, Heath Downey, Peter Collopy, Nelson Walter, AMEC; John Conant, ABB Inc.

4:35 NOCHAR Polymers: An Aqueous and Organic Liquid Solidification Process for Cadarache LOR - 13195
Claire-Emilie Vaudey, AREVA NC; Sébastien Renou, Julien Porco, AREVA BUA; Roger Serrano, CEA; Chantal Cochaud, CEA Cadarache (France); Dennis Kelley, Pacific Nuclear Solutions

Session 28

1:30 PM - 3:15 PM Room 106A

Communication of Technical Issues

Co-Chairs: **Andrew Fellingner**, **Jeannette Hyatt**, Savannah River National Laboratory
Lead Organizer: **W.T. (Sonny) Goldston**
Add'l Organizer: **Karen Guevara**
Paper Reviewer: **Jeannette Hyatt**

1:35 Thinking Tools for Successful Collaborative Initiatives - 13351
Laurel Boucher, The Laurel Co.

2:00 Decommissioning an Active Historical Reactor Facility at the Savannah River Site - 13453
Helen Belencan, Karen Adams, US DOE; Christopher Bergren, Tony Long, Savannah River Nuclear Solutions

2:25 Building upon Historical Competencies: Next-generation Clean-up Technologies for World-Wide Application - 13368
Andrew Fellingner, Robert Aylward, Jeannette Hyatt, Jeff Griffin, Sheryl Ross Bush, Savannah River National Laboratory; Karen Guevara, US DOE

2:50 Fukushima Media Involvement: Lessons Learned and Challenges - 13261
Geoff Harvey, Greg Koller, Battelle - Pacific Northwest National Laboratory; Wayne Johnson, Pacific Northwest National Laboratory

Session 29

3:15 PM - 5:00 PM Room 106A

Panel: The Effectiveness of Advisory Boards; the US DOE - EM Experience

Co-Chairs: **Jenny Freeman**, Strata-G; **Catherine Alexander**, US DOE
Lead Organizer & Paper Reviewer: **Jenny Freeman**
Add'l Organizers: **Catherine Alexander**, **Yvette Cantrell**

After the five listed papers are presented, a panel will discuss how to make Site-Specific Advisory Boards (SSAB) work. The presentations for the panel and **panelists** include:

- 1. A History of the Environmental Management Advisory Board: 20 Years of Service and Partnership** - 13219
Kristen Ellis, Elizabeth Schmitt, US DOE
- 2. DOE's Environmental Management Site-Specific Advisory Board: The Roles, Work, and Assessment of the Constituent Local Boards** - 13587
Catherine Alexander, US DOE; Jenny Freeman, Strata-G; Yvette Cantrell, Restoration Services, Inc
- 3. A Retrospective Management Perspective on Nearly 20 Years of the Savannah River Site Citizen Advisory Board** - 13078
Helen Belencan, Karen Guevara, Terrel Spears, US DOE

4. **US DOE Perspectives on Advisory Board Effectiveness** - 13539
David Adler, US DOE
5. **The EM SSAB Annual Work Plan Process: Focusing Board Efforts and Resources** - 13667
Ralph Young, Paducah Citizens Advisory Board
6. **The Environmental Management Site-Specific Advisory Board (EM SSAB) Chairs' Perspective: Making Advisory Boards Work**
 - a. **Working Effectively with Technical and Non-Technical Members**
Ralph Phelps, Former Chair, Northern New Mexico Citizens Advisory Board
 - b. **Public Involvement and Advisory Board Activities: Taking Important Information to the Community**
Eric Roberts, Facilitator Portsmouth SSAB, EHI

Poster Session 30

1:30 PM - 5:00 PM 1st Floor Foyer

Posters:

HLW, SNF/UNF & Long-lived Alpha/TRU – A-E Special Topics - G

Topic A: HLW Transfer, Process Planning and Control

Co-Chairs: **Terri Fellingner**, *Savannah River Remediation, LLC*; **Kayte Denslow**, *Pacific Northwest National Laboratory*

Lead Organizer & Paper Reviewer: **Terri Fellingner**

- A1. **Improved Management of the Technical Interfaces Between the Hanford Tank Farm Operator and the Hanford Waste Treatment Plant** - 13383
Garth Duncan, Bechtel National, Inc.; Scott Saunders, Washington River Protection Solutions

Topic B: Separation of Materials from HLW Streams

Co-Chairs: **Edward Ketusky**, *Savannah River Remediation, LLC*; **Leslie Jardine**, *L.J. Jardine Services*

Lead Organizer: **Edward Ketusky**
Paper Reviewer: **Harry Babad**

- B1. **Capability to Recover Plutonium-238 in H-Canyon/HB-Line** - 13248
William Wilmarth, Savannah River National Laboratory; Kenneth Fuller, Robert Smith, Charles Goergen, Savannah River Nuclear Solutions
- B2. **Aluminum Solubility in Complex Electrolytes** - 13011
Stephen Agnew, Columbia Energy & Environmental; Cliff Johnston, Purdue University
- B3. **Radiation Stability of Benzyl Tributyl Ammonium Chloride Towards Technetium-99 Extraction** - 13016
Patricia Paviet-Hartmann, Jared Horkley, Idaho National Laboratory; Ana Nunez Gomez-Alexandre, Amparo Espartero, CIEMAT (Spain); Audrey Roman, Keri Campbell, University of Nevada, Las Vegas
- B4. **Separation of Lanthanoids by SiO₂-P Adsorbent Impregnated with Extractants** - 13103
Kei Yamanishi, Shigekazu Usuda, Hitoshi Mimura, Tohoku University; Yuji Sasaki, Yasuji Morita, Japan Atomic Energy Agency (Japan)
- B5. **Design, Development & Operational Experience of Demonstration Facility for Cs-137 Source Pencil Production at Trombay** - 13283
SB Patil, Puneet Srivastava, SK Mishra, SS Khan, KNS Nair, Bhabha Atomic Research Centre (India)

Topic C: Characterization and Storage of HLW

Co-Chairs: **Kayte Denslow**, *Pacific Northwest National Laboratory*; **Terry Sams**, *Washington River Protection Solutions*

Lead Organizer: **Kayte Denslow**
Paper Reviewer: **Azadeh (Azi) Samadi**

- C1. **FATE Unified Modeling Method for Spent Nuclear Fuel and Sludge Processing, Shipping and Storage** - 13405
James Burelbach, Martin Plys, Sung Jin Lee, Robert Apthorpe, Fauske & Associates, LLC
- C2. **Evaluation and Parameter Analysis of Burn-Up Calculations for Assessment of Radioactive Waste** - 13187
Ivan Fast, Yuliya Aksyutina, Forschungszentrum Juelich GmbH; Holger Tietze-Jaensch, Research Centre Jülich GmbH (Germany)
- C3. **Review of the Development and Testing of a New Family of Boron and Gadolinium-Bearing Dual Thermal Neutron Absorbing Alloys** - 13026
Michael Schmidt, Karl Klankowski, Greg Del Corso, Carpenter Technology Corp.; Louis Lherbier, David Novotnak, Carpenter Powder Products

Monday PM

- C4. Dual-Remote Raman Technology for In-Situ Identification of Tank Waste** - 13549
Sam Bryan, Tatiana Levitskaia, Amanda Lines, Gary Josephson, Frannie Smith, Pacific Northwest National Laboratory; Job Bello, EIC Laboratories Inc.
- C5. Development of an Integrated Raman and Turbidity Fiber Optic Sensor for the In-Situ Analysis of High Level Nuclear Waste** - 13532
Christina Gasbarro, Job Bello, EIC Laboratories Inc.; Sam Bryan, Tatiana Levitskaia, Amanda Lines, Pacific Northwest National Laboratory

Topic D: Retrieval and Transport of HLW

Co-Chairs: **Jonathan Bricker**, *Savannah River Remediation, LLC*; **Aruna Arakali**, *URS Corporation*
Lead Organizer & Paper Reviewer: **Jonathan Bricker**

- D1. Aerosol Formation from High-Pressure Sprays for Supporting the Safety Analysis for the Hanford Waste Treatment and Immobilization Plant** - 13183
Phillip Gauglitz, Lenna Mahoney, Philip Schonewill, Jagannadha Bontha, Jeremy Blanchard, Dean E. Kurath, Richard Daniel, Chen Song, Pacific Northwest National Laboratory
- D2. Experimental Challenges and Successes in Measuring Aerosol Concentrations at Prototypic Spray Conditions Encountered at the Hanford Waste Treatment and Immobilization Plant** - 13327
Jagannadha Bontha, Phillip Gauglitz, Dean Kurath, Harold Adkins, Carl W. Enderlin, Richard Daniel, Chen Song, Philip Schonewill, Jeremy Blanchard, Lenna Mahoney, Gregory Boeringa, William Buchmiller, Pacific Northwest National Laboratory
- D3. Design Optimization of Innovative High-Level Waste Pipeline Unplugging Technologies** - 13341
Amer Awwad, Tomas Pribanic, Jose Varona, Dwayne McDaniel, Seckin Gokaltun, Jairo Crespo, Florida International University

Topic E: HLW Forms

Co-Chairs: **Jonathan Bricker**, *Savannah River Remediation, LLC*; **Sharon Marra**, *Savannah River National Laboratory*
Lead Organizer & Paper Reviewer: **Jonathan Bricker**

- E1. The Component Slope Linear Model for Calculating Intensive Partial Molar Properties: Application to Waste Glasses and Aluminate Solutions** - 13099

Jacob Reynolds, Washington River Protection Solutions

- E2. XRD, Electron Microscopy and Vibrational Spectroscopy Characterization of Simulated SB6 HLW Glasses** - 13028
Sergey Stefanovsky, SIA Radon; Boris Nikonov, Boris Omelianenko, Institute of Geology of Ore Deposits (Russia); Alexander Choi, Savannah River National Laboratory; James Marra, US DOE

Topic G: Special Topics on Waste Processing and Management

Co-Chairs: **Joe Tarantino**, *United States Enrichment Corporation*; **Larry Regens**, *University of Oklahoma Health Sciences Center*

Lead Organizer & Paper Reviewer: **Kim Auclair**

- G1. Fundamental Study on Temperature Dependence of Deposition Rate of Silicic Acid** - 13270
Hayata Shinmura, Yuichi Niibori, Hitoshi Mimura, Tohoku University (Japan)
- G2. Results from Evaluation of Proposed ASME AG-1 Section FI Metal Media Filters** - 13063
John Wilson, Paxton Giffin, Michael Parsons, Charles Waggoner, Mississippi State University
- G3. Estimation of Sorption Behavior of Europium(III) Using Biotite Flakes** - 13272
Go Sasaki, Yuichi Niibori, Hitoshi Mimura, Tohoku University; Akira Kirishima, IMRAM, Tohoku University (Japan)

Poster Session 31

1:30 PM - 5:00 PM **Exhibit Hall**

Student Posters: The Next Generation - Industry Leaders of Tomorrow

Co-Chairs: **Michelle Rehmman**, *HER Creative Solutions, LLC*; **Robert Berry**, *Foxfire Scientific, Inc. (United Kingdom)*

Lead Organizer: **Leonel Lagos**

- S1. Critical Dose of Internal Organs Internal Exposure** - 13471
Narek Grigoryan, Yerevan State Medical University; Gagik Grigoryan, Armen Amirjanyan, Nuclear and Radiation Safety Centre (Armenia)

- S2. A Radiation Education for the Young Generation** - 13284
Dong Han Yoo, Hee Reyoung Kim, Ulsan National Institute of Science and Technology; Jae Rok Kim, Korea Academy of Nuclear Safety (Republic of Korea)
- S3. Turning Spent Nuclear Fuel Rods into Sealed Gamma Sources for Safe and Economical Interim Storage** - 13639
Russell Goff, Oregon State University
- S4. Battery-less Wireless Sensors for Structural Health Monitoring for In-Situ Decommissioning of DOE Facilities** - 13643
Elicek Delgado-Cepero (DOE Fellow), Florida International University
- S5. The Effect of Ca Ions on the Removal of U(VI) at the Hanford Site Area** - 13642
Claudia Cardona (DOE Fellow), Yelena Katsenovich, Leonel Lagos, Florida International University
- S6. Degradation of Grout: Compressive Strength Comparative Analysis** - 13648
Joel McGill (DOE Fellow), Jose Rivera, Leonel Lagos, Florida International University
- S7. Saltstone Processing of Low-Level Waste at Savannah River Site** - 13649
Joshua Midence (DOE Fellow), Leonel Lagos, Florida International University; Alex Cozzi, Savannah River National Laboratory
- S8. Computer Simulations of Multiphase Flow Systems Applied to Transfer of High-Level Waste** - 13641
Francisco Bolanos (DOE Fellow), Seckin Gokaltun, Florida International University
- S9. Storm Water Management Model Analysis of the Oak Ridge Storm Water Collection System Up To Outfall 211** - 13645
Heidi Henderson (DOE Fellow), Georgio Tachiev, Leonel Lagos, Florida International University
- S10. A Lattice Boltzmann Method for the Analysis of Gas Behavior in Hanford Tanks** - 13650
Jaime Mudrich (DOE Fellow), Seckin Gokaltun, Florida International University
- S11. Mobile Device Applications using Cloud Computing on Service Oriented Architecture** - 13651
Justin Phillips, Himanshu Upadhyay, Leonel Lagos, Florida International University
- S12. High-Level Waste Pipeline Unplugging Technologies: Asynchronous Pulsing System** - 13640
Jennifer Arniella (DOE Fellow), Amer Awwad, Florida International University
- S13. Improvements and Modifications of an Integrated Flow and Mercury Transport Model for East Fork Poplar Creek, Oak Ridge, TN** - 13646
Lilian Marrero (DOE Fellow), Florida International University
- S14. Development of Improved Bodies for a Peristaltic Crawler for Unplugging of Hanford Waste Transfer Pipelines** - 13647
Jose Matos (DOE Fellow), Florida International University
- S15. Hydrogen in Pipes and Ancillary Vessels in Waste Treatment Plant at the Hanford Site** - 13644
Janty Ghazi (DOE Fellow), Leonel Lagos, Florida International University; James Poppiti, US DOE
- S16. Development of a Mechanical Based System for Dry Retrieval of Single-Shell Tank Waste at Hanford** - 13652
Ximena Prugue (DOE Fellow), Amer Awwad, Leonel Lagos, Florida International University
- S17. Computational Simulation and Evolution of High-Level Waste Pipeline Plugs at Hanford** - 13655
Dania Castillo (DOE Fellow), Florida International University
- S18. The Analysis of Morphological Changes of U-bearing Precipitates Over Time by SEM/EDS Methods** - 13656
Robert Lapierre (DOE Fellow), Florida International University
- S19. Acoustic Pulse Reflectometry for Identifying Pipeline Properties at Hanford Site** - 13657
Lucas Nascimento (DOE Fellow), Florida International University
- S20. Sensor Network Energy Demand for In-situ Decommissioning Applications at Savannah River Site** - 13658
Raul Ordonez (DOE Fellow), Florida International University
- S21. SharePoint Based Secured Collaboration System for DOE-EM Project Management** - 13659
Mariela Silva (DOE Fellow), Florida International University
- S22. Improved Third Generation Peristaltic Crawler for Removal of High-Level Waste Plugs in Hanford Site Pipelines** - 13660
Gabriela Vazquez (DOE Fellow), Tomas Pribanic, Florida International University
- S23. D&D Technology Services Development using Windows Communication Foundation on Cloud** - 13661
Revathy Venkataraman (DOE Fellow), Florida International University
- S24. Design Basis for a Waste Repository** - 13662
Jenelle Parson, Colorado State University

S25. Centralization of Canada's Spent Nuclear Fuel – 13669
Shona Draper, Krista Nicholson, John McDonald, University of Ontario Institute of Technology

February 26, Tuesday AM

Session 32
8:30 AM - 10:10 AM Room 102B

Panel: US DOE Support for Fukushima Cleanup Efforts (Part 2 of 4)

Co-Chairs: **Alice Williams, Rosa Elmetti (Ramirez), US DOE**
Lead Organizer: **Steve Schneider**
Add'l Organizer & Panel Reporter: **Rosa Elmetti (Ramirez)**

This panel will focus on the US DOE continuing support for Fukushima cleanup efforts. US DOE senior managers will discuss the Department's efforts to support the Government of Japan in addressing Fukushima Daiichi decommissioning and environmental remediation activities. Among the topics to be discussed are two technical workshops on cleanup the Department has convened and the release of a Request for Expressions of Interest for US nuclear companies to participate in the remediation work at Fukushima Daiichi. Finally, attendees will be updated on the progress of the high-level Bilateral Commission on Civil Nuclear Energy Cooperation between the US and Japan as well as US Laboratory support through integrated project teams.

Panelists include: Steve Schneider, Director for Tank Waste Management, Office of Tank Waste and Nuclear Material, Office of Environmental Management, US DOE; **Danius Barzdukas**, International Trade Specialist, Office of Japan and Korea, International Trade Administration, Department of Commerce; and **Sal Golub**, Associate Deputy Assistant Secretary, Office of Nuclear Reactor Technology, Office of Nuclear Energy, US DOE.

Session 33
10:15 AM - 12:00 PM Room 102B

Panel: Progress in Implementing US Support to Japan (Part 3 of 4)

Co-Chairs: **Jeff Griffin**, Savannah River National Laboratory; **Wayne Johnson**, Pacific Northwest National Laboratory
Lead Organizer: **Karen Guevara**
Add'l Organizers: **Jeannette Hyatt, Andrew Fellingner, Gary Benda**
Panel Reporter: **Andrew Fellingner**

This panel will focus on the progress made as a result of placement of Embassy Science Fellows and international assistance to Japan to develop a viable path forward to ensuring reasonable energy mix while maintaining appropriate emphasis on remediation, D&D and public awareness of intergovernmental support.

Panelists include: Jeff Griffin, Savannah River National Laboratory; **Wayne Johnson**, Pacific Northwest National Laboratory; *Embassy Science Fellow; and a Japanese government representative.*

Session 34
8:30 AM - 12:00 PM Room 105B

Panel: Emerging Issues that Challenge Traditional Contractor Roles at US & International Sites

Co-Chairs: **Bill Shingler**, Fluor Government Group; **John Longenecker**, Longenecker & Associates, Inc.
Lead Organizer & Panel Reporter: **Judith Connell**
Add'l Organizer: **Bill Shingler**

This panel of executives from national and international venues have identified areas that affect cost-effectiveness and efficiency in meeting DOE mission priorities, contractual commitments, regulatory obligations, governance/partnering, project & contract management, and human capital. Given future budget constraints, the current way of doing business is not sustainable. What can we do, in partnership with DOE, to change and adopt a more efficient model that will allow us to deal with near-term financial constraints and serve the DOE Complex well for the future. Panelists will briefly share how they are addressing these issues at their sites, followed by an interactive discussion.

Panelists include: Dwayne Wilson, President & CEO, Savannah River Nuclear Solutions; **Mike Johnson**, President and Project Manager, Washington River Protection Solutions; **John Fulton**, President and CEO, CH2M HILL PRC; **Dennis Carr**, General Manager, Fluor-B&W Portsmouth; **Jim French**, Executive Director, Decommissioning, Sellafield, Ltd. (United Kingdom); **Beth Sellers**, Associate Director, Los Alamos National Laboratory; **Michael Graham**, Manager, US Environmental, Bechtel National; **George Dials**, President and Project Manager, B&W Conversion Services; and **Martin Schneider**, ExchangeMonitor Publications.

Session 35

8:30 AM - 10:15 AM Room 102A

Worldwide WM Regulatory and Oversight Crosscutting Programs (Part 2 of 3)

Co-Chairs: **Karen Guevara**, US DOE; **Scott Saunders**, Washington River Protection Solutions
Lead Organizer: **Ray Clark**
Add'l Organizers: **Christopher Timm**, **Malgorzata K. Sneve**, **John Tseng**
Paper Reviewer: **John Tseng**

8:35 Integration of Environmental Compliance at the Savannah River Site - 13024
Armanda Watson, David Hoel, US DOE; **Michael Griffith**, Savannah River Nuclear Solutions, LLC

9:00 Regulatory Framework for Salt Waste Disposal and Tank Closure at the Savannah River Site - 13663
Virginia (Ginger) Dickert, Steven Thomas, Savannah River Remediation, LLC

9:25 Transition from Consultation to Monitoring - US NRC's Increasingly Focused Review of Factors Important to F-Area Tank Farm Facility Performance - 13153
Christopher McKenney, Cynthia Barr, Christopher Grossman, George Alexander, Leah Parks, Mark Fuhrmann, James Shaffner, US NRC; **Roberto Pabalan**, **David Pickett**, **Cynthia Dinwiddie**, Southwest Research Institute

9:50 NRC Perspectives on Waste Incidental to Reprocessing Consultations and Monitoring - 13398
Christopher McKenney, Gregory Suber, Harry Felsher, Aby Mohseni, US NRC

Session 36

10:15 AM - 12:00 PM Room 102A

Issues Related to Waste Incidental to Reprocessing (WIR)

Co-Chairs: **Karen Guevara**, US DOE; **Scott Saunders**, Washington River Protection Solutions
Lead Organizer: **W.T. (Sonny) Goldston**
Add'l Organizers: **Karen Guevara**, **Scott Saunders**, **John Tseng**
Paper Reviewer: **John Tseng**

10:20 Performance Assessment Program for the Savannah River Site Liquid Waste Facilities - 13610

Kent Rosenberger, Savannah River Site

10:45 NRC Monitoring of Salt Waste Disposal at the Savannah River Site - 13147

Karen Pinkston, Christianne Ridge, George Alexander, Cynthia Barr, Nishka Devaser, Harry Felsher, US NRC

11:10 Performance Impact of Fast Flow Paths Through Grout Monoliths Used for Radioactive Waste Disposal - 13224

Cynthia Dinwiddie, Gary Walter, Southwest Research Institute; **David Esh**, **Cynthia Barr**, US NRC

11:35 Saltstone Oxidation Study: Leaching Method - 13092

Christine Langton, David Stefanko, Savannah River National Laboratory; **Heather Burns**, Savannah River Nuclear Solutions, LLC

Session 37

8:30 AM - 10:10 AM Room 103AB

Panel: Used Nuclear Fuel and HLW from National and International Perspectives

Co-Chairs: **Stephen Unwin**, Pacific Northwest National Laboratory; **Chris Phillips**, EnergySolutions
Lead Organizer & Panel Reporter: **Tom Brouns**
Add'l Organizers: **Stephen Unwin**, **Chris Phillips**

This panel will navigate options, engineering approaches and technical, regulatory and nonproliferation/security issues associated with methods to deal with UNF/SNF and HLW. Uncertainty about the future of geologic disposal in the US, the role of fuel recycling in reducing the volume and increasing durability of the waste form, and the expected worldwide increase in new nuclear power plants have sharpened the need to consider interim and retrievable

Tuesday AM

storage and disposal options for UNF/SNF and US DOE's immobilized HLW. The panel will bring US and international perspectives to how we can use lessons learned to help deal with interim storage and permanent disposal of UNF/SNF and HLW.

Panelists include: *William Boyle*, Director, Office of Used Fuel Disposition R&D, US DOE; *James Rubenstone*, Branch Chief, US NRC; *Graham Fairhall*, Chief Science and Technology Officer, National Nuclear Laboratory (United Kingdom); *Gary Lanthrum*, Vice President of Consulting, NAC International; *James Voss*, Partner, Predicus; and *Dorothy Davidson*, Senior VP, Nuclear and Science Programs, AREVA Federal Services, LLC.

Session 38

10:15 AM - 12:00 PM Room 103AB

Panel: Realigning TRU Disposal Priorities in the Aftermath of New Mexico's Worst Wildfire Disaster

Co-Chairs: **J.R. Stroble**, US DOE; **Terry Wickland**, Nuclear Filter Technology
Lead Organizer & Panel Reporter: **Terry Wickland**
Add'l Organizer: **Roger Nelson**

This panel will focus on the LANL 3706 Campaign, a voluntary Framework Agreement to accelerate TRU disposal and shipments to WIPP. The Agreement was initiated as a result of the June 2011 Las Conchas wildfire, the largest wildfire in New Mexico's history, which raged on the perimeter LANL Technical Area-54, where thousands of TRU waste drums are stored above ground. New Mexico's Governor Susana Martinez, responded to the disaster and called upon the US DOE/NNSA and the New Mexico Environment Department (NMED) to reprioritize disposal of the highest risk, above ground TRU wastes. Perspectives of the drivers, challenges, milestones and hurdles of this aggressive initiative will be presented.

Panelists include: *David Martin*, Secretary, New Mexico Environment Department; *Pete Maggiore*, Assistant Manager for Environmental Projects, Los Alamos Site Office; *Joe Franco*, Carlsbad Field Office Manager, US DOE; *Dan Cox*, Deputy Associate Director, Los Alamos National Laboratory; and *Ralph Phelps*, Chair, Northern New Mexico Citizen Advisory Board.

Session 39

8:30 AM - 12:00 PM Room 101C

Geologic Disposal (Part 1 of 2)

Co-Chairs: **Christer Svemar**, M&C Svemar Consulting HB (Sweden); **Jean-Michel Bosgiraud**, Andra (France)
Lead Organizer: **Roger Nelson**
Add'l Organizers: **Simon Kwong**, **Gérald Ouzounian**, **Ming Zhang**
Paper Reviewer: **Leif Eriksson**

8:35 Canada's Deep Geological Repository for Used Nuclear Fuel - Geoscientific Site Evaluation Process - 13117

Alec Blyth, *Mahrez Ben Belfadhel*, *Sarah Hirschorn*, *Duncan Hamilton*, *Jennifer McKelvie*, Nuclear Waste Management Organization (Canada)

9:00 Geological Disposal Concept Selection Aligned with a Voluntarism Process - 13538

Glenda Crockett, *Samantha King*, UK NDA (United Kingdom)

9:25 WIPP Status and Plans - 2013 - 13379

Roger Nelson, *Joe Franco*, US DOE

9:50 Role of Congress in the High Level Radioactive Waste Odyssey: The Wisdom and Will of the Congress - 13096

Michael Voegele, Consultant; *Donald Vieth*, Yucca Mountain Project Manager 1982-1987 (Retired)

- 5 Minute Break - Optional -

10:20 Technical Design and Optimization of a HLW-Repository in the Gorleben Salt Dome including Detailed Design of the Sealing System - 13305

Wilhelm Bollingerfehr, *Wolfgang Filbert*, *C. Lerch*, *N. Müller-Hoeppe*, *Philipp Herold*, DBE Technology GmbH; *Robert Kilger*, GRS mbH; *Frank Charlier*, International Nuclear Safety Engineering (Germany)

10:45 Development of Integrated Natural Barrier Database System for Site Evaluation of Deep Geologic Repository in Korea - 13527

Haeryong Jung, *Eunyong Lee*, *Jeong-Hwan Lee*, *Yi Yeong Jeong*, Korea Radioactive-Waste Management Corporation (KRMC) (Republic of Korea)

11:10 Cigéo, the French Geological Repository Project - 13022

Gérald Ouzounian, *Alain Harman*, *Thibaud Labalette*, *Marie-Claude Dupuis*, Andra (France)

11:35 Current Status of the Nuclear Waste Management Programme in Finland - 13441

Kimmo Lehto, *Petteri Vuorio*, Posiva Oy (Finland)

Session 40**8:30 AM - 10:10 AM Room 104AB****Panel: Nuclear Power Plant Waste Management - LLW Disposal Issues**

Co-Chairs: **C. Clint Miller**, *Pacific Gas & Electric*;
Mark Lewis, *EnergySolutions*
 Lead Organizer & Panel Reporter: **C. Clint Miller**
 Add'l Organizer: **Mark Lewis**

This panel will focus on senior utility managers discussing issues with US commercial LLW disposal site operators. Representatives and regulators of the three largest US commercial LLW sites will discuss their programs and future plans.

Panelists include: **Chris McKenney**, *Chief Performance Assessment Branch Environmental Protection and Performance Assessment Directorate, US NRC*; **Dan Burns**, *Andrews Texas Site, Waste Control Specialists, LLC*; **Bret Rogers**, *Clive Utah Site, EnergySolutions*; and **Mike Benjamin**, *Barnwell South Carolina Site, Chem-Nuclear Systems*.

Session 41**After Ses. 40 - 12:00 PM Room 104AB****Panel: Nuclear Power Plant Waste Management - LLW Processors' Issues**

Co-Chairs: **Mark Lewis**, *EnergySolutions*;
Mark Carver, *Entergy Services, Inc.*
 Lead Organizer & Panel Reporter: **Mark Lewis**

This panel will focus on senior utility managers discussing issues with commercial LLW processors. LLW processors will have an opportunity to update utilities/NPPs on new or different services or technologies being offered to assist in their radioactive waste management goals. These same concepts can also be applied to non-US LLW processors at fixed facilities.

Panelists include: **Steven Jameson**, *Vice-President, Sales and Marketing, Studsvik*; **Scott Eckler**, *Sales and Marketing Manager, Alaron*; **Troy Eshleman**, *Vice President, Commercial Processing Division, EnergySolutions*; and **Tammy Monday**, *Vice President, Waste Services Sales and Business Development, Perma-Fix*.

Session 42**10:15 AM - 12:00 PM Room 106A****Experiences in ER of Radioactivity Contaminated Sites in Urban and Suburban Areas**

Co-Chairs: **Nelson Walter**, *AMEC*; **Ella Feist**, *Washington Closure Hanford*
 Lead Organizer & Paper Reviewer: **Nelson Walter**

10:20 Unique Construction and Social Experiences in Residential Remediation Sites - 13423

Paul Jung, *Rebecca Scarborough, Severson Environmental Services, Inc.*

10:45 Challenges in Obtaining Property Access: The FUSRAP Maywood Site Experience - 13433

William Kollar, *Shaw Environmental, Inc.*;
Allen Roos, USACE

11:10 Case Study of Urban Residential Remediation and Restoration in Port Hope, Canada - 13250

Brian Geddes, *John DeJong, AMEC Environment & Infrastructure*; **Michael Owen**, *Atomic Energy of Canada Limited (Canada)*

11:35 Comparison of Statistically Modeled Contaminated Soil Volume Estimates and Actual Excavation Volumes at the Maywood FUSRAP Site - 13555

John Quinn, *Lisa Durham, Robert Johnson, Argonne National Laboratory*; **James Moore**, *David Hays, USACE*

Session 43**8:30 AM - 10:15 AM Room 106A****Canada's Flagship Remediation Project: Overview of the Port Hope Area Initiative (Part 1 of 2)**

Co-Chairs: **Tjalle "Chuck" Vandergraaf**, *Consultant*;
Brian Geddes, *AMEC Environment & Infrastructure (Canada)*
 Lead Organizer & Paper Reviewer: **Tjalle "Chuck" Vandergraaf**
 Add'l Organizers: **Christine Fahey**, **Brian Geddes**

8:35 Finally Underway: Implementation of the Port Hope Area Initiative - 13151
Christine Fahey, Atomic Energy of Canada Limited; Marcia Blanchette, Natural Resources Canada; Tim Palmeter, Public Works Government Services Canada (Canada)

9:00 From Pushing Paper to Pushing Dirt - Canada's Largest LLRW Cleanup Gets Underway - 13111
Walter van Veen, Atomic Energy of Canada Limited; Dave Lawrence, Public Works Government Services Canada (Canada)

9:25 Port Granby Project Overview - 13208
David W. Smith, Gerald Vandergaast, Atomic Energy of Canada Limited; Mark Sungaila, AECOM (Canada)

9:50 Unique Regulatory Approach for Licensing the Port Hope Remediation Project in Canada - 13315
Milena Kostova, Don Howard, Peter Elder, Canadian Nuclear Safety Commission (Canada)

Session 44

8:30 AM - 12:00 PM Room 106B

D&D of Nuclear Contaminated Facilities

Co-Chairs: **Fred Sheil**, *Sheil Consulting, Ltd. (United Kingdom)*; **Andrew Szilagyi**, *US DOE*

Lead Organizer & Paper Reviewer: **Fred Sheil**

Add'l Organizers: **Anthony Banford, Al Freitag, Julia Tripp**

8:35 Is Entombment an Acceptable Option for Decommissioning? An International Perspective - 13488
Helen Belencan, US DOE; Vincent Nys, FANC (Belgium); Vladan Ljubenov, IAEA; Patrice Francois, Institut de radioprotection et de surete nucleaire (IRSN) (France); Andrey Guskov, Scientific and Engineering Centre on Safety in Nuclear Energy (SEC NRS) (Russia); Bruce Watson, US NRC

9:00 Accelerating the Whiteshell Laboratories Decommissioning Through the Implementation of a Projectized and Delivery-Focused Organization - 13074
Brian Wilcox, Craig Michaluk, Russel Mellor, Atomic Energy of Canada Limited (Canada)

9:25 A Rinsing Effluent Evaporator for Dismantling Operations - 13271
Frederic Chambon, AREVA Federal Services LLC; Rachel Rives, AREVA NC; Marielle Asou-Pothen, CEA Marcoule (France)

9:50 Dismantling of Highly Contaminated Process Installations of the German Reprocessing Facility (WAK) - Status of New Remote Handling Technology - 13287
Daniel Friedrich, Joachim Dux, Werner Lutz, Martina Ripholtz, WAK GmbH (Germany)
- 5 Minute Break - Optional -

10:20 Decommissioning of Active Ventilation Systems in a Nuclear R&D Facility to Prepare for Building Demolition (Whiteshell Laboratories Decommissioning Project, Canada) - 13073
Brian Wilcox, Doug May, Don Howlett, Dennis Bilinsky, Atomic Energy of Canada Limited (Canada)

10:45 Cleanup under Airlock of an Old Uranium Foundry - 13273
Frederic Chambon, AREVA Federal Services LLC; Daniel Thuillier, Jean-Marie Houee, AREVA NC (France)

11:10 Challenges with Final Status Surveys at a Large Decommissioning Site - 13417
Heath Downey, Peter Collopy, Eugene Shephard, Nelson Walter, AMEC; John Conant, ABB Inc.

11:35 Development of a Preliminary Decommissioning Plan Following the International Structure for Decommissioning Costing (ISDC) of Nuclear Installations - 13361
Julia Dinner, Mike Grey, Katherine Moshonas Cole, Candesco Corporation (Canada); Vladimír Daniska, DECONTA (Slovak Republic)

Session 45

8:30 AM - 12:00 PM Room 106C

Operational Challenges and Lessons Learned for Radioactive Material Packaging and Transportation

Co-Chairs: **Kent McDonald**, *Pacific Northwest National Laboratory*; **Mike Snyder**, *MHF Services*

Lead Organizer: **Olaf Oldiges**, *WAK GmbH*

Add'l Organizers: **Chi-Fung Tso, Ella McNeil, Daniel Jordan**

Paper Reviewer: **Paul Jones**

8:35 Savannah River Site Eastern Transportation Hub: A Concept for a DOE Eastern Packaging, Staging and Maintenance Center - 13143
Maxcine Maxted, Stephen O'Connor, Clarence Ruff, Karen Adams, US DOE; Sydney Gordon, National Security Technologies, LLC; Jeff England, Savannah River National Laboratory; Geoffrey Fountain, Michael Hughes,

Mark Bowers, Andrew Albenesius, Savannah River Nuclear Solutions

9:00 A Review of Tungsten Heavy Alloy Utilization in Isotope Transport Containers - 13380

Steve Caldwell, ATI

9:25 Development and Application of an Oversize Reusable DOT 7A Type A Overpack Container at the Y-12 National Security Site - 13150

Tim Tharp, B&W Technical Services Y-12 LLC; David Martin, Container Technologies Industries, LLC; Paul Franco, Navarro Research and Engineering

9:50 Assessment of Quality Assurance Measures for Radioactive Material Transport Packages not Requiring Competent Authority Design Approval - 13282

Steffen Komann, Bernhard Droste, Carsten Gröke, BAM Federal Institute for Materials Research and Testing (Germany)

- 5 Minute Break - Optional -

10:20 Investigating Low Temperature Properties of Rubber Seals - 13020

Matthias Jaunich, Dietmar Wolff, Wolfgang Stark, BAM Federal Institute for Materials Research and Testing (Germany)

10:45 Expert System for Building TRU Waste Payloads - 13554

Heather Bruemmer, Bryant Slater, Information Systems Laboratories

11:10 Investigation of Shielding Materials in Radioactive Waste Management - 13009

Ahmet Erdal Osmanlioglu, Cekmece Nuclear Research and Training Centre (Turkey)

11:35 Lessons Learned in the Design and Use of IP1/IP2 Flexible Packaging - 13621

Bill Smart, Wendall Reeves, Mike Sanchez, PacTec, Inc.

Session 46

8:30 AM - 10:15 AM Room 105C

Advances in Nuclear Safety Management

Co-Chairs: **Christopher Timm**, *PECOS Management Services, Inc.*; **Robert Brounstein**, *TerranearPMC*

Lead Organizer: **Christopher Timm**

Add'l Organizers: **Robert Brounstein**, **Judith Connell**

Paper Reviewer: **Robert Brounstein**

8:35 Building a Strong Culture that Produces Sustainable Performance - 13444

John McDonald, Washington River Protection Solutions

9:00 British Petroleum's Deepwater Horizon Accident and the Engaged, Thinking Organization - 13265

William Rigot, Fluor Corporation

9:25 Lower Three Runs Remediation Safety Preparation Strategy - 13318

Candice Freeman, Alexander Mackay, Alan Doane, Scotty Fryar, US DOE

9:50 Assessment of External Hazards in Radioactive Waste and Used Fuel Management - 13505

Mark Gerchikov, Glenn Schneider, Badi Khan, Elizabeth Alderson, AMEC NSS (Canada)

Session 47

10:15 AM - 12:00 PM Room 105C

Crosscutting Performance Assessments, Risk Management, and Modeling (Part 1 of 2)

Co-Chairs: **Ming Zhu**, *US DOE*; **Kevin Brown**, *Vanderbilt University*

Lead Organizer & Paper Reviewer: **Ming Zhu**

Add'l Organizer: **Kim Auclair**

10:20 Building Confidence in LLW Performance Assessments - 13386

Joseph Rustick, David Kosson, Steven Krahn, James Clarke, Vanderbilt University

10:45 Continuous Improvement and the Safety Case for the Waste Isolation Pilot Plant Geologic Repository - 13467

Abe Van Luik, Russell Patterson, Roger Nelson, US DOE; Christi Leigh, Sandia National Laboratories

11:10 When Spreadsheets Become Software - Quality Control Challenges and Approaches - 13360

Stefanie Fountain, Emmie Chen, Jay Beech, Tanya Quinn, Geosyntec Consultants, Inc.; Elizabeth Wyatt, LATA Environmental Services of Kentucky; Richard Bonczek, Robert Seifert, US DOE

11:35 Enterprise SRS: Leveraging Ongoing Operations to Advance National Programs - 13108

William Wilmarth, Alice Murray, John Marra, Savannah River National Laboratory; Patrick McGuire, Vickie Wheeler, US DOE

Session 48

8:30 AM - 12:00 PM Room 101B

Emerging Treatment Technologies for LLW, ILW, MW, NORM and TENORM

Co-Chairs: **Paul Macbeth**, *US DOE*; **Walter Josephson**, *WorleyParsons Polestar*
Lead Organizer: **Paul Macbeth**
Add'l Organizers: **Mike Eisenhower**, **Rod Grebb**
Paper Reviewer: **Rod Grebb**

- 8:35 Extending the Range of Organic Compounds that Can Be Destroyed Using the Process of Adsorption Coupled with Electrochemical Regeneration** - 13054
Mike Lodge, *Nigel Brown, Linda Hilton, Alex Adams, Arvia Technology (United Kingdom); Claire-Emilie Vaudey, Valerie Toulemonde, AREVA NC (France)*
- 9:00 Handling of Ammonium Nitrate Mother-Liquid Radiochemical Production** - 13089
Alexander Zhrebtsov, *Konstantine Dvoeglazov, Vladimir Volk, Dmitriy Zverev, JSC "VNIINM"; Vasiliy Tinin, Vladimir Zagumenov, Anatoly Kozyrev, Vladimir Shamin, Konstantin Tvilenev, JSC SCC (Russia); Vasiliy Tinin, Vladimir Zagumenov, Anatoly Kozyrev, Vladimir Shamin, Konstantin Tvilenev, JSC SCC*
- 9:25 Utilization of Common Automotive Three-Way NOx Reduction Catalyst for Managing Off-Gas from Thermal Treatment of High-Nitrate Waste** - 13094
Adam Foster, *Ki Song, Studsvik*
- 9:50 A Canadian Solution for Management of Mixed Liquid Waste** - 13384
Sriram Suryanarayan, *Aamir Husain, Kinectrics Inc. (Canada)*
- 5 Minute Break – Optional -
- 10:20 Characterization and Leaching Tests of the Fluidized Bed Steam Reforming (FBSR) Waste Form for LAW Immobilization** - 13400
Jim Neeway, *Nikolla Qafoku, Christopher Brown, Reid Peterson, Pacific Northwest National Laboratory*
- 10:45 GeoMelt ICV Treatment of Sellafield Pond Solids Waste** - 13414
Keith Witwer, *Brett Campbell, Steve Woosley, Kurion, Inc.; Joanne Hill, Martin Wong, AMEC (United Kingdom)*
- 11:10 Development and Implementation of a Scaled Saltstone Facility at Savannah River National Laboratory** - 13346
Sharon Marra, *Marissa Reigel, Mark Fowley, Erich Hansen, Dale Marzolf, Alex Cozzi,*

Savannah River National Laboratory; Kevin Hera, Savannah River Nuclear Solutions, LLC

Poster Session 49

8:30 AM - 12:00 PM 1st Floor Foyer

Posters:
LLW, ILW, MW, NORM and TENORM – A-E

Topic A: LLW/ILW & MW Treatment

Co-Chairs: **Walter Josephson**, *WorleyParsons Polestar*; **Colleen Owens**, *DeNuke Contracting Services, Inc.*
Lead Organizer & Paper Reviewer: **Walter Josephson**

- A1. Reaction of Antimony-Uranium Composite Oxide in the Chlorination Treatment of Waste Catalyst** - 13521
Kayo Sawada, *Daisuke Hirabayashi, Youichi Enokida, Nagoya University (Japan)*
- A2. Radiation and Thermal Stability of Solid Radwaste after Immobilization in Polymer Matrix** - 13504
Yury Pokhitonov, *Vasiliy Babain, Sergey Strelkov, V.G. Khlopin Radium Institute (Russia); Dmitri Kuznetsov, Frumkin's Institute of Physical Chemistry and Electrochemistry RAS; Dennis Kelley, Pacific Nuclear Solutions*
- A3. Biosorption of Uranium in Radioactive Liquid Organic Waste by Coconut Fiber** - 13221
Rafael Vicente de Pádua Ferreira, *Júlio Takehiro Marumo, Nuclear and Energy Research Institute; Edson Antonio Silva, Western State University of Paraná (Brazil)*
- A4. Treatment of Liquid Radioactive Waste with High Salt Content by Colloidal Adsorbents** - 13274
Keun-Young Lee, *Dong-Yong Chung, Kwang-Wook Kim, Eil Hee Lee, Jei-Kwon Moon, Korea Atomic Energy Research Institute (Republic of Korea)*
- A5. Development of a Performance and Processing Property Acceptance Region for Cementitious Low-Level Waste Forms at Savannah River Site** - 13174
Aaron Staub, *Savannah River Remediation, LLC; Marissa Reigel, Savannah River National Laboratory*
- A6. Removal of Radioactive Nuclides from Mo-99 Acidic Liquid Waste** - 13027
Hsiao Hsien-Ming, *Ben-Li Pen (retired), Institute of Nuclear Energy Research (Republic of China)*

- A7. Grout Long Radius Flow and Drop Height Testing to Support Mega Vault Design** - 13352
Christine Langton, David Stefanko, Mike Serrato, Savannah River National Laboratory; Thomas Brooks, Saltstone Facility Engineering; Thomas Huff, Savannah River Remediation, LLC
- A8. Development of Composite Adsorbents for LLW Treatment and their Adsorption Properties for Cs and Sr** - 13127
Shunsuke Susa, Hitoshi Mimura, Tohoku University; Yoshiyuki Ito, Yasuo Saito, Japan Atomic Energy Agency (Japan)
- A9. Demonstration Testing of a Thermal Desorption Unit to Receive and Treat Waste with Unlimited Concentration of PCBs** - 13437
*Timothy Orton, EnergySolutions; Carl Palmer, TD*X Associates LP*
- A10. On-Site Decontamination System for Liquid Low Level Radioactive Waste** - 13010
Ahmet Erdal Osmanlioglu, Cekmece Nuclear Research and Training Centre (Turkey)
- A11. Technology for Treatment of Liquid Radioactive Waste Generated during Uranium and Plutonium Chemical and Metallurgical Manufacturing in FSUE PO Mayak** - 13616
Dmitry Adamovich, SIA Radon; George Batorshin, FSUE "PO Mayak" (Russia)
- A12. Experience of Non-Technological Waste Solidification with Polymers at Radium Institute** - 13530
Mikhail Alyapyshev, Yury Pokhitonov, Vasiliy Babain, V.G. Khlopin Radium Institute (Russia)
- A13. The Polymers for LRW Solidification: A Lost Chapter in the History of Engineering or a Step Forward?** - 13529
Dennis Kelley, Pacific Nuclear Solutions; Yury Pokhitonov, V.G. Khlopin Radium Institute (Russia)

Topic B: LLW Waste Package QC/Performance Validation/Operational Efficiency

Co-Chairs: **Christine Langton**, Savannah River National Laboratory; **Andreas Roth**, AMR German Products & Services GmbH (Germany)
Lead Organizer & Paper Reviewer: **Christine Langton**

- B1. Testing and Performance Validation of a Shielded Waste Segregation and Clearance Monitor Designed for the Measurement of Low-Level Waste** - 13043
John Mason, ANTECH Corporation; Kevin Burke, Antony Towner, ANTECH; Graham Beaven, Robert Spence, Dounreay Site Restoration Limited (UK)

- B2. Management of Low-Level Radioactive Waste from Research, Hospitals and Nuclear Medical Centers in Egypt** - 13469
Mahmoud Ali Mohamed Hassan, Yasser Tawfik Mohamed Selim, Yasser Lasheen, Egyptian Atomic Energy Authority (Egypt)
- B3. A Study on Optimized Management Options for the Wolsong Low and Intermediate-Level Waste Disposal Center in Korea** - 13479
Joo Wan Park, DongSun Kim, DongEun Choi, Korea Radioactive Waste Management Corporation (Republic of Korea)

Topic C: LLW/ILW Disposal Site & Rad Characterization

Co-Chairs: **Colleen Owens**, DeNuke Contracting Services, Inc.; **Terry Sams**, Washington River Protection Solutions

Lead Organizer: **Colleen Owens**
Paper Reviewer: **Holger Spann**

- C1. Operational Strategies for Low-Level Radioactive Waste Disposal Site in Egypt** - 13513
Yasser Tawfik Mohamed Selim, Egyptian Atomic Energy Authority (Egypt)
- C2. Waste Inventory for Near Surface Repository** - 13482
Algirdas Vaidotas, Radioactive Waste Management Agency (Lithuania)
- C3. Characterization of Canberra's Tomographic Gamma-Ray Can Scanner (Can TGS)** - 13311
Paul LeBlanc, John Kirkpatrick, Jeff Lagana, Dante Nakazawa, Susan Smith, Ram Venkataraman, Marcel Villani, B.M. Young, Canberra Industries Inc - AREVA Group
- C4. Characterization of Filters Loaded with Reactor Strontium Carbonate** - 13203
Walter Josephson, WorleyParsons Polestar; Franciska Steen, Pacific Northwest National Laboratory
- C5. Determination of Radioisotope Content by Measurement of Waste Package Dose Rates** - 13394
Daiane Cristini Barbosa de Souza, Roberto Vicente, Ana Paula Gimenes Tessaro, Nuclear and Energy Research Institute (Brazil)

Topic D: LLW/ILW/MW Operational Facilities/Operational Experience Projects

Co-Chairs: **Gabriele Bandt**, TÜV NORD EnSys Hannover (Germany); **Mike Eisenhower**, Materials & Energy Corporation

Lead Organizer: **Gabriele Bandt**

Paper Reviewer: **Terry Sams**

D1. Maximizing Operational Efficiencies in Waste Management on the US DOE-RL Plateau Remediation Contract (PRC) in a Downturned Market - 13484

Connie Simiele, Ty Blackford, CH2M HILL PRC; Lori West, Materials and Energy Corporation

D2. The National Nuclear Laboratory's Approach to Processing Mixed Wastes and Residues - 13080

Myrian Wood, Howard Greenwood, Tahera Docrat, Sarah Allinson, Ruqayyah Sultan, Sarah May, Duncan Coppersthaite, National Nuclear Laboratory (United Kingdom)

D3. Conditioning and Repackaging of Spent Radioactive Cs-137 & Co-60 Sealed Sources in Egypt - 13490

Mahmoud Ali Mohamed Hassan, Yasser Tawfik Mohamed Selim, Tarek El-Zakla, Egyptian Atomic Energy Authority (Egypt)

Topic E: Geological Transport Performance of LLW/ILW/ Uranium Disposal Facilities

Co-Chairs: **Heinz Kroeger**, TÜV NORD EnSys Hannover (Germany); **Colleen Owens**, DeNuke Contracting Services, Inc.

Lead Organizer: **Heinz Kroeger**

Paper Reviewer: **Mike Eisenhower**

E1. Long-Term Performance of Uranium Tailings Disposal Cells - 13340

Kent Bostick, Anamary Daniel, Ken Pill, Pro2Serve; Georgio Tachiev, Nantaporn Noosai, Viviana Villamizar, Florida International University

E2. Determination of the Distribution and Inventory of Radionuclides within a Savannah River Site Waterway - 13202

Bob Hiergesell, Mark Phifer, Savannah River National Laboratory

E3. Linking RESRAD-OFFSITE and HYDROGEOCHEM Model for Performance Assessment of Low-Level Radioactive Waste Disposal Facility - 13429

Wen-Sheng Lin, Chen-Wuing Liu, National Taiwan University; Ming-Hsu Li, National Central University (Republic of China); Charley Yu,

Jing-Jy Cheng, Sunita Kamboj, Emmanuel Gnanapragasam, Argonne National Laboratory

February 26, Tuesday PM

Session 50

1:30 PM - 5:00 PM

Room 102B

Panel: US DOE Featured Site: Idaho

Co-Chairs: **James Cooper**, **Ken Whitham**, US DOE

Lead Organizer: **Michael Connolly**

Add'l Organizers: **Scott Anderson**, **Mark Arenaz**

Panel Reporter: **Kelly Rhodes**

This session will have two sequential panels and will focus on the US DOE Idaho Site and the fulfillment of the Idaho Cleanup Project (ICP) mission through people, partnerships and innovation. The two panels will present the history and significant accomplishments achieved in cleaning up the Idaho Site and how the cleanup successes enable the future nuclear energy mission of the Idaho National Laboratory.

Panel 1

1. Fulfillment of the Cleanup Mission -

Jim Cooper, Deputy Manager Idaho Cleanup Project, US DOE-Idaho Operations Office

2. AMWTP: Delivering on DOE's Transuranic Waste Disposition Promise to Idaho -

Danny Nichols, President and Project Manager, Idaho Treatment Group

3. TRU Waste Processing Capabilities at the AMWTP -

Jim Malmo, Assistant Manager Waste Disposition, US DOE-Idaho Operations Office and **Dave Haar**, Waste Programs Manager, Idaho Treatment Group

4. The Idaho Cleanup Project: People, Partnerships, and Progress -

Tom Dieter, President and CEO, CH2M-WG Idaho

Panel 2

1. The Changing Landscape at DOE's Idaho Site -

Ken Whitham, Assistant Manager Facilities and Material Disposition, US DOE-Idaho Operations Office and **Hoss Brown**, VP, CH2M-WG Idaho

2. **Infamous Pit 9 Era Comes to a Close - Jim Malmo**, Assistant Manager Waste Disposition, US DOE-Idaho Operations Office and **Hoss Brown**, VP, CH2M-WG Idaho

3. **Collection and Safekeeping of TRIGA® Spent Nuclear Fuel - Ken Whitham**, Assistant Manager Facilities and Material Disposition, US DOE-Idaho Operations Office and **Jim Floerke**, VP, CH2M-WG Idaho

4. **Looking Forward: The Next Phase of Cleanup at Idaho - Ken Whitham**, Assistant Manager Facilities and Material Disposition, US DOE-Idaho Operations Office and **Erin Bogner**, VP Project Planning and Integration, CH2M-WG Idaho

Session 51A
1:30 PM - 3:10 PM Room 104AB

Panel: Update on International Framework for Nuclear Energy Cooperation (IFNEC)

Co-Chairs: **John Mathieson**, UK NDA (United Kingdom); **Paul Dickman**, Argonne National Laboratory
 Lead Organizer: **John Mathieson**
 Panel Reporter & Add'l Organizer: **Paul Dickman**

This panel will provide an update on IFNEC progress in the last year including a report on a London Financing Workshop and an International Comprehensive Fuel Services approach to address the entire fuel cycle in a global context. The IFNEC is a multinational effort to advance the development of nuclear power in both developed and emerging nuclear states. IFNEC is a grouping of over sixty participants, international organizations, and observer countries interested in developing infrastructure that assures both the safe operation of nuclear power plants as well as the management of the backend of the fuel cycle.

Panelists include: Senior Members of IFNEC and invited speakers.

Session 51B
3:15 PM - 5:00 PM Room 104AB

Panel: Addressing the Small Business Barriers in Contracting with the US DOE

Co-Chairs: **Jim Fiore**, Fiore Consulting; **John Coffman**, DeNuke Contracting Services, Inc.
 Lead Organizer: **Gary Benda**
 Add'l Organizers: **Vanessa Vanover Hatfield**, **John Evett**
 Panel Reporter: **Vanessa Vanover Hatfield**

This panel will focus on the barriers for small businesses in contracting with the US DOE. In 2012, the US DOE has increased its small businesses contracting goal from 6% to 10%. The US DOE only receives credit as a prime contractor when subcontracting to these small businesses. During a declining US federal budget, with less contracting dollars and more going for base prime contractor services, these goals are challenging. This panel will interact extensively with the audience in listening and discussing methods to achieve these goals and barriers that need to be mitigated.

All WM2013 Exhibitors can attend this session without a WM technical registration badge as a conference service. Complimentary sessions are on Wednesday, Sessions 65, 66 and 98.

Panelists include: **Jack Surash**, Deputy Assistant Secretary for Acquisition and Project Management, US DOE; **John Hale**, Office of Small and Disadvantaged Business Utilization, US DOE; **Matt Moeller**, President, Dade Moeller; and **Steve Moore**, President, Wastren Advantage, Inc.

Session 52
1:30 PM - 3:10 PM Room 105B

Panel: US DOE Mixed Waste Disposition: Dealing with the Flip Side of Reduced ARRA Funding and Commercial Mixed Waste Issues

Co-Chairs: **Dick Blauvelt**, Portage, Inc.; **Christine Gelles**, US DOE
 Lead Organizer & Panel Reporter: **Dick Blauvelt**
 Add'l Organizer: **Christine Gelles**

Tuesday PM

This panel will focus on how US DOE sites are dealing with the significant reductions in funding that are coming, how decision makers are prioritizing the numerous projects in mixed waste disposal that are not completed, how treatment vendors and disposal site operators are maintaining capability and other issues related to the funding dips. In addition the panel, primarily composed of US DOE or Contractor representatives, will be joined by a manager of a commercial facility with mixed waste disposition issues to share experiences from the non-US DOE generator side.

Panelists include: *Andy Baumer, Los Alamos National Laboratory; Jhon Carilli, US DOE; Renee Echols, Perma-Fix; Ken Grumski, Waste Control Specialists; Paul Larsen, EnergySolutions; and Bruno Zovi, Advanced Mixed Waste Treatment Project.*

Session 53

3:15 PM - 5:00 PM Room 105B

Panel: US DOE/Energy Facility Contractors Group (EFCOG) Knowledge Portal Review

Co-Chairs: **Susan Stiger**, *Bechtel National, Inc.;* **John Longenecker**, *Longenecker & Associates, Inc.*
Lead Organizer & Panel Reporter: **Mark Frei**
Add'l Organizer: **John Longenecker**

This panel will focus on EFCOG which promotes excellence in all aspects of the operation, management, and integration of US DOE facilities in a safe, environmentally sound, efficient and cost effective manner through the ongoing exchange of information on lessons learned. The knowledge portal provides a vehicle to allow members to keep abreast of the latest news, issues, and events across the US DOE complex; share new ideas and practices; and to collaborate virtually on the development and implementation of new processes and practices. A short discussion of EFCOG history and accomplishments will be followed by an overview of Working Groups (WGs) and critical updates.

Panelists include: *Susan Stiger, Bechtel National Inc., EFCOG Chair; John McDonald, ESH&Q Manager, Washington River Protection Solutions, Integrated Safety Management & Quality Assurance (ISMQA) WG; Tim Flake, Savannah River National Laboratory, ISMQA WG; Heidi Timmerman, Director, Procurement & Contracts Administration, ORAU, Business Management WG; Connie DeGrange, Manager, Performance Analysis and Reporting Section, LLNL, Contractor Assurance WG; Paul Henry, Principal Associate Director, Capital Projects, LANL, Project Management WG; and Sonny Goldston, Manager,*

Integrated Waste Strategy, EnergySolutions, Waste Management WG.

Session 54

1:30 PM - 5:00 PM Room 106A

Canada's Flagship Remediation Project: Getting the Job Done in Port Hope and Port Granby (Part 2 of 2)

Co-Chairs: **Christine Fahey**, *Atomic Energy of Canada Limited;* **Brian Geddes**, *AMEC Environment & Infrastructure (Canada)*
Lead Organizer & Paper Reviewer: **Tjalle "Chuck" Vandergraaf**
Add'l Organizers: **Brian Geddes, Christine Fahey**

1:35 Scheduling the Remediation of Port Hope: Logistical and Regulatory Challenges of a Multiple Site Urban Remediation Project - 13119

Andrea Ferguson Jones, Angela Lee, MMM Group, Ltd.; Tim Palmeter, Public Works Government Services Canada (Canada)

2:00 Removal of Historic Low-Level Radioactive Sediment from the Port Hope Harbour - 13314

Mark Kolberg, Baird & Associates; Glenn Case, Atomic Energy of Canada Limited; Andrea Ferguson Jones, MMM Group, Ltd. (Canada)

2:25 Remediation of Centre Pier, Port Hope, Ontario: Historical, Logistical, Regulatory and Technical Challenges - 13118

Andrea Ferguson Jones, MMM Group, Ltd.; Glenn Case, Atomic Energy of Canada Limited; Dave Lawrence, Public Works Government Services Canada (Canada)

2:50 Remediation of Highland Drive Landfill: Technical Challenges of Segregating Co-Mingled LLRW and Municipal Solid Waste in an Urbanized Area - 13319

Jeff Daniel, Conestoga-Rovers & Associates; Glenn Case, Atomic Energy of Canada Limited; Andrea Ferguson Jones, MMM Group, Ltd.; Dave Lawrence, Public Works Government Services Canada (Canada)

- 5 Minute Break - Optional -

3:20 Remediation of the Highland Drive South Ravine, Port Hope, Ontario: Contaminated Groundwater Discharge Management Using Permeable Reactive Barriers and Contaminated Sediment Removal - 13447

David Smyth, Gillian Roos, Golder Associates; Glenn Case, Atomic Energy of Canada Limited; Andrea Ferguson Jones, MMM Group, Ltd.; Adam Yule, Public Works and Government Services Canada (Canada)

3:45 The Challenges of Investigating and Remediating Small Scale Personal Properties - 13115
Walter van Veen, Glenn Case, John Benson, Judy Herod, Atomic Energy of Canada Limited (Canada)

4:10 On-Site Pilot Study - Removal of Uranium, Radium-226 and Arsenic from Impacted Leachate by Reverse Osmosis - 13155
Allan McMurray, Chris Everest, Ken Rilling, Conestoga-Rovers & Associates; Gerald Vandergaast, Atomic Energy of Canada Limited (Canada); David LaMonica, RoChem Membrane Systems Inc.

4:35 Protecting Lake Ontario - Treating Wastewater from the Remediated Low-Level Radioactive Waste Management Facility - 13227
Till Freihammer, Barbara Chaput, AECOM; Gerald Vandergaast, Atomic Energy of Canada Limited; Jimi Arey, Public Works and Government Services Canada (Canada)

Session 55
1:30 PM - 3:15 PM Room 101C

Spent Nuclear Fuel - Dry Storage Issues

Co-Chairs: **Glenn Paulson**, Paulson and Cooper, Inc.; **Robert Jubin**, Oak Ridge National Laboratory
 Lead Organizer & Paper Reviewer: **Robert Jubin**
 Add'l Organizers: **John Gregory, Leif Eriksson**

1:35 US NRC-Sponsored Research on Stress Corrosion Cracking Susceptibility of Dry Storage Canister Materials in Marine Environments - 13344
Greg Oberson, Darrell Dunn, US NRC; Todd Mintz, Roberto Pabalan, Larry Miller, Xihua He, Southwest Research Institute

2:00 Successful Deployment of System for Storage and Retrieval of Spent/Used Nuclear Fuel from Hanford K-West Fuel Storage Basin - 13051
Ty Blackford, Neal Sullivan, James Slaughter, Michael Johnson, CH2M HILL PRC; Richard Raymond, CH2M HILL, Inc.; Roger Quintero, Sahid Smith, US DOE

2:25 Dry Storage of Research Reactor Spent Nuclear Fuel - 13321
Thomas Severynse, Thad Adams, Robert Sindelair, Mike Dunsmuir, Dan Leduc, Savannah River National Laboratory; Edwin Moore, Moore Nuclear Energy, LLC

2:50 Safety Aspects of Dry Spent Fuel Storage and Spent Fuel Management - 13559
Wolfgang Botsch, Silva Smalian, Peter Hinterding, TUEV NORD EnSys Hannover GmbH & CO. KG; Holger Völzke, Dietmar Wolff, Eva Kasperek, BAM Federal Institute for Materials Research and Testing (Germany)

Session 56
3:15 PM - 5:00 PM Room 101C

International Developments in SNF/UNF Management

Co-Chairs: **Keith Miller**, National Nuclear Laboratory (United Kingdom); **John Tseng**, Savannah River Remediation, LLC
 Lead Organizer & Paper Reviewer: **Keith Miller**
 Add'l Organizer: **Leif Eriksson**

3:20 Dealing with Historical Discrepancies: The Recovery of National Research Experiment (NRX) Reactor Fuel Rods at Chalk River Laboratories (CRL) - 13324
Meggan Vickerd, Atomic Energy of Canada Limited (Canada)

3:45 Management of Legacy Spent Nuclear Fuel Wastes at the Chalk River Laboratories: The Challenges and Innovative Solutions Implemented - 13301
Kristan Schruder, Atomic Energy of Canada Limited; Derek Goodwin, Rolls-Royce Civil Nuclear Canada (Canada)

4:10 Preparation for the Recovery of Spent Nuclear Fuel (SNF) at Andreeva Bay, North West Russia - 13309
Nick McAtamney, David Field, Nuvia Limited (United Kingdom)

4:35 Evaluation of Radiation Impact of Spent Nuclear Fuel Storage Facility (SNSF-2) of Chernobyl NPP - 13495
Eric Schmieman, Battelle Memorial Institute; Sergiy Paskevych, Valeriy Batiy, Andriy Sizov, Institute for Safety Problems NPP, National Academy of Sciences of Ukraine (Ukraine)

Session 57

1:30 PM - 5:00 PM Room 102A

Geologic Disposal (Part 2 of 2)

Co-Chairs: **Roger Nelson**, *US DOE*; **Walter Steininger**, *Karlsruhe Institute of Technology (Germany)*

Lead Organizer: **Roger Nelson**

Add'l Organizers: **Simon Kwong**, **Gérald Ouzounian**, **Ming Zhang**

Paper Reviewer: **Leif Eriksson**

1:35 US/German Collaboration in Salt Repository Research, Design and Operation - 13243

Enrique Biurrun, *Wilhelm Bollingerfehr, DBE Technology GmbH*; **Walter Steininger**, *Karlsruhe Institute of Technology (Germany)*; **Frank Hansen**, *Sandia National Laboratories*

2:00 Preliminary Safety Analysis of the Gorleben Site: Overview - 13298

Guido Bracke, *Klaus Fischer-Appelt, GRS mbH*; **Bruno Baltes**, *Consultant (Germany)*

2:25 Preliminary Safety Analysis of the Gorleben Site: Geological Database - 13300

Jan Richard Weber, *Sabine Mrugalla, Christian Dresbach, Jörg Hammer, Federal Institute for Geosciences and Natural Resources (BGR) (Germany)*

2:50 The Full Scale Seal Experiment - A Seal Industrial Prototype for Cigéo - 13106

Jean-Michel Bosgiraud, *Gilles Armand, Patrick Lebon, Régis Foin, Andra (France)*

- 5 Minute Break - Optional -

3:20 The Revised WIPP Passive Institutional Controls Program - A Conceptual Plan - 13145

Russell Patterson, *Abe Van Luik, US DOE*; **Tom Klein**, *URS - Professional Solutions*

3:45 Memory Saves Lives: Intergenerational Warnings Effectiveness - 13556

Abe Van Luik, *Russell Patterson, David Shafer, US DOE*; **Tom Klein**, *URS - Professional Solutions*

4:10 Wireless Transmission of Monitoring Data out of an Underground Repository: Results of Field Demonstrations Performed at the HADES Underground Laboratory - 13589

Jaap Hart, *Thomas J. Schröder, Ecaterina Rosca-Bocancea, Nuclear Research and Consultancy Group (Netherlands)*

4:35 In-Situ Testing and Performance

Assessment of a Redesigned WIPP Panel Closure - 13192

Tom Klein, *URS - Professional Solutions*; **Chris Camphouse**, *Courtney Herrick, Thomas Kirchner, Bwalya Malama, Todd Zeitler, Sandia National Laboratories*; **Russell Patterson**, *US DOE*; **Dwayne Kicker**, *S.M. Stoller Corporation*

Session 58

1:30 PM - 5:00 PM Room 101B

Advances in HLW Form Development, Qualification and Production

Co-Chairs: **Gene Ramsey**, *Washington River Protection Solutions*; **Christian Ladirat**, *CEA Marcoule (France)*

Lead Organizer: **Sharon Marra**

Add'l Organizers: **Ned Bibler**, **Christian Ladirat**, **Michael Ojovan**

Paper Reviewer: **Christian Ladirat**

1:35 Incorporation of Fines and Noble Metals in HLW Borosilicate Glass: Industrial Responses to a Challenging Issue - 13056

Eric Chauvin, *Anthony Prod'homme, Nolwenn Chouard, Raphael Grosman, Eric Boudot, AREVA*; **Olivier Pinet**, *Philippe Gruber, CEA Marcoule (France)*

2:00 Glass-Ceramic Waste Forms for Uranium and Plutonium Residues Wastes - 13164

Martin Stewart, *Sam Moricca, Yingjie Zhang, Bruce Begg, Arthur Day, ANSTO Synroc (Australia)*; **Charlie Scales**, *Ewan Maddrell, National Nuclear Laboratory*; **Jeffery Hobbs**, *Sellafield Limited (United Kingdom)*

2:25 Fabrication and Properties of Technetium-Bearing Pyrochlores and Perovskites as Potential Waste Forms - 13222

Thomas Hartmann, *Ariana J. Alaniz, Daniel Antonio, University of Nevada, Las Vegas*

2:50 Advances in Glass Formulations for Hanford High-Aluminum, High-Iron and Enhanced Sulphate Management in HLW Streams - 13000

Albert Kruger, *US DOE*

- 5 Minute Break - Optional -

3:20 Hanford Tank Waste Treatment and Immobilization Plant (WTP) Waste Feed Qualification Program Development Approach - 13114

Jeffrey Markillie, *Aruna Arakali, Peter Benson, Thomas Halverson, URS Corporation*; **Duane Adamson**, *Connie Herman, David Peeler, Savannah River National Laboratory*

3:45 Reevaluation of Vitrified High-Level Waste Form Criteria for Potential Cost Savings at the Defense Waste Processing Facility

- 13598

Jeffrey Ray, Savannah River Remediation, LLC; Sharon Marra, Connie Herman, Savannah River National Laboratory

4:10 Progress of the High Level Waste Program at the Defense Waste Processing Facility

- 13178

Jonathan Bricker, Terri Fellinger, John Iaukea, Jeffrey Ray, Aaron Staub, Savannah River Remediation, LLC

4:35 Prototype Development of Remote Operated Hot Uniaxial Press (ROHUP) to Fabricate Advanced Tc-99 Bearing Ceramic Waste Forms - 13381

Ariana J. Alaniz, Luc Delgado, Brett Werbick, Thomas Hartmann, University of Nevada, Las Vegas

Session 59

1:30 PM - 5:00 PM

Room 106C

Performance of Disposal Systems, Facilities and Sites for LLW, ILW, MW, NORM and TENORM

Co-Chairs: **Bob Hiergesell**, Savannah River National Laboratory; **Martin Letourneau**, US DOE

Lead Organizer & Paper Reviewer: **Bob Hiergesell**

Add'l Organizers: **Martin Letourneau**, **Roger Seitz**

1:35 Evolution of US DOE Performance Assessments Over 20 Years - 13597

Linda Suttora, US DOE; Roger Seitz, Savannah River National Laboratory

2:00 Advanced Simulation Capability for Environmental Management - Current Status and Phase II Demonstration Results - 13161

Roger Seitz, Greg Flach, Savannah River National Laboratory; Susan Hubbard, Boris Faybishenko, Stefan Finsterle, Carl Steefel, Lawrence Berkeley National Laboratory; Paul Dixon, David Moulton, Los Alamos National Laboratory; Mark Freshley, Vicky Freedman, Ian Gorton, Pacific Northwest National Laboratory; Justin Marble, US DOE

2:25 The Cementitious Barriers Partnership (CBP) Software Toolbox Capabilities in Assessing the Degradation of Cementitious Barriers - 13487

Christine Langton, Greg Flach, Frank Smith, Savannah River National Laboratory; Hans van der Sloot, Hans van der Sloot Consultancy; Johannes Meeussen, Nuclear Research and

Consultancy Group (Netherlands); Eric Samson, SIMCO Technologies, Inc. (Canada); Heather Burns, Savannah River Nuclear Solutions, LLC; Pramod Mallick, Linda Suttora, US DOE; David Esh, Mark Fuhrmann, Jacob Philip, US NRC; Kevin Brown, David Kosson, Andrew Garrabrants, Sohini Sarkar, Vanderbilt University

2:50 Cementitious Barriers Partnership (CBP): Using the CBP Software Toolbox to Simulate Sulfate Attack and Carbonation of Concrete Structures - 13481

Kevin Brown, David Kosson, Andrew Garrabrants, Sohini Sarkar, Vanderbilt University; Hans van der Sloot, Hans van der Sloot Consultancy; Johannes Meeussen, Nuclear Research and Consultancy Group (Netherlands); Eric Samson, SIMCO Technologies, Inc. (Canada); Greg Flach, Christine Langton, Frank Smith, Savannah River National Laboratory; Heather Burns, Savannah River Nuclear Solutions, LLC; Pramod Mallick, Linda Suttora, US DOE; David Esh, Mark Fuhrmann, Jacob Philip, US NRC

- 5 Minute Break - Optional -

3:20 Probabilistic Modeling of Landfill Subsidence Introduced by Buried Structure Collapse

- 13229

Te-Yang Soong, Kevin Foye, CTI and Associates, Inc.

3:45 Improving Site-Specific Radiological Performance Assessments - 13431

John Tauxe, Paul Black, Kathryn Catlett, Robert Lee, Ralph Perona, Tom Stockton, Michael Sully, Neptune and Company, Inc.

4:10 Safety Assessment for a Surface Repository in the Chernobyl Exclusion Zone - Methodology for Assessing Disposal under Intervention Conditions - 13476

Bernt Haverkamp, Jürgen Krone, DBE Technology GmbH (Germany); Yuri Shybetzky, Radioenvironmental Centre at Presidium of National Academy of Sciences of Ukraine (Ukraine)

4:35 The Construction of the Konrad Repository - Status and Perspective - 13034

Volker Kunze, Bundesamt fuer Strahlenschutz (Germany)

Session 60

1:30 PM - 5:00 PM Room 106B

D&D of Nuclear Power Plants

Co-Chairs: **Jas Devgun**, *Sargent & Lundy, LLC*;
Bernard Poncet, *EDF-CIDEN (France)*

Lead Organizer & Paper Reviewer: **Jas Devgun**
Add'l Organizers: **Bernard Poncet, Anja Graf**

- 1:35 Testing and Commissioning of a Multifunctional Tool for the Dismantling of the Activated Internals of the KNK Reactor Shaft** - 13524
Stefan Rothschmitt, Anja Graf, WAK GmbH; Klaus Hendrich, IBH Ingenieurbüro Hendrich; Stefan Bauer, Stefan Klute, Eiko Koselowski, Siempelkamp Nukleartechnik GmbH (Germany)
- 2:00 Concepts and Tests for the Remote-Controlled Dismantling of the Biological Shield and Formwork of the KNK Reactor** - 13425
Stefan Rothschmitt, Sylvia Neff, Anja Graf, Holger Petrick, WAK GmbH; Dieter Stanke, Siempelkamp NIS Ingenieurgesellschaft mbH; Stefan Klute, Siempelkamp Nukleartechnik GmbH (Germany)
- 2:25 Chooz A, First Pressurized Water Reactor to be Dismantled in France** - 13445
Joseph Boucau, Westinghouse Electric Company (Belgium)
- 2:50 Decommissioning of the Dragon High Temperature Reactor (HTR) Located at the Former United Kingdom Atomic Energy Authority (UKAEA) Research Site at Winfrith** - 13180
Anthony Smith, Research Sites Restoration Ltd (United Kingdom)
- 5 Minute Break - Optional -
- 3:20 Reactor Vessel and Reactor Vessels Internals Segmentation at Zion Nuclear Power Station, IL** - 13230
Conrad Cooke, Siempelkamp Nuclear Technology; Holger Spann, Siemplekamp Nuclear Services, Inc.
- 3:45 Progress in Decommissioning the Humboldt Bay Power Plant** - 13604
Kerry Rod, Pacific Gas & Electric; Steven Shelanskey, Anata Management Solutions; John Kristofzski, CH2M HILL, Inc.
- 4:10 Factors Impacting Decommissioning Costs** - 13576
Karen Kim, Richard McGrath, EPRI
- 4:35 Unique Chernobyl Cranes for Deconstruction Activities in the New Safe Confinement** - 13542
Narayanan (Vijay) Parameswaran, Bechtel Systems and Infrastructure, Inc.;

Igor Chorny, Chernobyl NPP-SIP-PMU (Ukraine); Rob Owen, Dan Kedrowski, PaR Systems, Inc.; Eric Schmieman, Battelle Memorial Institute

Session 61

1:30 PM - 5:00 PM Room 105C

Engaging Citizens - Lessons Learned from Around the World

Co-Chairs: **Heather Klebba**, *NFT*; **Cedric Garnier**, *CEA Marcoule (France)*

Lead Organizer & Paper Reviewer: **Heather Klebba**
Add'l Organizer: **Cedric Garnier**

- 1:35 Building a Successful Communications Program on the Needs and Characteristics of the Affected Communities** - 13152
Judy Herod, Alexandra Mahabir, Sandy Holmes, Atomic Energy of Canada Limited (Canada)
- 2:00 A Framework Approach to Evaluate Cross-Cultural Adaptation of Public Engagement Strategies for Radioactive Waste Management** - 13430
Laura Hermann, Potomac Communications Group
- 2:25 How Stakeholder Engagement is Evolving at the Caldas Uranium Mining Site in Minas Gerais, Brazil** - 13223
Peter Booth, WSP Environmental Ltd (United Kingdom); Regina Maria Cioffi Batagini, CMPC; Alexandre Pereira de Oliveira, Nivaldo Carlos da Silva, Alexandre Pereira de Oliveira, CNEN; Maria da Conceição Estrella Abad, IBAMA; Heraldo Rangel Junior, INB (Brazil)
- 2:50 The Use of Legally Imposed and Locally Negotiated Incentive Approaches in the Siting of Nuclear Waste Management Facilities: Comparing Stakeholders' Views in the Czech Republic, Poland and Slovenia** - 13534
Matti Kojo, University of Tampere (Finland); Phil Richardson, Galson Sciences Ltd (United Kingdom)
- 5 Minute Break - Optional -
- 3:20 An Information Building on Radioactivity and Nuclear Energy for the French CEA Cadarache Research Center** - 13492
Guy Brunel, Rose-Marie Macias, Dominique Denis, Alain Boulet, CEA (France)
- 3:45 Public Resistance is Waste-Based and What to Do About That** - 13412
Laurie Ford, Critical Path Consultants

4:10 Four Years of Practical Arrangements Between IAEA and Moscow SIA "Radon": Preliminary Results - 13061
Olga Batyukhnova, Olga Karlina, Peter Neveikin, SIA Radon (Russia)

4:35 Long-Term Surveillance and Maintenance Records: Maintaining Access to the Knowledge - 13122
John Montgomery, Jeanie Gueretta, US DOE; Ruth McKinney, Cliff Anglim, Source One Management, Inc.

Session 62

1:30 PM - 3:10 PM Room 103AB

Panel: Graduating Students and New Engineers - Their Wants and Needs

Co-Chairs: **Robert Berry**, *Foxtire Scientific, Inc.* (United Kingdom); **Leonel Lagos**, *Florida International University*
 Lead Organizer: **Robert Berry**
 Panel Reporter & Add'l Organizer: **Leonel Lagos**

This panel will focus on new hires and graduating engineers having open lines of communication with employers. Considering the projected shortfalls in the workforce, effective communication of wants and needs of both the employer and employee must exist. Currently, it seems that both sides must work harder to achieve this level of communication. With this new approach, both sides can express their wants and needs for a more satisfied workforce and a better work environment.

Panelists include: *Desi Crouther, US DOE-EM; Susan Salter, US NRC; and Ximena Prugue, DOE Fellow - Florida International University (FIU).*

Session 63

After Ses. 62 - 5:00 PM Room 103AB

Panel: Young Professionals

Co-Chairs: **Robert Berry**, *Foxtire Scientific, Inc.* (United Kingdom); **Leonel Lagos**, *Florida International University*
 Lead Organizer: **Robert Berry**
 Add'l Organizer: **Leonel Lagos**
 Panel Reporter & Paper Reviewer: **Robert Berry**

This panel focuses on young professionals and covers views on radioactive waste management from young persons' perspectives from all around the world.

An informal roundtable-style format will enable the future leaders of our industry to share ideas and experiences, and of course, develop contacts within their peer group on a truly international level. By selecting the roundtable format, it is hoped that the topic will be interactive, stimulating valuable discussion among the participants and the audience. The panel will be led by members of the younger generation who will actively encourage participation from all those attending.

Panelists include: *Rosa Elmetti (Ramirez), US DOE-EM; Brian Ikeda, University of Ontario Institute of Technology (Canada); and Chris Greenlees, UK-YGN (United Kingdom).*

Poster Session 64

1:30 PM - 5:00 PM 1st Floor Foyer

Posters:
Environmental Remediation – A-E
Communication, Education & Training - F

Topic A: Environmental Remediation

Co-Chairs: **Angie Jones**, *AMEC; Tjalle "Chuck" Vandergraaf*, *Consultant (Canada)*
 Lead Organizer: **Angie Jones**
 Paper Reviewer: **Jeff Holland**

- A1. Design of the Long-term Waste Management Facility for Historic LLRW, Port Hope Project** - 13322
Don Campbell, Dave Barton, Conestoga-Rovers & Associates; Glenn Case, Atomic Energy of Canada Limited (Canada)
- A2. Thermal Removal of Tritium from Concrete and Soil to Reduce Groundwater Impacts** - 13197
Jeffrey Ross, Gerald Blount, Leslie Wells, Thomas Kmetz, Savannah River Nuclear Solutions; Dennis Jackson, Savannah River National Laboratory; Joao Cardoso-Neto, Savannah River Technology Co.; Misty Reed, US DOE
- A3. Development and Testing of Techniques for In-Ground Stabilization, Size Reduction and Safe Removal of Radioactive Wastes Stored in Large Containments in Burial Grounds** - 13591
Steve Halliwell, VJ Technologies, Inc.
- A4. Right-Sized Reuse - Use a Systematic Process, and Design for a Specialized, Yet Flexible Result** - 13558
Lesley Cusick, Restoration Services, Inc.; Steven Schiesswohl, Pheasant Tail Consulting LLC

- A5. Savannah River Site Footprint Reduction Results under the American Recovery and Reinvestment Act** - 13302
Helen Belencan, Angelia Adams, US DOE; Mary Flora, Savannah River Nuclear Solutions; Robert Pope, US EPA
- A6. Urban Decontamination Experience at Pripjat Ukraine** - 13526
Eric Schmieman, Battelle Memorial Institute; Sergiy Paskevych, Institute for Safety Problems NPP, National Academy of Sciences of Ukraine (Ukraine); Dmitry Voropay, Russian State Center of Inventory and Registration and Real Estate, Federal Bureau of Technical Inventory (Russia)
- A7. An Initial Evaluation of Characterization and Closure Options for Underground Pipelines within a Hanford Site Single-Shell Tank Farm** - 13210
Michelle Hendrickson, Washington State Department of Ecology; Paul Seeley, Cenibark International, Inc.; Janet Badden, Michael Connelly, Washington River Protection Solutions
- A8. Prussian Blue Nanoparticles for the Enrichment of Radioactive Cesium in Solutions** - 13275
Durga Parajuli, Akiko Kitajima, Hisashi Tanaka, Tohru Kawamoto, National Institute of Advanced Industrial Science and Technology (AIST) (Japan)
- A9. Pipeline Decommissioning Trial AWE Berkshire UK** - 13619
Kieran Agnew, AWE (United Kingdom)
- A10. Development of an Automated Remedy Performance Evaluation Program** - 13622
Matthew Tonkin, Jonathan Kennel, S.S. Papadopulos & Associates, Inc.; Frederick Biebesheimer, David Dooley, CH2M HILL PRC

Topic B: Groundwater Issues in ER

Co-Chairs: **Terry Sams**, *Washington River Protection Solutions*; **Tjalle "Chuck" Vandergraaf**, *Consultant (Canada)*

Lead Organizer & Paper Reviewer: **Terry Sams**

- B1. Mann-Kendall Test for Analysis of Groundwater Contaminant Plume Stability and Evaluation of Sampling Frequency for Long-Term Monitoring** - 13233
Jeffrey Walker, Toby Harrison, Elvado Environmental LLC
- B2. Expediting Groundwater Sampling at Hanford and Making it Safer** - 13158
Moses Jaraysi, Carl Connell, Scott Conley, Jennifer Carr, Aaron Schatz, CH2M HILL PRC; Warren Brown, Lockheed Martin Systems Information; R. Douglas Hildebrand, US DOE
- B3. Evaluation of Uranium Measurements in Water by Various Methods** - 13571

Brian Tucker, Shaw Environmental Inc.; Steven Workman, ALS Environmental Laboratory

- B4. Forest Irrigation of Tritiated Water: A Proven Tritiated Water Management Tool** - 13357
Brian Looney, Savannah River National Laboratory; Gerald Blount, Thomas Kmetz, Savannah River Nuclear Solutions; Phil Prater, US DOE
- B5. Radio-Ecological Conditions of Groundwater in the Area of Uranium Mining and Milling Facility** - 13525
Alexey Titov, Mariya Semenova, Vladimir Seregin, Dmitriy Isaev, Evgeny Metlyayev, Federal Medical Biophysical Centre; Svetlana Borisovna Zolotukhina, FSHE Centre of Hygiene and Epidemiology; Andrey Glagolev, Tatiana Ivanovna Klimova, Ekaterina Borisovna Svetinova, FSUGE Hydrospecegeology (Russia)
- B6. Radon Concentration in Groundwater in the Central Region of Gyeongju, Korea** - 13130
Jung Min Lee, Chan Hee Park, Joo Hyun Moon, Arim Lee, Dongguk University (Republic of Korea)
- B7. Peculiarities of Environment Pollution as a Special Type of Radioactive Waste: Field Means for Comprehensive Characterization of Soil and Bottom Sediments and their Application in the Survey at the Floodplain of Techa River** - 13172
Oleg Ivanov, Alexey Danilovich, Victor Potapov, Vyacheslav Stepanov, Sergey Smirnov, Anatoly Volkovich, National Research Centre - Kurchatov Institute (Russia)

Topic C: Radiochemical Characterization in ER

Co-Chairs: **John Kristofzski**, *CH2M HILL, Inc.*; **Del Baird**, *Pro2Serve*

Lead Organizer: **John Kristofzski**

Paper Reviewer: **James Wright**

- C1. Implementation of the Port Hope Area Initiative Biophysical and Socioeconomic Environmental Assessment Follow-up Programs** - 13209
Nina Baba, Karyn Friedmann, Charles Groulx, Atomic Energy of Canada Limited (Canada)
- C2. Use of Electronic Handheld Devices for Collection of Savannah River Site Environmental Data** - 13329
Teresa Eddy, Hugh Marberry, Winston Moore, Savannah River Nuclear Solutions
- C4. Radiocesium Concentration Change in Game Animals: Use of Food Monitoring Data** - 13168
Keiko Tagami, Shigeo Uchida, National Institute of Radiological Sciences (Japan)
- C5. Remedial Investigation of Hanford Site Releases to the Columbia River** - 13603

Megan Proctor, Jeff Lerch, Washington Closure Hanford; Larry Hulstrom, formerly with Washington Closure Hanford

C6. Radio-Ecological Situation in the Area of the Priargun Production Mining and Chemical Association - 13522

Mariya Semenova, Vladimir Seregin, Alexey Titov, Sergey Kiselev, Federal Medical Biophysical Centre (Russia)

Topic D: Overcoming FUSRAP ER Site Challenges

Co-Chairs: **Allen Roos**, USACE; **Del Baird**, Pro2Serve
Lead Organizer & Paper Reviewer: **Allen Roos**

D1. Fall Protection Procedures for Sealing Bulk Waste Shipments by Rail Cars at Formerly Utilized Sites Remedial Action Program (FUSRAP) Sites - 13509

E. Joseph Fort Jr., William Lorenz, Cabrera Services, Inc; Andrew Mills, Shaw Environmental, Inc.; James Boyle, USACE

D2. Reducing Contingency through Sampling at the Luckey FUSRAP Site - 13186

David Frothingham, Michelle Barker, Stephen Buechi, USACE; Lisa Durham, Argonne National Laboratory

D3. Linde FUSRAP Site Remediation: Engineering Challenges and Solutions of Remedial Activities on an Active Industrial Facility - 13506

Christopher Beres, E. Joseph Fort Jr., Cabrera Services, Inc.; James Boyle, USACE

D4. Implementation of DOD ELAP Conforming Quality System at a FUSRAP Site Field Temporary Radiological Screening Laboratory - 13500

Mike Winters, Gordon McElheny, Cabrera Services, Inc.; Linda Houston, Harold Spector, Matthew R. Masset, USACE

Topic E: Long-Term Stewardship and Legacy Management

Co-Chairs: **John Kristofzski**, CH2M HILL, Inc.; **Bob Popielarczyk**, CH2M HILL PRC
Lead Organizer: **Dale Bignell**
Paper Reviewer: **Karen Reed**

E1. Observation and Responses to Post-Closure Instances of Localized Instability and Subsidence at the US DOE Legacy Management Rocky Flats Site, CO - 13052

Rick Di Salvo, John Boylan, Bob Darr, S.M. Stoller Corporation; Scott Surovchak, US DOE

E2. Wetland Mitigation Monitoring at the Fernald Preserve - 13200

Jane Powell, US DOE; Stephanie Bien, Ashlee Decker, John Homer, Brian Wulker, S.M. Stoller Corporation

E3. Integrated Weed Control for Land Stewardship at Legacy Management's Rocky Flats Site in Colorado - 13086

Jody Nelson, S.M. Stoller Corporation

Topic F: Technical Communication A to Z

Co-Chairs: **Jeannette Hyatt**, Savannah River National Laboratory; **Jeff Frey**, US DOE
Lead Organizer: **Jeannette Hyatt**
Paper Reviewer: **Elizabeth Bowers**

F1. Waste Information Management System with 2012-13 Waste Streams - 13095

Himanshu Upadhyay, Walter Quintero, Leonel Lagos, Peggy Shoffner, David Roelant, Florida International University

F2. The Property Value Protection Program - How the Compensation Plan is Working and Evolving to Meet Changing Needs - 13149

Jeff Faught, Judy Herod, Alexandra Mahabir, Atomic Energy of Canada Limited (Canada)

F3. Removal of Radiocesium from Food by Processing: Data Collected after the Fukushima Daiichi Nuclear Power Plant Accident - 13167

Shigeo Uchida, Keiko Tagami, National Institute of Radiological Sciences (Japan)

F4. Beyond an Elevator Speech: Define Your Story to Find Success - 13581

Rachael Drouhard, Tyler Borders, ImageWorks

F5. Lessons Learned on University Education of Chemical Engineering Principles for Nuclear Plant Operations - 13588

Jun-Hyung Ryu, Dongguk University (Republic of Korea)

February 27, Wednesday AM

Session 65

8:30 AM - 10:10 AM Room 102B

Panel: US DOE Procurement and Contracting Opportunities

Co-Chairs: **John Longenecker**, *Longenecker & Associates, Inc.*; **Cathy Hickey**, *CH2M HILL, Inc.*
Lead Organizer: **Cathy Hickey**
Add'l Organizer: **John Longenecker**
Panel Reporter: **Jeff Holland**

This panel will look at how US DOE and NNSA have integrated project management principles into the overall procurement process. The panel will highlight lessons learned and best practices over the past year that have been developed and are being implemented across the complex with the objective to streamline the acquisition process.

All WM2013 Exhibitors can attend this session without a WM technical registration badge as a conference service

Panelists include: **Jack Surash**, *Deputy Assistant Secretary (DAS) for Acquisition and Project Management, US DOE*; **Ralph Holland**, *Deputy Director, Office of Contracting, US DOE*; **Robert Raines**, *Associate Administrator for Acquisition and Project Management, NNSA*; and **Susan Stiger**, *EFCOG Chair, Bechtel National, Inc.*

Session 66

After Ses. 65 - 12:00 PM Room 102B

Panel: Procurement and Contracting Opportunities with US DOE Prime Contractors

Co-Chairs: **Roger Merrick**, *Engineering / Remediation Resources Group, Inc.*; **John Coffman**, *DeNuke Contracting Services, Inc.*
Lead Organizer: **John Coffman**
Add'l Organizers: **Roger Merrick**, **Vanessa Vanover Hatfield**
Panel Reporter: **Lisa Burns**

This panel will focus on small business procurement/contracting opportunities within the US DOE Complex.

US DOE encourages prime contractors to obtain goods and services from small businesses, often tying these goals to contract award fees. In April 2012, the Secretary of Energy increased the Department's small business goal from 6 to 10 percent of US DOE's prime contracting dollars. Panel members will discuss what their company is doing to identify additional scope to meet US DOE's increased small business goal.

All WM2013 Exhibitors can attend this session without a WM technical registration badge as a conference service

Panelists include: **Ralph Holland**, *Deputy Director, US DOE EM Consolidated Business Center*; **Jim Hall**, *Director, Business Development, URS Corporation - Global Management & Operations Services*; **Ron Slottke**, *Vice President and Chief Financial Officer, CH2M HILL Nuclear Business Group*; **Bill Shingler**, *Vice President, Operations, FLUOR Government Group*; and **Randy Spickard**, *Vice President of Marketing and Business Planning, Babcock & Wilcox (B&W) Technical Services Group, Inc.*

Session 67

8:30 AM - 12:00 PM Room 103AB

Panel: IAEA Special Session on the Management of Disused Sealed Sources (Part 1 of 3)

Co-Chairs: **Julia Whitworth**, *International Atomic Energy Agency (Austria)*; **Yasser Tawfik Mohamed Selim**, *Egyptian Atomic Energy Authority (Egypt)*
Lead Organizer: **Irena Mele**
Add'l Organizers: **Julia Whitworth**, **Kim Auclair**
Panel Reporter: **Julia Whitworth**

This panel will focus on the worldwide problem of long-term management of Disused Sealed Radioactive Sources (DSRS), which has been a topic of interest at recent forums including the Seoul Nuclear Security Summit (NSS) and an IAEA meeting on topics related to the Code of Conduct on the Safety and Security of Radioactive Sources, both in 2012. Topics may include NSS conclusions and impact with respect to DSRS; development of national strategies for sustainable end-of-life management of DSRS and assessment of options – repatriation to country of origin, reuse and recycling, long-term storage and disposal; challenges in the safe, secure, and sustainable long-term management of DSRS; selection of technical options, depending on the extent of the national nuclear program and radioactive waste management infrastructure; bilateral and multilateral assistance programs; and the role of source manufacturers and industry, including recyclers.

Panelists include: *Meaghan Jennison*, Foreign Affairs Specialist, US NNSA GTRI Program; *Bernard Sevestre*, Director, GIP Sources HA, CEA (France); *Abderrahim Bouih*, Head of Waste Management, CNESTEN (Morocco); *Julia Whitworth*, Waste Technology Section, IAEA (Austria); *Rustem Paci*, Chairman, Radiation Protection Office (Albania); *John Zarling*, Program Manager, Los Alamos National Laboratory; and *Rainer Pruesse*, Managing Director, Gamma-Service Recycling GmbH (Germany).

Session 68

8:30 AM - 10:10 AM Room 104AB

Panel: Regulatory Challenges and Innovations Related to US DOE Sites

Co-Chairs: **Shelly Wilson**, South Carolina Department of Health and Environmental Control (DHEC); **Suzanne Dahl**, Washington State Dept of Ecology
 Lead Organizer & Panel Reporter: **Tom Brouns**
 Add'l Organizers: **Suzanne Dahl, Shelly Wilson**

This panel will feature key members of US State regulators. Discussion topics include key challenges and examples of applied innovations in regulatory approaches which have resulted in streamlining regulatory interactions. Panelists will discuss how they have influenced the various clean up or disposal missions. Following the panel comments, there will be a facilitated discussion with the panel and the audience.

Panelists include: *Suzanne Dahl*, Washington Department of Ecology; *David Martin*, New Mexico Environment Department; and *Wesley White*, Tennessee Department of Environment and Conservation.

Session 69

10:15 AM - 12:00 PM Room 104AB

Panel: US DOE Featured Site: West Valley, NY

Co-Chairs: **Larry Camper**, US NRC; **John Greeves**, Talisman International
 Lead Organizer: **Larry Camper**
 Panel Reporter: **Christopher McKenney**

This panel will focus on the challenges and successes in decommissioning the West Valley site as well as the management of LLW, waste incidental to reprocessing and management of HLW.

The discussion will include consideration of Phase I and Phase II decommissioning at the site and the related segmented environmental impact statement along with stakeholder perspectives in addressing this very complex site being decommissioned under the West Valley Demonstration Project Act of 1981.

Panelists include: *Chad Glenn*, West Valley Senior Project Manager, US NRC; *Craig Rieman*, Deputy Director, US DOE, West Valley Demonstration Project; *Paul Giardina*, Chief, Radiation and Indoor Air Branch, US EPA - Region 2; and *Paul Bembia*, Program Director, West Valley Site Management, NYSERDA.

Session 70

8:30 AM - 12:00 PM Room 105B

Panel: International Deep Repository Progress

Co-Chairs: **Nancy Zacha**, *Radwaste Solutions Magazine*; **Gérald Ouzounian**, *Andra* (France)
 Lead Organizer: **Leif Eriksson**
 Add'l Organizers: **Enrique Biurrun, Gérald Ouzounian, Abe Van Luik**
 Panel Reporter: **Keith Miller**

This panel will address the current status, recent progress and future plans of deep geologic repository programs worldwide.

Panelists include: *Patrick Landais*, Scientific Director of the French National Science Center and Director of the R&D Division, ANDRA (France); *Michael Siemann*, Head, Radiological Protection and Radioactive Waste Management, OECD/NEA; *Mariano Molina*, Head, Department of International Relations, Technical Management Division, ENRESA (Spain); *Carl Reinhold Bråkenhielm*, Vice Chair, Swedish National Council for Nuclear Waste (Sweden); *Enrique Biurrun*, Head, International Cooperation Department, DBE Technology GmbH (Germany); *Glenda Crockett*, Concept Selection Manager Disposal System Specification Department, Radioactive Waste Management Directorate, NDA (United Kingdom); *Joe Franco*, Manager, US DOE-EM-CBFO [WIPP]; and *Pete Lyons*, Assistant Secretary, US DOE-NE [Yucca Mountain and future alternatives/supplements].

Session 71

8:30 AM - 10:15 AM Room 105C

HLW/Tank Waste Immobilization Process Testing

Co-Chairs: **Sharon Marra**, *Savannah River National Laboratory*; **Leslie Jardine**, *L.J. Jardine Services*
Lead Organizer: **Ned Bibler**
Add'l Organizers: **Christian Ladirat**, **Sharon Marra**, **Michael Ojovan**
Paper Reviewer: **Sharon Marra**

8:35 Hanford Low-Activity Waste Processing: Demonstration of the Off-Gas Recycle Flowsheet - 13443
Gene Ramsey, *Brian Esparza*, *Washington River Protection Solutions*

9:00 Comparison Between Numerical and Experimental Results on Mechanical Stirrer and Bubbling in a Cylindrical Tank - 13047
Emilien Sauvage, *Marcio Lima Da Silva*, *Patrice Brun*, *CEA Marcoule*; *Roland Riva*, *CEA-Grenoble*; *Yves Fautrelle*, *Annie Gagnoud*, *SIMaP/Grenoble INP/UJF (France)*

9:25 Effect of Feeding Rate on the Cold Cap Configuration in a Laboratory-Scale Melter - 13362
Derek Dixon, *Pavel Hrma*, *Pacific Northwest National Laboratory*; *Michael Schweiger*, *Battelle Pacific Northwest Division*

9:50 Hanford Waste Transfer Planning and Control - 13465
Terry Sams, *Nick Kirch*, *Jaiduk Jo*, *Elise Uytioco*, *Washington River Protection Solutions*

Session 72

10:15 AM - 12:00 PM Room 105C

The Stakeholder's Voice - Involvement on Issues Related to Waste Incidental to Reprocessing Issues at SRS

Co-Chairs: **Jeannette Hyatt**, *Savannah River National Laboratory*; **Kimberly Brinkley**, *SC Dept of Health & Environmental Control*
Lead Organizer: **W.T. (Sonny) Goldston**
Add'l Organizers: **Virginia (Ginger) Dickert**, **Scott Saunders**
Paper Reviewer: **Scott Saunders**

10:20 Citizen Contributions to the Closure of High-Level Waste (HLW) Tanks 18 & 19 at the US DOE Savannah River Site (SRS) - 13448
Bill Lawless, *Paine College*

10:45 Communicating Performance Assessment Results - 13609
Mark Layton, *Savannah River Remediation*

11:10 Management Challenges in Developing Performance Assessments and Effectively Communicating Their Results - 13612
Steven Thomas, *Mark Mahoney*, *Savannah River Remediation*

11:35 Building Stakeholder Trust: Defensible Government Decisions - 13110
Victor Franklin, *Savannah River Remediation*

Session 73

8:30 AM - 12:00 PM Room 106A

US Formerly Utilized Sites Remedial Action Program (FUSRAP) and Other USACE ER Projects

Co-Chairs: **Allen Roos**, *USACE*; **Margaret MacDonell**, *Argonne National Laboratory*
Lead Organizer & Paper Reviewer: **Allen Roos**
Add'l Organizer: **Margaret MacDonell**

8:35 Targeted Health Assessment for Wastes Contained at the Niagara Falls Storage Site to Guide Planning for Remedial Action Alternatives - 13428
John Busse, *Karen Keil*, *Jane Staten*, *Neil Miller*, *Michelle Barker*, *USACE*; *Margaret MacDonell*, *John Peterson*, *Young-Soo Chang*, *Lisa Durham*, *Argonne National Laboratory*

9:00 Quantifying Contaminant Mass for Feasibility Study of DuPont Chambers Works FUSRAP Site - 13510
Carl Young, *MD Rahman*, *Ann Johnson*, *Stephan Owe*, *Cabrera Services, Inc.*

9:25 Soil Segregation Methods for Reducing Transportation and Disposal Costs - 13544
David Frothingham, *Shawn Andrews*, *Michelle Barker*, *James Boyle*, *Stephen Buechi*, *Marc Graham*, *Linda Houston*, *Michael Polek*, *Robert Simmington*, *Harold Spector*, *Robert Elliott*, *USACE*; *Lisa Durham*, *Argonne National Laboratory*

9:50 Vicinity Property Assessments at Formerly Utilized Sites Remedial Action Program Project Sites in the New York District - 13420
Ann Ewy, *David Hays*, *USACE*
- 5 Minute Break - Optional -

- 10:20 Recent Developments in DOE FUSRAP - 13014**
Christopher Clayton, Vijendra Kothari, Ken Starr, Gwen Hooten, US DOE; Joey Gillespie, Cheri Bahrke, Michael Widdop, Bob Darr, S.M. Stoller Corporation
- 10:45 Middlesex FUSRAP Site - A Path to Site-Wide Closure - 13416**
David Miller, ECC; Helen Edge, USACE
- 11:10 Hydrogeologic Modeling at the Sylvania Corning FUSRAP Site - 13419**
Nazmi Talimcioglu, Sean McGonigal, The Louis Berger Group, Inc.; Kenneth Heim, USACE
- 11:35 Uranium Fate and Transport Modeling, Guterl Specialty Steel Site, New York - 13545**
William Frederick, USACE; Vikas Tandon, Shaw Environmental & Infrastructure

Session 74

8:30 AM - 12:00 PM Room 106B

Environmental Remediation Progress Towards Closure of Contaminated Sites

Co-Chairs: **Kurt Gerdes**, *US DOE*; **Mark Frei**, *Longenecker & Associates, Inc.*
Lead Organizer & Paper Reviewer: **Kurt Gerdes**
Add'l Organizer: **Mark Frei**

- 8:35 Applying Lean Concepts to Waste Site Closure - 13137**
Megan Proctor, Washington Closure Hanford
- 9:00 Treatment of Bottled Liquid Waste During Remediation of the Hanford 618-10 Burial Ground - 13001**
Darrin Faulk, Chris Pearson, Barry Vedder, David Martin, Washington Closure Hanford
- 9:25 Recent Approaches to Modeling Transport of Mercury in Surface Water and Groundwater - Case Study in Upper East Fork Poplar Creek, Oak Ridge, TN - 13349**
Kent Bostick, Anamary Daniel, Pro2Serve; Siamak Malek-Mohammadi, Bradley University; Georgio Tachiev, Florida International University
- 9:50 Environmental Cleanup of the East Tennessee Technology Park - Year One - Execution with Certainty - 13120**
Allen Schubert, URS | CH2M Oak Ridge LLC (UCOR)
- 5 Minute Break - Optional -

- 10:20 Environmental Stewardship at the Savannah River Site: Generations of Success - 13212**
Brian Looney, Robert Aylward, Savannah River National Laboratory; Christopher Bergren, Tom Gaughan, Savannah River Nuclear Solutions; Gary Mills, John Blake, Savannah River Site; Karen Guevara, Wade Whitaker, Brian Hennessey, US DOE
- 10:45 Decommissioning and Environmental Cleanup of a Small Arms Training Facility - 13225**
Brian Looney, Savannah River National Laboratory; Thomas Kmetz, Sandra Smith, Gerald Blount, Savannah River Nuclear Solutions; Karen Adams, US DOE
- 11:10 Distribution of Radioactive Materials in the Absheron Peninsula, Azerbaijan - 13567**
Tjalle "Chuck" Vandergraaf, Consultant (Canada); Gudrat Mamedov, Mahammadali Ramazanov, Vatan Badalov, Baku State University; Jalal Naghiyev, Institute of Radiation Problems of ANAS; Afat Mehdiyeva, National Aerospace Agency (Azerbaijan Republic)

Session 75

8:30 AM - 12:00 PM Room 106C

Regulatory and Programmatic Issues and Solutions for LLW, ILW, MW and NORM

Co-Chairs: **David Eaton**, *CH2M-WG Idaho, LLC*; **Gabriele Bandt**, *TÜV NORD EnSys Hannover (Germany)*
Lead Organizer: **David Eaton**
Add'l Organizers: **Gabriele Bandt, Linda Beach**
Paper Reviewer: **Gabriele Bandt**

- 8:35 Issues and Recommendations Arising from the Idaho National Laboratory Remote-Handled Low-Level Waste Disposal Facility Composite Analysis - 13374**
Jeffrey Sondrup, Arthur Rood, Annette Schafer, Idaho National Laboratory
- 9:00 A Comprehensive Solution for Managing TRU & LLW from Generation to Final Disposition - 13205**
Justin Tozer, Edwina Sanchez, Alison Dorries, Los Alamos National Laboratory
- 9:25 The Creation of a French Basic Nuclear Installation - Description of the Regulatory Process - 13293**
Carole Mahé, Christine Leroy, CEA (France)

Wednesday AM

**9:50 Reportable Nuclide Criteria for ORNL
Radioactive Waste Management Activities**
- 13005

Kip McDowell, Timothy Forrester, Oak Ridge
National Laboratory; Mark Saunders, Fairfield
Service Group

- 5 Minute Break – Optional -

10:20 Breaking the Code on Challenging Waste
- 13267

Aaron White, US DOE; John Witzeman,
Charles Estes, URS | CH2M Oak Ridge LLC

**10:45 Superfund Policy Statements and Guidance
Regarding Disposition of Radioactive
Waste in Non-NRC Licensed Disposal
Facilities** - 13407

Stuart Walker, US EPA

**11:10 Waste Treatment and Immobilization Plant
US DOE Office of River Protection
Submerged Bed Scrubber Condensate
Disposition Project** - 13460

Gene Ramsey, Ronald Yanochko, Washington
River Protection Solutions; Connie Corcoran,
Lucas Engineering & Management Services, Inc.

**11:35 Classified Component Disposal at the
Nevada National Security Site (NNSS)**
- 13454

Jeanne Poling, Pat Arnold, NSTec, LLC;
E. Frank DiSanza, E. Frank DiSanza Consulting;
Max Saad, Sandia National Laboratories; Kevin
Cable, US DOE

Session 76

8:30 AM - 10:15 AM Room 102A

Management of Nuclear Power Plant Dry Waste

Co-Chairs: **Wolfgang Steinwarz**, Siempelkamp
Nukleartechnik GmbH; **Andreas Roth**, AMR German
Products & Services GmbH (Germany)

Lead Organizer: **Wolfgang Steinwarz**

Paper Reviewer: **Mark Carver**

**8:35 Westinghouse Waste Simulation and
Optimization Software Tool** - 13493

Kim Mennicken, Jorg Aign, Westinghouse
Electric Germany GmbH (Germany)

**9:00 NUHOWS - Storage and Transportation of
Irradiated Reactor Components in Large
Packages** - 13439

Jeff Isakson, Glen Rae, Transnuclear, Inc.

**9:25 Modification of the Decontamination Facility
at the Krümmel NPP** - 13451

Stefan Klute, Peter Kupke, Siempelkamp
Nukleartechnik GmbH (Germany)

**9:50 LL/ILW: Post-Qualification of Old Waste
through Non-Destructive Extraction of
Cemented Barrels out of Concrete Shielding**
- 13535

Steffen Oehmigen, GNS mbH; Frank Ambos,
sat. Kerntechnik GmbH (Germany)

Session 77

10:15 AM - 12:00 PM Room 102A

Nuclear Power Plant Material Characterization and Onsite SNF/UNF Storage

Co-Chairs: **John Remark**, AREVA; **Howard Stevens**,
Studsvik

Lead Organizer: **Mark Lewis**

Paper Reviewer: **John Remark**

**10:20 Using Process Knowledge to Manage
Disposal Classification of Ion-Exchange
Resin** - 13566

Jon Bohnsack, David James, DW James
Consulting, LLC

**10:45 License Amendment Request for Storing
Exelon Sister Nuclear Station B/C LLRW in
the LaSalle Station Interim Radwaste
Storage Facility** - 13620

Edward Taylor, Donald Gardner, URS; Miguel
Azar, Exelon Nuclear

**11:10 Camera Inspection Arm (CIA) for Boiling
Water Reactors** - 13330

Marc Rood, Scott Martin, S.A. Technology

**11:35 Improvement of Radwaste Management
System at Bilibinskaya NPP in the Far
North Conditions** - 13456

Denis Fedorov, Dmitry Adamovich, Alexander
Savkin, SIA Radon (Russia)

Session 78

8:30 AM - 12:00 PM Room 101C

Application of Innovative D&D Technologies

Co-Chairs: **Rick Demmer**, Idaho National Laboratory;
Anthony Banford, National Nuclear Laboratory
(United Kingdom)

Lead Organizer & Paper Reviewer: **Rick Demmer**

Add'l Organizers: **Rick Dearholt**, **Julia Tripp**

- 8:35 Improvements Realized on the NiThrow™ Solution** - 13075
Fabrice Moggia, Laurent Objois, Thierry Varet, Frederique Damerval, AREVA; Frederic Richard, AIR LIQUIDE; Valerie Toulemonde, AREVA NC (France); Sebastien Guillot, AREVA Federal Services LLC
- 9:00 Remote Fiber Laser Cutting System for Dismantling Glass Melter** - 13071
Takashi Mitsui, Noriaki Miura, IHI Corporation; Katsura Oowaki, Isao Kawaguchi, IHI Inspection & Instrumentation Co., Ltd; Tooru Ino, Yasuhiko Miura, Japan Nuclear Fuel Limited (Japan)
- 9:25 Cleanup and Dismantling of Highly Contaminated Ventilation Systems Using Robotic Tools** - 13162
Frederic Chambon, AREVA Federal Services LLC; Jean-Pierre Cizel, AREVA; Samuel Blanchard, CEA Marcoule (France)
- 9:50 Chemical System Decontamination at PWR Biblis A by ASDOC_D Process** - 13081
Andreas Loeb, Dieter Stanke, Hartmut Runge, Siempelkamp NIS Ingenieurgesellschaft mbH; Horst-Otto Bertholdt, NCT Consulting; Andreas Adams, Michael Impertro, Josef Roesch, RWE Power AG (Germany)
- 5 Minute Break – Optional -
- 10:20 Freeze Technology for Nuclear Applications** - 13590
Susanne Rostmark, Sven Knutsson, Lulea University of Technology; Maria Lindberg, Studsvik Nuclear AB (Sweden)
- 10:45 Recent Improvement of Measurement Instrumentation to Supervise Nuclear Operations and to Contribute Input Data to 3D Simulation Code** - 13289
Charly Mahe, CEA; Caroline Chabal, CEA, Nuclear Energy Division (France)
- 11:10 Testing and Performance Validation of a Sensitive Gamma Ray Camera Designed for Radiation Detection and Decommissioning Measurements in Nuclear Facilities** - 13044
Daniel Pancake, Richard Creed, Argonne National Laboratory; Marc Looman, Antony Towner, Adam Poundall, ANTECH (United Kingdom); John Mason, ANTECH Corporation
- 11:35 SOLIEX: A Novel Solid-Liquid Method of Radionuclides Extraction from Radioactive Waste Solutions** - 13486
Ekaterina Shilova, Pascal Viel, CEA; Yves Barre, Bruno Fournel, CEA Marcoule; Vincent Huc, Université Paris-Sud 11 (France)

Session 79

8:30 AM - 12:00 PM Room 101B

Crosscutting Performance Assessments, Risk Management, and Modeling (Part 2 of 2)

Co-Chairs: **Ming Zhu, US DOE; Kevin Brown, Vanderbilt University**
 Lead Organizer & Paper Reviewer: **Ming Zhu**
 Add'l Organizer: **Kim Auclair**

- 8:35 Needs for Risk Informing Environmental Cleanup Decision Making** - 13613
Ming Zhu, Richard Moorer, US DOE
- 9:00 Revisions to US EPA Superfund Risk and Dose Assessment Models and Guidance** - 13403
Stuart Walker, US EPA
- 9:25 Architectural Framework for Addressing Legacy Waste from the Cold War** - 13611
Gregory Love, Christopher Glazner, Sam Steckley, The MITRE Corporation
- 9:50 Benchmarking the New RESRAD-OFFSITE Source Term Model with DUST-MS and GoldSim** - 13377
Jing-Jy Cheng, Sunita Kamboj, Emmanuel Gnanapragasam, Charley Yu, Argonne National Laboratory
- 5 Minute Break – Optional -
- 10:20 Cementitious Barriers Partnership (CBP): Training and Release of CBP Toolbox Software, Version 1.0** - 13480
Kevin Brown, David Kosson, Andrew Garrabrants, Sohini Sarkar, Vanderbilt University; Hans van der Sloot, Hans van der Sloot Consultancy; Johannes Meeussen, Nuclear Research and Consultancy Group (Netherlands); Eric Samson, SIMCO Technologies, Inc. (Canada); Greg Flach, Christine Langton, Frank Smith, Savannah River National Laboratory; Heather Burns, Savannah River Nuclear Solutions, LLC; Pramod Mallick, Linda Suttora, US DOE; David Esh, Mark Fuhrmann, Jacob Philip, US NRC
- 10:45 Identification of Mission Sensitivities with Mission Modeling from the One System Organization at Hanford** - 13292
Jeremy Belsher, Kayla Pierson, Washington River Protection Solutions; Rod Gimpel, One System - Waste Treatment Project

11:10 Safety Assessment for Very LLW Disposal at the National Radioactive Waste Repository Mochovce in Slovakia - 13508
Enrique Biurrún, Bernt Haverkamp, DBE Technology GmbH (Germany); Ana Maria Lázaro, Arturo Miralles, Westinghouse Electric Spain SAU (Spain)

11:35 Safety Assessment for the Kozloduy National Disposal Facility in Bulgaria - 13507
Bernt Haverkamp, Enrique Biurrún, DBE Technology GmbH (Germany); Ira Stefanova, SERAW (Bulgaria); Ana Maria Lázaro, Arturo Miralles, Westinghouse Electric Spain SAU (Spain)

Poster Session 80

8:30 AM - 12:00 PM 1st Floor Foyer

Posters:

Nuclear Power Plant WM – A
Packaging & Transportation – B
Decontamination & Decommissioning – C-D

Topic A: Nuclear Power Plant Waste Management

Co-Chairs: **Mark Carver**, Entergy Services, Inc.;

Mark Lewis, EnergySolutions

Lead Organizer: **Mark Carver**

Paper Reviewer: **John Remark**

A1. Development of Stable Solidification Method for Insoluble Ferrocyanides - 13170

Yuki Ikarashi, Rana Syed Masud, Hitoshi Mimura, Tohoku University; Eiji Ishizaki, Minoru Matsukura, Union Showa K.K. (Japan)

A2. Evaluation of Adsorption Properties for Cs and Sr Selective Adsorbents - 13171

Tomonori Nakai, Hitoshi Mimura, Syunya Wakabayashi, Yuichi Niibori, Tohoku University; Minoru Matsukura, Eiji Ishizaki, Fumio Kurosaki, Hiroshi Tanigawa, Union Showa K.K. (Japan)

A3. Radiochemical Separation and Quantification of Tritium in Metallic Radwastes Generated from CANDU Type NPP - 13279

Hong Joo Ahn, Kwang-Soon Choi, Tae-Hong Park, Yong Joon Park, Kyuseok Song, Ke-Chon Choi, Korea Atomic Energy Research Institute (Republic of Korea)

A4. Development of Zeolite Nonwoven for the Adsorption of Radioactive Cesium - 13288
Hitoshi Mimura, Tomonori Nakai, Tohoku University; Ayako Murao, 3R Corporation; Teruo Miura, Yoshihito Aoyama, Oji Kinocloth K.K. (Japan)

A5. Periodic Verification of the Scaling Factor for Radwastes in Korean NPPs - 13294
Yong Joon Park, Hong Joo Ahn, Byoung Chul Song, Kyuseok Song, Korea Atomic Energy Research Institute (Republic of Korea)

A6. Study on Volatility of Cesium in Dry Ashing Pretreatment and Dissolution of Ash by Microwave Digestion System - 13331
Kwang-Soon Choi, Chang-Heon Lee, Hong Joo Ahn, Yong Joon Park, Kyuseok Song, Korea Atomic Energy Research Institute (Republic of Korea)

A7. Determination of Iodine-129 in Low Level Radioactive Wastes - 13334
Ke-Chon Choi, Hong Joo Ahn, Yong Joon Park, Kyuseok Song, Korea Atomic Energy Research Institute (Republic of Korea)

A8. The Radioactivity Characteristics of the NPP Charcoal Sample Contaminated by Carbon-14 - 13531
Hee Reyoung Kim, Ulsan National Institute of Science and Technology (Republic of Korea)

A9. Evaluation of Resin Dissolution Using an Advanced Oxidation Process - 13241
Leandro Goulart de Araujo, Rafael Vicente de Pádua Ferreira, Júlio Takehiro Marumo, Nuclear and Energy Research Institute; Roque Passos Piveli, Fábio Campos, The Polytechnic School of the University of São Paulo (Brazil)

A10. Extended Sleeve Products Allow Control and Monitoring of Process Fluid Flows Inside Shielding, Behind Walls and Beneath Floors - 13041
Mark Jacobs, Mark Abbott, Flowserve Corporation

Topic B: Packaging and Transportation

Co-Chairs: **Mike Snyder**, MHF Services;

Stephen O'Connor, US DOE

Lead Organizer & Paper Reviewer: **Mike Snyder**

B1. Preparation of the Second Shipment of Spent Nuclear Fuel from the Ustav Jaderneho Vyzkumu Rez (UJV Rez), Czech Republic to the Russian Federation for Reprocessing - 13478

Radek Trtilek, Josef Podlaha, UJV Rez, a.s. (Czech Republic)

B2. Study on Shielding Requirements for Radioactive Wastes Transportation in a Mo-99 Production Plant - 13382

Maria Eugenia Rego, Solange Kazumi Sakata, Roberto Vicente, Goro Hiromoto, Nuclear and Energy Research Institute (Brazil)

B3. Dynamic Impact Analyses and Tests of Concrete Overpacks - 13638

Sanghoon Lee, Ki-Young Kim, Je-Eon Jeon, Sang-Soon Cho, Ki Seog Seo, Korea Atomic Energy Research Institute (Republic of Korea)

Topic C: Facility D&D

Co-Chairs: **Jas Devgun**, Sargent & Lundy, LLC;
Michelle Gresalfi, Project Enhancement Corporation
 Lead Organizer: **Jas Devgun**
 Paper Reviewer: **Sue Aggarwal**

C1. The Underwater Spectrometric System Based on CZT Detector for Survey of the Bottom of MR Reactor Pool - 13461

Oleg Ivanov, Victor Potapov, Alexey Safronov, Sergey Smirnov, Vyacheslav Stepanov, National Research Centre - Kurchatov Institute (Russia)

C2. Radiological Control of Water in Reactor Pond of MR Reactor in NRC "Kurchatov Institute", During Dismantling Work - 13462

Oleg Ivanov, Alexey Stepanov, Yury Simirsky, Ilya Semin, Anatoly Volkovich, National Research Centre - Kurchatov Institute (Russia)

C3. New Remote Method for Estimation of Contamination Levels of Reactor Equipment - 13175

Oleg Ivanov, Vyacheslav Stepanov, Sergey Smirnov, Anatoly Volkovich, Alexey Danilovich, Victor Potapov, Ilya Semin, Sergey Semenov, National Research Centre - Kurchatov Institute (Russia)

C4. Dismantling of Loop-Type Channel Equipment of MR Reactor in NRC "Kurchatov Institute" - 13040

Alexander Chesnokov, Yuri Zverkov, Oleg Ivanov, Alexey Lemus, Vyacheslav Kolyadin, Vitaly Pavlenko, Sergey Semenov, Sergey Fadin, Anatoly Shisha, Alexey Danilovich, Viktor Volkov, National Research Centre - Kurchatov Institute (Russia)

C5. D&D: Dismantling and Release of Large Components at the GNS Premises in Duisburg on the Example of a CASTOR S1 Container - 13536

Steffen Oehmigen, GNS mbH; Frank Ambos, sat. Kerntechnik GmbH (Germany)

C6. The Regulatory Challenges of Decommissioning Nuclear Power Plants in Korea - 13101

Daesik Yook, Jung Joon Lee, Sangmyeon Ahn, Kyung-Woo Choi, Korea Institute of Nuclear Safety; Juyoul Kim, Juyub Kim, FNC Technology Co., Ltd (Republic of Korea)

C7. Analysis of Alternatives for Dismantling of the Equipment in Building 117/1 at Ignalina NPP - 13278

Gintautas Poskas, Povilas Poskas, Audrius Simonis, Lithuanian Energy Institute (Lithuania)

Topic D: D&D Technology

Co-Chairs: **Fred Sheil**, Sheil Consulting, Ltd. (United Kingdom); **Al Freitag**, Mitsubishi Nuclear Energy Systems

Lead Organizer: **Fred Sheil**
 Paper Reviewer: **Grant Charters**

D1. Decontamination Process of Internal Part of Pipes - 13442

Fabrice Moggia, Xavier Ladet, Olivia Sozet, Philippe Cabanillas, Gilles Macia, Frederique Damerval, AREVA (France)

D2. Dismantling Studies of the Hot Cell #904 at La Hague - 13466

Claire-Emilie Vaudey, Marjorie Renouf, Laure Pinot, Stéphane Crosnier, Nicolas Gaspard, AREVA (France)

D3. Decommissioning and Dismantling of the Floating Maintenance Base 'Lepse' - 13316

Nick McAtamney, David Field, Ken Mizen, Nuvia Limited (United Kingdom)

D4. Sharing Experiences within AREVA D&D Project Portfolio: 4 Illustrations - 13049

Jean-Michel Chabeuf, Thierry Varet, AREVA (France)

D5. The Role of Gamma-ray Imaging in Performing Radiological Characterisation at the Magnox Storage Ponds at the Bradwell Decommissioning Site - 13628

Daniel Parvin, Peter Clark, Karl Hughes, Tracey Shaw, Babcock International Group (United Kingdom)

February 27, Wednesday PM

Session 81

1:30 PM - 3:10 PM Room 102B

Panel: UK/USA Partnering Across the Pond - Accomplishments and Lessons Learned

Co-Chairs: **John Mathieson**, UK NDA (United Kingdom); **Rosa Elmetti (Ramirez)**, US DOE
Lead Organizer & Panel Reporter: **Angie Jones**
Add'l Organizers: **Rosa Elmetti (Ramirez)**, **Graham Jonsson**

This panel will build upon the WM2011 panel that introduced the US DOE/UK NDA Bilateral Agreement. Representatives from US DOE and UK NDA will present the overall accomplishments to date and discuss its future direction. There will be a presentation on the successes to date as well as some of the lessons learned and areas for further development and improvement. The panel is particularly interested in input from the audience that can be used to shape the content and focus of the agreement going forward.

Panelists include: Rosa Elmetti (Ramirez), US DOE; **John Mathieson**, NDA; **Graham Jonsson**, NDA (United Kingdom); and **Laurie Judd**, NuVision Engineering, Inc.

Session 82

3:15 PM - 5:00 PM Room 102B

Panel: Contract Transition: Initiating the Final Contract to Achieve the Dounreay Interim End State

Co-Chairs: **Dyan Foss**, DSRL (Scotland); **John Kristofzski**, CH2M HILL, Inc.
Lead Organizer & Panel Reporter: **John Kristofzski**
Add'l Organizer: **Dyan Foss**

This panel will focus on the implementation of the target cost contract to achieve the Interim End State at the Dounreay Site, Scotland. This contract is the first closure contract awarded by the UK NDA. Share transfer took place on 1 April 2012. The panel will highlight how the transition and consolidation was implemented and focus on lessons learned and perspectives from each of the affected parties including Dounreay Site Restoration Limited, UK NDA and the Office for Nuclear Regulation.

Panelists include: Craig Brown, Babcock International; **John Lawes**, Contracts Manager, NDA; and **Ryan Maitland**, Office of Nuclear Regulations (United Kingdom).

Session 83

1:30 PM - 5:00 PM Room 102A

Worldwide Perspectives of Radioactive Waste Management - Challenges and Solutions

Co-Chairs: **Roger Nelson**, US DOE; **Gérald Ouzounian**, Andra (France)
Lead Organizer: **John Mathieson**
Add'l Organizers: **Leif Eriksson**, **Gérald Ouzounian**
Paper Reviewer: **Leif Eriksson**

1:35 Overview of the Government of Canada Nuclear Legacy Liabilities Program - 13551
Doug Metcalfe, Dave McCauley, Natural Resources Canada; **Joan Miller**, **Sheila Brooks**, Atomic Energy of Canada Limited (Canada)

2:00 Sub-Seabed Repository for Nuclear Waste - A Strategic Alternative - 13102
Keith McAllister, US Navy

2:25 Blue Ribbon Commission, Yucca Mountain Closure, Court Actions - Future of Decommissioned Reactors, Operating Reactors and Nuclear Power - 13249
Jas Devgun, Sargent & Lundy, LLC

2:50 Industrial Program of Waste Management - Cigéo Project - 13033
Marc Butez, Andra; **Olivier Bartagnon**, **Laurent Gagner**, AREVA NC; **Thierry Advocat**, **Pablo Sacristan**, CEA; **Stephan Beguin**, EDF (France)
- 5 Minute Break - Optional -

3:20 Preliminary Safety Analysis of the Gorleben Site: Safety Concept and Application to Scenario Development Based on a Site-Specific Features, Events and Processes (FEP) Database - 13304
Jörg Mönig, **Thomas Beuth**, **Jens Wolf**, GRS mbH; **André Lommerzheim**, DBE Technology GmbH; **Sabine Mrugalla**, Federal Institute for Geosciences and Natural Resources (BGR) (Germany)

3:45 The US DOE-EM International Program - 13004
Rosa Elmetti (Ramirez), **Alice Williams**, **Ana Han**, US DOE

4:10 Radioactive Waste Management at the New Conversion Facility of 'TVEL' Fuel Company - 13474

Vasiliy Tinin, *Konstantin Tvilenev, JSC SCC; Sergey Indyk, Alexander Volodenko, Fuel Company TVEL; Evgeniya Fateeva, Joint Stock Company "Siberian Group of Chemical Enterprises" (Russia)*

4:35 The Management of the Radioactive Waste Generated by Cernavoda NPP, Romania, an Example of International Cooperation - 13449

Gheorghe Barariu, *National Authority for Nuclear Activity (Romania)*

Session 84

1:30 PM - 5:00 PM Room 106A

Roundtable: WM Energy Facilities Contractor Operating Group (EFCOG)

Co-Chairs: **W.T. (Sonny) Goldston**, *EnergySolutions*; **Renee Echols**, *Perma-Fix Environmental Services*
Lead Organizer & Panel Reporter: **W.T. (Sonny) Goldston**

Add'l Organizers: **Tammy Monday, Renee Echols, Christine Gelles**

This roundtable will focus on the WM EFCOG and will meet to discuss a variety of issues of importance to US DOE waste management operations. The purpose of the WM EFCOG is to seek out and promote the best management and operating practices, cost effective technologies and disposal options for all waste streams generated at US DOE facilities whether destined for US DOE or commercial facilities. Each US DOE site representative will provide a radioactive waste management lessons learned briefing.

Session 85

1:30 PM - 3:10 PM Room 105B

Panel: Worldwide Regulatory Challenges of Radioactive Legacy Sites - IAEA Working Forum (Part 1 of 2)

Co-Chairs: **Malgorzata K. Sneve**, *Norwegian Radiation Protection Authority (Norway)*; **Ray Clark**, *US EPA*

Lead Organizer: **Ray Clark**

Add'l Organizers: **Malgorzata K. Sneve, Mikhail Kiselev, Russel Edge**

Panel Reporter: **Graham Smith**

This session is divided into two parts: Part 1, this panel session, provides an opportunity to share information about activities within the IAEA International Working Forum on Regulatory Supervision of Legacy Sites (RSLs) programs on regulatory developments specific to nuclear and uranium legacy situations, assessment of compliance and training requirements and provisions.

Part 2 Panel follows in Session 86 on a related topic.

Panelists include: Russel Edge, *Division of Radiation, Transport and Waste Safety, Department of Safety and Security, IAEA (Austria)*; **Mikhail F. Kiselev**, *Deputy Head, Ministry of Health and Social Development of the Russian Federation, Federal Medical Biological Agency (Russia)*; **David Shafer**, *Acting Director, Office of Site Operations, Office of Legacy Management, US DOE*; and **Ron Stenson**, *Waste and Decommissioning Division, Canadian Nuclear Safety Commission (Canada)*.

Session 86

After Ses. 85 - 5:00 PM Room 105B

Panel: Worldwide Regulatory Challenges of Radioactive Legacy Sites - Progress in Bi-Lateral Cooperation (Part 2 of 2)

Co-Chairs: **Malgorzata K. Sneve**, *Norwegian Radiation Protection Authority (Norway)*; **Ray Clark**, *US EPA*

Lead Organizer: **Ray Clark**

Add'l Organizers: **Malgorzata K. Sneve, Nataliya Shandala**

Panel Reporter: **Graham Smith**

This panel session, part 2 of 2, addresses abnormal situations at legacy sites remaining from military and civilian nuclear technology developments in the 20th century, as they raise many questions about safety and security, as well as environmental and human health protection. These complex legacy situations present significant challenges to comprehensive, balanced, effective and efficient regulatory supervision and therefore have become the subject of bi-lateral agreements.

Panelists include: Nataliya K. Shandala, *Deputy Director General, Federal Medical Biological Centre (Russia)*; **Stuart Walker**, *Superfund Remediation Program Radiation Lead, US EPA*; **Rob Pope**, *Senior Remedial Project Manager, Federal Facilities Branch Atlanta, US EPA*; and **Malgorzata Sneve**, *Director, Regulatory Cooperation Programme, Norwegian Radiation Protection Authority (Norway)*.

Session 87

1:30 PM - 3:10 PM Room 103AB

Panel: Characterization & Survey for Decommissioning and Waste Management

Co-Chairs: **Rateb (Boby) Abu Eid**, *US NRC*; **Jas Devgun**, *Sargent & Lundy, LLC*

Lead Organizer: **Jas Devgun**

Panel Reporter & Add'l Organizer: **Rateb (Boby) Abu Eid**

This panel will focus on updates of characterization & survey protocols, methods, approaches and technical developments in support of decommissioning and waste management. Discussions will touch on methods, protocols and approaches for both surface and subsurface surveys, data quality objectives, models and codes for both surface and subsurface surveys and characterization as well as the latest developments in 3D modeling and visualization for characterizing radiological contamination.

Panelists include: **Robert Stewart**, *Oak Ridge National Laboratory*; **Arne Larsson**, *Studsvik (Sweden)*; **Andrew Szilagy**, *US DOE*; **Yvon Desnoyers**, *Geovariance (France)*; and **Karen Kim**, *EPRI*.

Session 88

3:15 PM - 5:00 PM Room 103AB

Panel: Featured Sites US DOE-EM Lexington, KY Office (Portsmouth, OH and Paducah, KY Sites)

Co-Chairs: **William Murphie**, *US DOE*; **Gary Benda**, *Bartlett Services, Inc.*

Lead Organizer: **Judith Connell**

Add'l Organizers: **Arnie Whipple**, **Gary Benda**, **Tim Echelard**

Panel Reporter: **Lisa Burns**

This panel will focus on the developments and successes of the US DOE Lexington office. The office manages US DOE activities at the Portsmouth, Ohio and Paducah, KY site and their clean-up efforts. This panel will be moderated by William Murphie, DOE Manager of the Portsmouth/Paducah Project Office (PPPO).

Panelists include: **Vince Adams**, *Portsmouth Site Director, US DOE*; **Kent Fortenberry**, *Chief Engineer, B&W Conversion Services (BWCS)*; **Mark Duff**, *Project Manager, LATA of KY*; and **Dennis Carr**, *Program Manager, Fluor - B&W Portsmouth (FBP)*.

Session 89

1:30 PM - 3:15 PM Room 101C

Management of Nuclear Power Plant Liquid and Wet Waste

Co-Chairs: **C. Clint Miller**, *Pacific Gas & Electric*; **Esko Tusa**, *Fortum Power and Heat Oy (Finland)*

Lead Organizer: **Mark Lewis**

Paper Reviewer: **C. Clint Miller**

1:35 Westinghouse Cementation Facility of Solid Waste Treatment System - 13503

Jorg Aign, *Torsten Jacobs, Westinghouse Electric Germany GmbH (Germany)*

2:00 300 GPM Solids Removal System - A True Replacement for Back Flushable Powdered Filter Systems - 13607

Mark Ping, *EnergySolutions*

2:25 Verification of the Accountability Method as a Means to Classify Radioactive Materials Processed using THOR Fluidized Bed Steam Reforming at the Studsvik Processing Facility in Erwin, TN - 13087

Jonathan Olander, *Corey Myers, Studsvik*

2:50 Westinghouse Modular Grinding Process - Enhancement of Volume Reduction for Hot Resin Supercompaction - 13491

Henning Fehrmann, *Jorg Aign, Westinghouse Electric Germany GmbH (Germany)*

Session 90

3:15 PM - 5:00 PM Room 101C

Fukushima NPP Liquid Waste and Processing (Part 4 of 4)

Co-Chairs: **C. Clint Miller**, *Pacific Gas & Electric*; **Esko Tusa**, *Fortum Power and Heat Oy (Finland)*

Lead Organizer: **Wolfgang Steinwarz**

Paper Reviewer: **Howard Stevens**

3:20 Cesium Removal at Fukushima Nuclear Plant - 13215

James Braun, *Tracy Barker, Avantech, Inc.*

3:45 Removal of Radionuclide from Waste Water at Fukushima Daiichi Nuclear Power Plant: Desalination and Adsorption Methods - 13126

Yuko Kani-Hino, Daisuke Watanabe, Mamoru Komashida, Hitachi, Ltd.; Takashi Asano, Shin Tamata, Hitachi-GE Nuclear Energy, Ltd. (Japan)

4:10 New Standards in Liquid Waste Treatment at Fukushima Dai-ichi - 13134

Paul Sylvester, Tim Milner, Scott Poole, Paul Townson, Jennifer Ruffing, Jesse Jensen, EnergySolutions

4:35 Isotope Specific Remediation Media and Systems - 13614

Mark Denton, Joshua Mertz, Kurion, Inc.; Keisuke Morita, Japan Atomic Energy Agency (Japan)

Session 91

1:30 PM - 3:15 PM Room 101B

Progress in HLW and TRU Retrieval

Co-Chairs: **Edward Ketusky**, Savannah River Remediation, LLC; **William Wilmarth**, Savannah River National Laboratory

Lead Organizer: **Tom Brouns**

Add'l Organizers: **Edward Ketusky, William Wilmarth**

Paper Reviewer: **Edward Ketusky**

1:35 One System Integrated Project Team: Retrieval and Delivery of Hanford Tank Wastes for Vitrification in the Waste Treatment Plant - 13234

Benton (Ben) Harp, US DOE; Richard Kacich, Bechtel National Inc./Waste Treatment Plant; Raymond Skwarek, Washington River Protection Solutions

2:00 K-Basins Sludge Treatment and Packaging at the Hanford Site - 13585

Thomas Fogwell, Fogwell Consulting; James Honeyman, CH2M HILL PRC; Gary Stegen, Lucas Engineering and Management Services, Inc.

2:25 A One System Integrated Approach to Simulant Selection for Hanford High Level Waste Mixing and Sampling Tests - 13342

Mike Thien, Washington River Protection Solutions; Steve Barnes, URS Washington Division

2:50 UP2 400 High Activity Oxide Legacy Waste Retrieval Project Scope and Progress - 13048

Jean-Michel Chabeuf, Thierry Varet, AREVA (France)

Session 92

3:15 PM - 5:00 PM Room 101B

Advancements in HLW Closure

Co-Chairs: **Virginia (Ginger) Dickert**, Savannah River Remediation, LLC; **Paul Brecht**, Pacific Northwest National Laboratory

Lead Organizer: **Tom Brouns**

Add'l Organizers: **Virginia (Ginger) Dickert, Paul Brecht, Edward Ketusky**

Paper Reviewer: **Virginia (Ginger) Dickert**

3:20 Methods for Heel Retrieval for Tanks C-101, C-102 and C-111 at the Hanford Site - 13064

Terry Sams, Jacob Reynolds, Nick Kirch, Washington River Protection Solutions

3:45 Completion of Operational Closure of Tank 18F and Tank 19F at the Savannah River Site by Grouting - 13236

Andrew Tisler, Savannah River Remediation

4:10 A Dual Regime Reactive Transport Model for Simulation of High Level Waste Tank Closure Scenarios - 13375

Sohini Sarkar, David Kosson, Kevin Brown, Andrew Garrabrants, Vanderbilt University; Hans van der Sloot, Hans van der Sloot Consultancy; Johannes Meeussen, Nuclear Research and Consultancy Group (Netherlands)

4:35 Experimental Methods to Estimate Accumulated Solids in Nuclear Waste Tanks - 13313

Sharon Marra, Mark Duignan, Tim Steeper, John Steimke, Savannah River National Laboratory

Session 93

1:30 PM - 5:00 PM Room 105C

Innovative Solutions to Complex Plutonium & TRU Issues

Co-Chairs: **Jessica Moseley**, Weston Solutions, Inc; **Kapil Goyal**, Los Alamos National Laboratory

Lead Organizer: **Terry Wickland**

Add'l Organizers: **Betty Humphrey, Jessica Moseley, Kapil Goyal**

Paper Reviewer: **Kapil Goyal**

1:35 Facility Utilization and Risk Analysis Help to Complete Remediation of Legacy Transuranic Waste at the Savannah River Site - 13572

John Gilmour, Michael Gilles, Savannah River Nuclear Solutions

Wednesday PM

- 2:00 Characterizing Surplus US Plutonium for Disposition** - 13199
Thomas Severynse, Jeffrey Allender, Savannah River National Laboratory; Edwin Moore, Moore Nuclear Energy, LLC
- 2:25 Transuranic Waste Processing Center Legacy Tank RH-TRU Sludge Processing and Compliance Strategy** - 13255
Ben Rogers, Frederick Heacker, Chris Shannon, Wastren Advantage, Inc.; Don Gagel, EnergX, LLC
- 2:50 Repackaging of High Fissile TRU Waste at the Transuranic Waste Processing Center** - 13240
Brian Oakley, Frederick Heacker, Wastren Advantage, Inc.; Bill McMillan, US DOE
- 5 Minute Break – Optional -
- 3:20 Project Plan, Status, and Lessons Learned for the LANL 3,706 m3 TRU Waste Campaign** - 13085
Kathryn Johns-Hughes, James Steve Clemmons, Daniel Cox, Kenneth Hargis, Los Alamos National Laboratory; Lee Bishop, US DOE
- 3:45 A Cask Processing Enclosure for the TRU Waste Processing Center** - 13408
John Newman, Nicholas Mendez, IP Systems, Inc.
- 4:10 Waste Generator Instructions: Key to Successful Implementation of the US DOE's 435.1 for Transuranic Waste Packaging Instructions** - 13218
David French, Alejandro Enriquez, Timothy Hayes, Pete Carson, Los Alamos National Laboratory; Howard Pope, Aspen Resources Ltd., Inc.

Session 94

1:30 PM - 3:15 PM Room 106B

Waste Certification, Acceptance and Disposal for LLW/ILW

Co-Chairs: **Heinz Kroeger**, TÜV NORD EnSys Hannover (Germany); **Holger Spann**, Siemplekamp Nuclear Services, Inc.
Lead Organizer & Paper Reviewer: **Heinz Kroeger**

- 1:35 Multi-discipline Waste Acceptance Process at the Nevada National Security Site (NNSS)** - 13573
Jhon Carilli, US DOE; Susan Krenzien, Navarro-Intera, LLC
- 2:00 Implementation of the Brazilian National Repository - RBMN Project** - 13008
Clédola Tello, CDTN - Center for Development of Nuclear Technology (Brazil)

- 2:25 Opportunities for Cost Effective Disposal of Radioactively Contaminated Solid Waste on the Oak Ridge Reservation Oak Ridge, TN** - 13045
John Hampshire, URS | CH2M Oak Ridge LLC (UCOR); Donald Dunning, Argonne National Laboratory; Brian DeMonia, US DOE
- 2:50 Waste Management Improvement Initiatives at Atomic Energy of Canada Limited** - 13091
Nicholas Chan, Lynne Adams, Pierre Wong, Atomic Energy of Canada Limited (Canada)

Session 95

3:15 PM - 5:00 PM Room 106B

Pollution Prevention/Waste Minimization for LLW, ILW, MW and TENORM

Co-Chairs: **Gabriele Bandt**, TÜV NORD EnSys Hannover (Germany); **Christine Langton**, Savannah River National Laboratory
Lead Organizer & Paper Reviewer: **Gabriele Bandt**

- 3:20 Gas Generation and Release in Near-Surface Repository at Armenian NPP** - 13372
Gagik Grigoryan, Armen Amirjanyan, Albert Hovhannisyanyan, Yeghishe Gondakyan, Nuclear and Radiation Safety Centre (Armenia)
- 3:45 Radiological Impact Associated to Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) from Coal-Fired Power Plants Emissions** - 13436
Maria de Lurdes Dinis, Antonio Fiuza, José Soeiro Carvalho, Joaquim Góis, Ana Cristina Meira Castro, Porto University of Portugal (Portugal)
- 4:10 CVMR Processes for Metal Refining of Volumetrically Contaminated Radioactive Materials** - 13632
Michael Hargett, CVMR-USA; Dmitri Terekhov, Kamran M. Khozan, Chemical Vapour Metal Refining (CVMR) (Canada)
- 4:35 The Use of Induction Melting for the Treatment of Metal Radioactive Waste** - 13088
Alexander Zhrebtsov, Pavel Poluektov, Vladimir Pastushkov, Tatiana Smelova, Andrey Shadrin, JSC "VNIINM" (Russia)

Session 96

1:30 PM - 5:00 PM Room 104A

Innovative Field Monitoring for Environmental Remediation

Co-Chairs: **David Eaton**, *CH2M-WG Idaho, LLC*;
Charles Waggoner, *Mississippi State University*
 Lead Organizer & Paper Reviewer: **David Eaton**
 Add'l Organizer: **Charles Waggoner**

- 1:35 Integrated Systems-Based Approach to Monitoring Environmental Remediation** - 13211
Amoret Bunn, Michael Truex, Mart Oostrom, Kenneth Carroll, Dawn Wellman, Pacific Northwest National Laboratory
- 2:00 Automated Groundwater Monitoring for Uranium at the Hanford Site, Washington** - 13116
Scott Burge, Burge Environmental; Matthew O'Hara, Pacific Northwest National Laboratory
- 2:25 Use of Remote Technology in the Surface Water Environmental Monitoring Program at SRS Reducing Measurements in the Field** - 13336
Teresa Eddy, Ben Terry, Amy Meyer, James Hall, Perry Allen, David Hughey, Tim Hartley, Savannah River Nuclear Solutions
- 2:50 Observational Approach to Chromium Site Remediation** - 13266
Scott Myers, Washington Closure Hanford
- 5 Minute Break - Optional -
- 3:20 Innovative Gamma Ray Spectrometer Detection Systems for Conducting Scanning Surveys on Challenging Terrain** - 13583
Carl Palladino, Bryan Mason, Matt Engle, James LeVangie, The Palladino Company, Inc.; Ron Klemovich, HydroGeoLogic, Inc.; Gregg Dempsey, US EPA
- 3:45 Long-Term Assessment of Critical Radionuclides and Associated Environmental Media at the Savannah River Site** - 13038
Teresa Eddy, Gerald Blount, Savannah River Nuclear Solutions; Tim Jannik, Rachel Baker, Patricia Lee, Savannah River National Laboratory; Gail Whitney, US DOE
- 4:10 Borehole Calibration Facilities to Support Gamma Logging for Hanford Subsurface Investigation and Contaminant Monitoring** - 13516
Rick McCain, Paul Henwood, Arron Pope, Alan Pearson, S.M. Stoller Corporation

4:35 Integrated Systems-Based Approach for Reaching Acceptable End Points for Groundwater - 13629

Hope Lee, Dawn Wellman, Michael Truex, Mark Freshley, Pacific Northwest National Laboratory; Kent Sorenson, Ryan Wymore, CDM Smith

Session 97

1:30 PM - 3:15 PM Room 106C

Subsurface Characterization and Remediation

Co-Chairs: **Erich Evered**, *Jacobs*; **Skip Chamberlain**, *US DOE*
 Lead Organizer: **Kurt Gerdes**
 Add'l Organizers: **Briant Charboneau, Dawn Wellman, Peter Booth**
 Paper Reviewer: **Skip Chamberlain**

- 1:35 Alternate Endpoints for Deep Vadose Zone Environments: Challenges, Opportunities and Progress** - 13036
Dawn Wellman, Mark Freshley, Michael Truex, Hope Lee, Pacific Northwest National Laboratory
- 2:00 Characterization and Potential Remediation Approaches for Vadose Zone Contamination at Hanford 241-SX Tank Farm** - 13235
Susan Eberlein, Harold Sydnor, Danny Parker, Danney Glaser, Washington River Protection Solutions
- 2:25 Investigation on Microbial Dissolution of Uranium (VI) from Autunite Mineral** - 13421
Paola Sepulveda, Yelena Katsenovich, Leonel Lagos, Florida International University

Session 98

3:20 PM - 5:00 PM Room 106C

Panel: Legal Lessons for Small Contractors

Co-Chairs: **David W. Wallace**, *Parsons Brinckerhoff*;
Mark R. "Hawk" Thomas, *Reid Law PC*
 Lead Organizer: **John Coffman**
 Panel Reporter & Add'l Organizer: **David W. Wallace**

This session will focus on legal issues related to small business federal contractors. Using case studies, keen insight, and edgy humor, our panelist will address SBA/VA ownership and control rules, teaming and affiliation, joint ventures, bonding assistance, limits on subcontracting, cost accounting and audits, protests and appeals, and dispute resolution.

Wednesday PM

This no-nonsense, high-energy short course on doing things right and avoiding self-inflicted wounds will arm attendees with the information they need to recognize legal boundaries and distinguish themselves in the competitive federal marketplace.

All WM2013 Exhibitors can attend this session without having a Technical Program Registration badge. It has been scheduled after the Exhibit Hall closes to aid exhibitors.

Panelists include: Mark R. "Hawk" Thomas, Reid Law PC.

Session 99

1:30 PM - 5:00 PM Room 104B

Worldwide Management and Control of Sealed Sources, HEU and Orphan Radioactive Material (Part 2 of 3)

Co-Chairs: **Guenter Hillebrand**, *Nuclear Engineering Seibersdorf GmbH (Austria)*; **Alexander Brandl**, *Colorado State University*
Lead Organizer & Paper Reviewer: **Kim Auclair**

1:35 Regulatory Control of Sealed Sources in Germany including Regulations Regarding Spent and Disused Sources - 13176
Ralph Dollan, *Uwe Haeusler, Renate Czarwinski, Federal Office for Radiation Protection (Germany)*

2:00 German Support Program for Retrieval and Safe Storage of Disused Radioactive Sealed Sources in Ukraine - 13194
Gunter Pretzsch, *Peter Salewski, Martin Sogalla, GRS mbH (Germany)*

2:25 Safety and Security of Radioactive Sealed and Disused/Orphan Sources in Ukraine - German Contribution - 13359
Thorsten Meyer, *Hermann Uhlenbruck, Thomas Brasser, Uwe Hertel, GRS mbH (Germany); Alexey Shevtsov, Izotop (Ukraine)*

2:50 Sealed Source Security and Disposition: Progress and Prospects - 13515
Meaghan Jennison, *Abigail Cuthbertson, US DOE; David Martin, Energetics Incorporated*
- 5 Minute Break - Optional -

3:20 Current Situation for Management of Disused Sealed Radioactive Sources in Japan - 13025
Keiji Kusama, *Yoichi Miyamoto, Japan Radioisotope Association (Japan)*

3:45 Experience and Lessons Learned from Conditioning of Spent Sealed Sources in Singapore - 13107
Dae-Seok Hong, *Il-Sik Kang, Kyung-Duk Jang, Won-Hyuk Jang, Korea Atomic Energy Research*

Institute (Republic of Korea); Wee-Teck Hoo, National Environment Agency (Singapore)

4:10 Management of Disused Sealed Sources in Hungary - 13077
Sandor Kapitany, *PURAM (Hungary)*

4:35 Radioactive Waste Management in Non-Nuclear Countries - 13070
Dragan Kubelka, *Dejan Trifunovic, State Office for Radiological and Nuclear Safety (Croatia)*

Poster Session 100

1:30 PM - 5:00 PM 1st Floor Foyer

Topic: Non-Paper Poster Session for Emerging Issues

Co-Chairs: **Gary Benda**, *Bartlett Services, Inc.;*
Linda Lehman, *Consultant*
Lead Organizer: **Gary Benda**

This non-paper poster session, crosscutting all tracks, describes late breaking developments and emerging issues.

- A1. Thermal Plasma Treatment of ILW Organic Cation Resin - 13037**
Gary Hanus, *John Williams, Phoenix Solutions Co*
- A2. Neutron Induced Signatures for Holdup Detection - 13552**
Celestino Abrego, *Michael Curtin, Paul Frink, David Nichols, Parsons Corporation*
- A3. Design of a Near Surface Disposal Facility for Low and Intermediate Level Radioactive Waste in Lithuania - 13615**
Lucien Pilette-Cousin, *AREVA TA (France)*
- A4. Thermal Conductivity/Diffusivity of Potential Geological Formation Minerals for Nuclear Waste Storage - 13017**
Ekkehard Post, *NETZSCH Gerätebau GmbH (Germany)*
- A5. US Public Preferences, Perceptions, and Trust of the US DOE: Pre and Post Fukushima - 13035**
Charles Powers, *CRESP - Vanderbilt University;*
Michael Greenberg, CRESP - Rutgers University;
David Kosson, Vanderbilt University
- A6. After the Flood: A New Approach to Reevaluate Contaminant Distributions and Attenuation in the Surficial Aquifer at the Riverton, Wyoming Uranium Mill Tailings Remedial Action Site - 13326**
Bill Dam, *April Gil, US DOE; Sam Campbell, Stoller Corporation*

A7. Implementation of Surface Wetting Effects in Computational Fluid Dynamics Simulations Using the Lattice Boltzmann Method - 13364

Dwayne McDaniel, Seckin Gokaltun, David Roelant, Florida International University

A8. Parallel Evolution in the Hanford Federal Cloud: Transformative VDI and Community Cloud Deployment for the US DOE - 13446

John Roach, Lockheed Martin – Energy Technology Services

February 28, Thursday AM

Session 101

8:30 AM - 12:00 PM Room 102B

Panel: Waste Incidental to Reprocessing and Lessons Learned - EFCOG Workshop (Part 1 of 2)

Co-Chairs: **Linda Suttora**, US DOE; **Mark Mahoney**, Savannah River Remediation, LLC

Lead Organizer: **W.T. (Sonny) Goldston**

Add'l Organizers: **John Tseng**, Virginia (Ginger) **Dickert**, **Scott Saunders**

Panel Reporter: **Kent Rosenberger**

This all day workshop will explore the regulatory processes, reviews, roles, approvals, and interactions for disposal or tank closure of Waste Incidental to Reprocessing (WIR) both by Citation and Evaluation under US DOE O 435.1 and Secretarial Waste Determinations under §3116 of the FY2005 NDAA. Panelists will discuss the HLW systems and programs at each of the four US DOE sites that manage HLW (Hanford, SRS, West Valley and INL) and the complexities, similarities and differences at each site. Insights will be provided by the US DOE, their Contractors and regulators.

Panelists include: **Steve Thomas**, Savannah River Remediation; **Sherri Ross**, US DOE; **Bob Petras**, Savannah River Remediation; **Scott Saunders**, Washington River Protection Services; **Chris Kemp**, US DOE; **Dan Sullivan**, US DOE West Valley Demonstration Project; **Joel Case**, US DOE Idaho Operations Office; **Linda Suttora**, US DOE; **Jay Rhoderick**, US DOE; and **Chris McKenney**, US NRC.

Session 102

8:30 AM - 12:00 PM Room 105B

Panel: The Future of Consent-Based SNF/HLW Disposal Siting and Discussion of the Alternatives

Co-Chairs: **Eric Knox**, URS Corporation; **Paul Dickman**, Argonne National Laboratory

Lead Organizer: **Eric Knox**

Add'l Organizers: **Roger Nelson**, **Robert Edmonds**, **Leif Eriksson**

Panel Reporter: **Robert Edmonds**

This panel will discuss the elements and challenges of consent-based siting and the alternatives as they relate specifically to disposal of SNF and HLW.

Panelists include: **George Dials**, President and Project Manager, B&W Conversion Services, LLC; **John Heaton**, Chairman, Eddy Lea Energy Alliance, New Mexico; **Matti Kojo**, School of Management, University of Tampere (Finland); **Irena Mele**, Head of the IAEA Waste Technology Section, IAEA (Austria); **Mariano Molina**, Head of Department of International Relations, ENRESA (Spain); **Olle Olsson**, Vice President, Strategy and Programme, SKB (Sweden); **Glenn Paulson**, Science Advisor to the Administration, US EPA; **Donald Vieth**, Retired DOE and Consultant, Project Manager for Yucca Mountain Project; and **Ciara Walsh**, Project Manager, Upstream Optioneering, Radioactive Waste Management Directorate, NDA (United Kingdom).

Session 103

8:30 AM - 12:00 PM Room 103AB

Panel: Recent Developments and Trends in Integrated Risk Assessment Methods, Tools and Decision Analysis Support

Co-Chairs: **Bill Levitan**, **Kurt Gerdes**

Lead Organizer: **Kurt Gerdes**

Add'l Organizers: **Ming Zhu**, **Bill Levitan**, **Kim Auclair**

Panel Reporter: **Ming Zhu**

This panel will feature presentations from the US and Non-US communities on: 1) New approaches for performance assessments, multimedia risk assessments and multi-attribute decisional analyses in support of remedy selection for environmental cleanup and closure projects.

Thursday AM

2) Developments in methodologies and tools for multimedia environmental modeling, particularly data management and visualization (conceptual model and data) uncertainty quantification, and dose calculations. 3) Integration of performance/risk assessment models into life cycle cost analyses, and 4) Integration of monitoring and modeling approaches for the purpose of validating multimedia environmental models and optimizing environmental monitoring.

Panelists include: *Bill Levitan, US DOE - EM; Bobby Abu Eid, US NRC; and Representatives from the EPA, DoD, Interstate Technology and Regulatory Council (ITRC) and IAEA (Austria).*

Session 104

8:30 AM - 10:15 AM Room 102A

US DOE Tank Farm Aspects of HLW Retrieval

Co-Chairs: **Edward Ketusky**, *Savannah River Remediation, LLC*; **Garth Duncan**, *Bechtel National*
Lead Organizer: **Tom Brouns**
Add'l Organizers: **Edward Ketusky, William Wilmarth**
Paper Reviewer: **Paul Bredt**

8:35 Blending of Radioactive Salt Solutions in Million Gallon Tanks - 13002

Karthik Subramanian, *Savannah River Remediation, LLC*; **Robert Leishear, Si Lee, Michael Poirier, Mark Fowley**, *Savannah River National Laboratory*

9:00 Development and Qualification of Advancements in Submersible Transfer Pump Performance and Life, and Implications for Advancing and Supporting Processing Options - 13343

David Stover, *Curtiss-Wright EMD*; **Wes Bryan, James Kelly**, *Washington River Protection Solutions*

9:25 Settling Rate Observations and Projections at the Savannah River Site - 13238

Jeff Gillam, Mark Keefer, Hasmukh Shah, *Savannah River Remediation, LLC*

9:50 Degradation of Dome Cutting Minerals in Hanford Waste - 13100

Jacob Reynolds, Heinz Huber, Gary A. Cooke, *Washington River Protection Solutions*

Session 105

10:15 AM - 12:00 PM Room 102A

Enabling Technologies for HLW Retrieval

Co-Chairs: **Andrew Tisler**, *Savannah River Remediation, LLC*; **Reid Peterson**, *Pacific Northwest National Laboratory*
Lead Organizer: **Tom Brouns**
Add'l Organizers: **Edward Ketusky, William Wilmarth**
Paper Reviewer: **Reid Peterson**

10:20 Waste Feed Delivery Planning at Hanford - 13232

Paul Certa, Ted Hohl, James Kelly, Douglas Larsen, Elizha West, Jake Ritari, Juissepp Rodriguez, *Washington River Protection Solutions*

10:45 System Performance Testing of the Pulse-Echo Ultrasonic Instrument for Critical Velocity Determination during Hanford Tank Waste Transfer Operations - 13584

Kayte Denslow, Jagannadha Bontha, Harold Adkins, Jeromy Jenks, Derek Hopkins, *Pacific Northwest National Laboratory*; **Mike Thien, Theodore Wooley, Steven Kelly**, *Washington River Protection Solutions*

11:10 Corrosion Control during Closure Activities at the Savannah River Site - 13514

Karthik Subramanian, Keisha Martin, Savannah River Remediation, LLC; Bruce Wiersma, *Savannah River National Laboratory*

11:35 Tank 48 Chemical Destruction - 13237

Steven Simner, Celia Aponte, Earl Brass, *Savannah River Remediation, LLC*

Session 106

8:30 AM - 10:10 AM Room 101B

The US & Canadian Uranium Industry - Current Topics and Issues

Co-Chairs: **Erich Tiepel**, *Golder Associates, Inc*; **Steven Brown**, *SENES Consultants Ltd*
Lead Organizer: **Steven Brown**
Add'l Organizers: **Larry Camper, Erich Tiepel, Rod Grebb**
Paper Reviewer: **Erich Tiepel**

8:35 Port Radium Canada's Original Radium/Uranium Mine, The Complete Story of Canada's Historic Radium/Uranium Mine, 1932 to 2012 - 13159

Steven Brown, Doug Chambers, Gerd Wiatzka,
SENES Consultants Ltd

9:00 Regulatory Oversight the Legacy Gunner Uranium Mine and Mill Site in Northern Saskatchewan, Canada - 13434

Ron Stenson, Don Howard, Canadian Nuclear Safety Commission (Canada)

9:25 Recent Developments in the Management of Cameco Corporation's Fuel Services Division Waste - 13144

Thomas Smith, Cameco Corporation (Canada)

Session 107

10:15 AM - 12:00 PM Room 101B

LL/ILW Characterization (Part 3 of 3)

Co-Chairs: **Frazier Bronson**, Canberra Industries Inc - AREVA Group; **Heinz Kroeger**, TÜV NORD EnSys Hannover (Germany)

Lead Organizer: **Frazier Bronson**

Add'l Organizers: **Heinz Kroeger, Dale Bignell, Lance Mezga**

Paper Reviewer: **Loong Yong**

10:20 Passive Neutron Non-Destructive Assay for Remediation of Radiological Waste at the Hanford 618-10 Burial Ground - 13189

Alan Simpson, Michael Pitts, Pajarito Scientific Corporation (United Kingdom); Carl Grando, ELR Consulting, Inc; John Ludowise, Paul Valentinelli, Washington Closure Hanford; Dan Haggard, WorleyParsons Polestar

10:45 Effect of Curing Environment on the Performance Properties of Saltstone - 13335

Christine Langton, Marissa Reigel, Brad Pickenheim, Gene Daniel, Savannah River National Laboratory

11:10 Use of InSpector 1000TM Instrument with LaBr3 for Nuclear Criticality Safety Applications at the Westinghouse Hematite Decommissioning Project (HDP) - 13132

Megan Pritchard, Nuclear Safety Associates; Joseph Guido, System One Services

11:35 Rapid Radiochemical Analyses in Support of Fukushima Nuclear Accident - 13196

Teresa Eddy, Savannah River Nuclear Solutions; Sherrod Maxwell, Brian Culligan, Jay Hutchison, Savannah River National Laboratory

Session 108

8:30 AM - 12:00 PM Room 101C

D&D of US DOE Facilities

Co-Chairs: **Andrew Szilagyi**, US DOE; **Julia Tripp**, Idaho National Laboratory

Lead Organizer: **Andrew Szilagyi**

Add'l Organizers: **Rick Dearholt, Julia Tripp**

Paper Reviewer: **Michelle Gresalfi**

8:35 Removal of the Plutonium Recycle Test Reactor - 13031

Brad Herzog, CH2M HILL, Inc.; Matt LaCome, Meier Engineering; Rudolph Guercia, US DOE

9:00 Cryograb: A Novel Approach to the Retrieval of Waste from Underground Storage Tanks - 13501

Graham Fairhall, Luke O'Brien, Stephen Baker, Bob Bowen, National Nuclear Laboratory (United Kingdom); Laurie Judd, NuVision Engineering, Inc.; William (Bill) King, Savannah River National Laboratory; Pramod Mallick, Gary Smith, US DOE

9:25 Lessons-Learned from D&D Activities at the Five Gaseous Diffusion Buildings (K-25, K-27, K-29, K-31 AND K-33) East Tennessee Technology Park, Oak Ridge, TN - 13574

James D. Kopotic, US DOE; Mark Ferri, Claude Buttram, URS | CH2M Oak Ridge LLC (UCOR)

9:50 In-Situ Decommissioning (ISD) Concepts and Approaches for Excess Nuclear Facilities Decommissioning End State - 13367

Sharon Marra, Mike Serrato, Savannah River National Laboratory; John Musall, Christopher Bergren, Savannah River Nuclear Solutions

- 5 Minute Break - Optional -

10:20 Interim Safe Storage of Plutonium Production Reactors at the US DOE Hanford Site - 13438

Darrin Faulk, Daryl Schilperoort, Washington Closure Hanford

10:45 Successful Characterization and Remedial Contour of Highly Contaminated Mercury Soil at the Y-12 National Security Complex - 13593

Aaron White, Michael Rigas, US DOE; Joseph Birchfield, Link Technologies

11:10 Back from the Brink with Something for Everyone - The Final Executed Memorandum of Agreement for Interpretation of the East Tennessee Technology Park and the K-25 Building - 13370

Lesley Cusick, Restoration Services, Inc.

11:35 A Novel and Cost Effective Approach to the Decommissioning and Decontamination of Legacy Glove Boxes – Minimizing TRU Waste and Maximizing LLW Waste - 13634
Daniel Pancake, Cynthia Rock, Richard Creed, Argonne National Laboratory; John Mason, Tom Donohoue, Ray Martin, ANTECH Corporation; Chris Norton, Daniel Crosby, Environmental Alternatives, Inc.; Thomas Nachtman, Instacote, Inc.

Session 109

8:30 AM - 12:00 PM Room 106B

ER Challenges - Alternative Approaches to Achieving End State

Co-Chairs: **Briant Charboneau**, US DOE; **Moses Jaraysi**, CH2M HILL PRC
Lead Organizer & Paper Reviewer: **Moses Jaraysi**
Add'l Organizers: **Ella Feist, Kurt Gerdes**

- 8:35 Taking Closure to the Next Level** - 13030
Ella Feist, Washington Closure Hanford
- 9:00 Data and Model-Driven Decision Support for Environmental Management of a Chromium Plume at Los Alamos National Laboratory** - 13264
Velimir Vesselinov, Danny Katzman, David Broxton, Kay Birdsell, Steven Reneau, David Vaniman, Pat Longmire, June Fabryka-Martin, Jeff Heikoop, Mei Ding, Don Hickmott, Elaine Jacobs, Tim Goering, Dylan Harp, Los Alamos National Laboratory; Phoolendra Mishra, California State University Fullerton
- 9:25 Risk-Based Remediation Approach for Cs-137 Contaminated Sediment/Soils at the Savannah River Site (SRS) Lower Three Runs Tail (U)** - 13348
Candice Freeman, US DOE; James Kubar, Christopher Bergren, Savannah River Nuclear Solutions
- 9:50 Alternative Endpoints and Approaches for the Remediation of Contaminated Groundwater at Complex Sites** - 13426
Rula Deeb, Elisabeth Hawley, ARCADIS US
- 5 Minute Break – Optional -
- 10:20 Hanford Site 100-N Area In-Situ Bioremediation of UPR-100-N-17, Deep Petroleum Unplanned Release** - 13245
Dan Saueressig, Washington Closure Hanford
- 10:45 Shifting the Paradigm for Long Term Monitoring at Legacy Sites to Improve Performance while Reducing Costs** - 13422
Carol Eddy-Dilek, Brian Looney, SRNL; Thomas Kmetz, Tom Gaughan, SRNS; John Seaman, University of Georgia

11:10 Progress and Future Plans for Mercury Remediation at the Y-12 National Security Complex, Oak Ridge, Tennessee - 13059
Laura Wilkerson, US DOE; Ralph Turner, Independent Consultant (Canada); Susan M DePaoli, Pro2Serve

11:35 Sensor Network Demonstration for In Situ Decommissioning - 13332
Leonel Lagos, Amer Awwad, Jose Varona, Jose Rivera, Joel McGill, Florida International University

Session 110

8:30 AM - 12:00 PM Room 106A

ER Post Closure Challenges and Long Term Stewardship/Legacy Management

Co-Chairs: **John Kristofzski**, CH2M HILL, Inc.; **Karen Reed**, US DOE
Lead Organizer & Paper Reviewer: **Dale Bignell**
Add'l Organizers: **Karen Reed, Mark Frei**

- 8:35 Collaboration in Long-Term Stewardship at US DOE Hanford Site** - 13019
Rick Moren, Mission Support Alliance; David Brown, Demand Management, Inc.; Keith Grindstaff, Jamie Zeisloft, US DOE; Ella Feist, Washington Closure Hanford
- 9:00 Groundwater Monitoring Optimization of Post Closure Waste Sites at SRS** - 13184
Jeffrey Ross, Sadika O'Quinn, Christopher Bergren, Savannah River Nuclear Solutions; Karen Adams, Phil Prater, US DOE
- 9:25 Visible, Durable, Enforceable Institutional Controls: Weldon Spring Site - a 10 Year Journey** - 13190
Terri Uhlmeyer, Randy Thompson, S.M. Stoller Corporation; Ken Starr, US DOE
- 9:50 Land Use Manager Application Ensures Protectiveness Following Remediation on the Oak Ridge Reservation** - 13355
Sidney Garland, Sally Brown, Lynn Sims, Restoration Services, Inc.; Jason Darby, US DOE
- 5 Minute Break – Optional -
- 10:20 Office of Legacy Management Decision Tree for Solar Photovoltaic Projects** - 13317
John Elmer, Michael Butherus, S.M. Stoller Corporation; Deborah Barr, US DOE

10:45 Pastures to Prairies to Pools: An Update on Natural Resource Damages Settlement Projects at the Fernald Preserve - 13198
Jane Powell, US DOE; Tom Schneider, Ohio Environmental Protection Agency; William Hertel, John Homer, S.M. Stoller Corporation

11:10 Ten Years of Legacy Management - US DOE Office of Legacy Management Accomplishments - 13246
Tony Carter, US DOE; Judy Miller, S.M. Stoller Corporation

11:35 Clarification of Institutional Controls at the Rocky Flats Site Central Operable Unit and Implementation of the Soil Disturbance Review Plan - 13053
Rick Di Salvo, S.M. Stoller Corporation; Carl Spreng, Colorado Department of Public Health and Environment; Scott Surovchak, US DOE; Vera Moritz, US EPA

Session 111

8:30 AM - 10:10 AM Room 104A

Worldwide WM Regulatory and Oversight Crosscutting Programs (Part 3 of 3)

Co-Chairs: **Graham Smith**, *GMS Abingdon Ltd (United Kingdom)*; **Nataliya Shandala**, *Federal Medical Biophysical Centre (Russia)*

Lead Organizer: **Ray Clark**

Add'l Organizers: **Christopher Timm, Malgorzata K. Sneve**

Paper Reviewer: **Christopher Timm**

8:35 A Characteristics-Based Approach to Waste Classification in Advanced Nuclear Fuel Cycles Using the Fuel-Cycle Integration and Tradeoffs (FIT) Model - 13413

Denia Djokic, University of California, Berkeley; Steven Piet, Layne Pincock, Nick Soelberg, Idaho National Laboratory

9:00 Implementation of Information Management System for Radiation Safety of Personnel at the Russian Northwest Center for Radioactive Waste Management "SevRAO" - 13131

Konstantin Chizhov, Anatoly Simakov, Vladimir Seregin, Ilya Kudrin, Aleksander Tsovyanov, Viktor Kryuchkov, Nataliya Shandala, Federal Medical Biophysical Centre; Igor Kemsy, Federal Medical Biological Agency; Alexander Kosnikov, Alexander Krasnoschekov, Northwest Center for Radioactive Waste Management "SevRAO"; Malgorzata K. Sneve, Norwegian Radiation Protection Authority (Norway)

9:25 Demonstrating the Safety of Long-Term Dry Storage - 13468

Rod McCullum, NEI; Tom Brookmire, Dominion; Steve Nesbit, Duke Energy Corporation; John Kessler, EPRI; Suzanne Leblang, Entergy; Adam Levin, Exelon; Marcus Nichol, Nuclear Energy Institute; Zita Martin, TVA; Terry Pickens, Xcel Energy

9:50 Radiological Modeling for Determination of Derived Concentration Levels of an Area with Uranium Residual Material - 13533
Danyl Perez Sanchez, CIEMAT (Spain)

Session 112

10:15 AM - 12:00 PM Room 104A

Project Management Improvements - Planning through Completion - Scope, Cost, Schedule Control & Risk Management (Part 1 of 2)

Co-Chairs: **Keith Mahosky**, *JGMS, Inc.*; **Joe Tarantino**, *United States Enrichment Corporation*

Lead Organizer: **Christopher Timm**

Add'l Organizers: **Neil Davis, Steven Ferries**

Paper Reviewer: **Neil Davis**

10:20 Planning Tool for Strategic Evaluation of Facility Plans - 13570

Virginia Magoulas, Savannah River National Laboratory; Irin Hall, Newport News Nuclear, Inc.; Michael Cery, Savannah River Nuclear Solutions

10:45 How the Lean Management System is Working on a Closure Project - 13242

Ella Feist, Carol Mowery, Washington Closure Hanford

11:10 Development of an Integrated Waste Plan for Chalk River Laboratories - 13376

Lynne Jones, Atomic Energy of Canada Limited (Canada)

11:35 Opening Doors of Opportunity to Develop the Future Nuclear Workforce - 13325

Mindy Mets, SRS Community Reuse Organization

Session 113

8:30 AM - 12:00 PM Room 105C

Information Communication Technology, Knowledge Management, and Other Approaches for Sharing Environmental/WM Data, Cleanup Progress

Co-Chairs: **Margaret MacDonell**, *Argonne National Laboratory*; **Heather Klebba**, *NFT*

Lead Organizer & Paper Reviewer: **Margaret MacDonell**

Add'l Organizers: **Michelle Barker**, **John Lowe**

8:35 The Role of the Sellafield Ltd Centres of Expertise in Engaging with the Science, Environment and Technology Supply Chain and University Sector to Support Site Operations and Decommissioning in the UK Nuclear Industry - 13018

Ed Butcher, *National Nuclear Laboratory*;
Donna Connor, **Debbie Keighley**, *Sellafield Ltd (United Kingdom)*

9:00 e-KIT: An Electronic-Knowledge Information Tool for Organizing Site Information and Improving Technical Communication with Stakeholders - 13082

Mark Kautsky, *US DOE*; **Rick Findlay**, **Rex A. Hodges**, *S.M. Stoller Corporation*

9:25 Knowledge Framework Implementation with Multiple Architectures - 13090

Himanshu Upadhyay, **Leonel Lagos**, **Walter Quintero**, **Peggy Shoffner**, *Florida International University*; **John De Gregory**, *US DOE*

9:50 Oak Ridge Environmental Information System (OREIS) Enhancements - 13109

Peter Salpas, *Salpas Consulting*; **Phillip Clark**, **Larry Lewis**, **Deidre Tharpe**, *Restoration Services, Inc.*; **Patricia Halsey**, *US DOE*
- 5 Minute Break - Optional -

10:20 Comprehensive Fuel Cycle - Community Perspective - 13093

Rick McLeod, *Savannah River Site*; **Timothy Frazier**, *Dickstein Shapiro LLP*

10:45 Training and Mentoring the Next Generation of Scientists and Engineers to Secure Continuity and Successes of the US DOE Environmental Remediation Efforts - 13387

Leonel Lagos, *Florida International University*

11:10 The National Center for Radioecology (NCoRE): A Network of Excellence for Environmental and Human Radiation Risk Reduction - 13365

Jeff Griffin, **Wendy Kuhne**, **Tim Jannik**,

Eduardo Farfan, **Alice Murray**, **John Mayer**, **Anna Knox**, *Savannah River National Laboratory*

11:35 The Integrated Cloud-based Environmental Data Management System at Los Alamos National Laboratory - 13391

Karen Paige, **Penelope Gomez**, **Nita Patel**, **J. Christopher Echohawk**, **Alison Dorries**, *Los Alamos National Laboratory*

Session 114

8:30 AM - 10:15 AM Room 106C

Worldwide Management and Control of Sealed Sources, HEU and Orphan Radioactive Material (Part 3 of 3)

Co-Chairs: **Connie Corcoran**, *Lucas Engineering & Management Services, Inc.*; **Julia Whitworth**, *International Atomic Energy Agency (Austria)*
Lead Organizer & Paper Reviewer: **Kim Auclair**

8:35 Handling of Highly Radioactive Radiation Sources in a Hot Cell Using a Mechanically Driven Cell Crane - 13452

Stefan Klute, **Wolfgang-Bruno Huber**, *Siempelkamp Nukleartechnik GmbH (Germany)*;
Franz Meyer, *Nuclear Engineering Seibersdorf GmbH (Retired) (Austria)*

9:00 Management of Disused Radioactive Sealed Sources in Egypt - 13512

Yasser Tawfik Mohamed Selim, **Mahmoud Ali Mohamed Hassan**, **Yasser Lasheen**, *Egyptian Atomic Energy Authority (Egypt)*

9:25 Estimation of Performance of an Active Well Coincidence Counter Equipped with Boron-Coated Straw Neutron Detectors - 13401

B.M. Young, *Canberra Industries Inc - AREVA Group*; **Jeff Lacy**, **Athanasios Athanasiades**, *Proportional Technologies, Inc.*

9:50 Development of Approach for Long-Term Management of Disused Sealed Radioactive Sources - 13630

Monika Kinker, **Gerard Bruno**, **Hilaire Mansoux**, **Eric Reber**, *IAEA (Austria)*

Session 115**10:15 AM - 12:00 PM Room 106C****Crosscutting Filtration Systems in the Nuclear Industry**

Co-Chairs: **Charles Waggoner**, *Mississippi State University*; **Chris Chadwick**, *Porvair Filtration Group (United Kingdom)*

Lead Organizer & Paper Reviewer: **Charles Waggoner**
Add'l Organizers: **Chris Chadwick, John Shultz**

10:20 Sulfur-Modified Zero-Valent Iron for Remediation Applications at DOE Sites
- 13600

Thomas Fogwell, *Fogwell Consulting*; **Pete Santana**, *SMI-PS, Inc.*

10:45 Reassessment of True Core Collapse Differential Pressure Values for Filter Elements in Safety Critical Environments
- 13076

Adam Swain, *Porvair Filtration Group (United Kingdom)*

11:10 ASME AG-1 Section FC Qualified HEPA Filters; a Particle Loading Comparison
- 13435

Andrew Stillo, *Camfil Farr*; **Craig Ricketts**, *New Mexico State University*

11:35 Performance Evaluation of Axial Flow AG-1 FC and Prototype FM (High Strength) HEPA Filters - 13123

Charles Waggoner, *Paxton Giffin*, **Michael Parsons**, *John Wilson*, *Mississippi State University*

Session 116**8:30 AM - 12:00 PM Room 104B****Management, Planning, Testing and Regulation for Spent Fuel Transportation**

Co-Chairs: **Paul Jones**, *DeNuke Contracting Services, Inc.*; **Karlan Richards**, *Bechtel National, Inc.*

Lead Organizer: **Lawrence Harmon**

Add'l Organizers: **Gary Cannell, Kent McDonald, Mike Nolan**

Paper Reviewer: **Ella McNeil**

8:35 Stakeholder Transportation Scorecard: Reviewing Nevada's Recommendations for Enhancing the Safety and Security of Nuclear Waste Shipments - 13518

Fred Dilger, *Black Mountain Research*; **James Ballard**, *California State University*;

Robert Halstead, *Nevada Agency for Nuclear Projects*

9:00 Regulatory Perspective on Potential Fuel Reconfiguration and Its Implication to High Burnup Spent Fuel Storage and Transportation - 13042

Meraj Rahimi, *Zhian Li*, *David Tang*, *Mourad Aissa*, *Michelle Flanagan*, *US NRC*; **John Wagner**, *Oak Ridge National Laboratory*

9:25 Stranded Fuel, Orphan Sites, Dead Plants: Transportation Planning Considerations After the BRC Report - 13393

Alexander Thrower, *The Thrower Group, LLC*

9:50 Testing of a Transport Cask for Research Reactor Spent Fuel - 13003

Rogério Mourao, *Luis Silva*, *Center for the Development of Nuclear Technology (Brazil)*; **Fernando Quintana**, **Roberto Saliba**, *CAB/CNEA*; **Oscar Novara**, *CNEA (Argentina)*; **Miguel Mattar Neto**, **Carlos Alexandre Miranda**, *IPEN (Brazil)*

- 5 Minute Break - Optional -

10:20 Pressure Build-Up During the Fire Test in Type B(U) Packages Containing Water
- 13280

Martin Feldkamp, **Marko Nehrig**, **Claus Bletzer**, **Frank Wille**, *BAM Federal Institute for Materials Research and Testing (Germany)*

10:45 Siting and Transportation for Consolidated Used Nuclear Fuel Management Facilities: A Proposed Approach for a Regional Initiative to Begin the Dialogue - 13562

Alexander Thrower, *The Thrower Group, LLC*; **Lisa Janairo**, *The Council of State Governments, Midwestern Office*

11:10 Walk the Line: the Development of Routing Regulations for Spent Nuclear Fuel and High-Level Radioactive Waste Shipments in the United States - 13519

Fred Dilger, *Black Mountain Research*; **James Ballard**, *California State University*; **Robert Halstead**, *Nevada Agency for Nuclear Projects*

February 28, Thursday PM

Session 117

1:30 PM - 5:00 PM Room 102B

Panel: Waste Incidental to Reprocessing and NDAA §3116 Lesson Learned - EFCOG Workshop (Part 2 of 2)

Co-Chairs: **Steven Thomas, Mark Mahoney**, Savannah River Remediation, LLC
Lead Organizer & Panel Reporter: **W.T. (Sonny) Goldston**
Add'l Organizers: **John Tseng, Virginia (Ginger) Dickert, Scott Saunders**

This panel is Part 2 of an all-day EFCOG workshop on Waste Incidental to Reprocessing (WIR) and NDAA Section 3116 Lessons Learned that was begun in Panel Session 101. Part 2 focuses on identification of the overall key "Lessons Learned" from the experience of the four US DOE sites involved in the management of HLW (Hanford, Savannah River, West Valley and Idaho).

Panelists include: Linda Suttora, US DOE-EM; **Kim Hauer**, Savannah River Remediation; **Scott Saunders**, Washington River Protection Services; **Dan Sullivan**, US DOE West Valley Demonstration Project; and **Joel Case**, Idaho Cleanup Project.

Session 118

1:30 PM - 5:00 PM Room 105B

Panel: The Blue Ribbon Commission on America's Nuclear Future Report – One Year Later, US and International Developments

Co-Chairs: **Larry Camper**, US NRC; **George Dials**, B&W Conversion Services, LLC
Lead Organizer: **Larry Camper**
Panel Reporter: **Christopher Grossman**

The Blue Ribbon Commission filed their charter with Congress the week before WM2010 and conducted a comprehensive review of policies for managing the back end of the nuclear fuel cycle, including all alternatives for the storage, processing, and disposal of civilian and defense used nuclear fuel and nuclear waste.

During WM2012 a Topical Workshop was held addressing the Blue Ribbon Commission Report which included seven high profile panelists involved with the Report and its recommendations.

By WM2013, it will be approximately one year since the President's Blue Ribbon Commission issued its report containing a number of recommendations to address the facility siting, storage and disposal of spent nuclear fuel. While the BRC recommended creation of a Federal Corporation to be responsible, the US DOE is still the primary US Federal Agency implementing the recommendations.

During the past year, DOE responded with its own plans and this workshop will provide a forum to discuss America's path forward. There have also been a number of key actions taking place outside of the US in addressing the same issues. The session will provide the current status of those various worldwide activities and will consist of both US and non-US representatives, followed by an evening reception.

Panelists include: Peter B. Lyons, Assistant Secretary for Nuclear Energy, US DOE; **Everett Redmond**, Senior Director, Nonproliferation and Fuel Cycle Policy, NEI; **Keith I. McConnell**, Director, Waste Confidence Directorate, US NRC; **David Martin**, Cabinet Secretary, New Mexico Environment Department; **Francis Cameron**, President, The Zero Gravity Group, LLC; **Magnus Vesterlind**, Head, IAEA Waste and Environmental Section (Austria); **Risto Paltemaa**, Director, Nuclear Waste and Material Regulation, Radiation and Nuclear Safety Authority (Finland); **Olle Olsson**, Vice President, Strategy and Programme, SKB (Sweden).

Session 119

1:30 PM - 3:15 PM Room 101C

Early Communication and Ongoing Involvement in Deployment of Advanced Technologies - from Remediation to Small Modular Reactors

Co-Chairs: **Jeannette Hyatt**, Savannah River National Laboratory; **Helen Belencan**, US DOE
Lead Organizer: **W.T. (Sonny) Goldston**
Paper Reviewer & Add'l Organizer: **Jeannette Hyatt**

1:35 Achieving Accelerated Cleanup of Cesium Contaminated Stream at the Savannah River Site: Collaboration between Stakeholders, Regulators and the Federal Government - 13182
Candice Freeman, Brian Hennessey, US DOE;

Christopher Bergren, Joseph Burch, Mary Flora, Ron Socha, Savannah River Nuclear Solutions

- 2:00 Comparative Analysis Between US NRC Requirements and US DOE Orders** - 13402
Sayan Chakraborti, Lynn Stone, MRIGlobal; Jeannette Hyatt, Savannah River National Laboratory
- 2:25 How the NDA Provides Transparency and Visibility of the Technical Deliverability of the R&D Programme** - 13303
Ian Seed, Paula James, Cogentus Consulting; Melanie Brownridge, Mervin McMinn, UK NDA (United Kingdom)
- 2:50 Investing in International Information Exchange Activities to Improve the Safety, Cost Effectiveness and Schedule of Cleanup** - 13281
Ian Seed, Paula James, Cogentus Consulting; Laurie Judd, NuVision Engineering, Inc.; John Mathieson, UK NDA (United Kingdom); Ana Han, Rosa Elmetti (Ramirez), US DOE

Session 120

1:30 PM - 5:00 PM Room 101B

Project Management Improvements - Planning through Completion - Scope, Cost & Schedule Control (Part 2 of 2)

Co-Chairs: **Neil Davis**, Savannah River Remediation, LLC; **Joe Tarantino**, United States Enrichment Corporation

Lead Organizer & Paper Reviewer: **Christopher Timm**
Add'l Organizers: **Neil Davis, Steven Ferris**

- 1:35 Taming the Wild World of Management, Performance and Communication** - 13459
Laurie Ford, Critical Path Consultants
- 2:00 Risk-based Prioritization of Facility Decommissioning and Environmental Restoration Projects in the National Nuclear Legacy Liabilities Program at the Chalk River Laboratory** - 13564
Jerel Nelson, Michael Kruzic, Tamer Alexan Gorgy, WorleyParsons; Ian Bainbridge, Atomic Energy of Canada Limited (Canada); Todd Pavey, Carlos Castillo, WorleyParsons Polestar
- 2:25 Environmental Cost Analysis System (ECAS) Status and Compliance Requirements for EM Consolidated Business Center Contracts** - 13204
Peter Sanford, Consultant; Robert Urdangaray, Project Performance Corporation; William Hombach, Team Analysis, Inc.; Marwood Moe, US DOE

- 2:50 Strategies and Lessons-Learned for the Successful Alignment of Contract Cost with the Contract Budget Base (CBB) within the First Year of Contract Award** - 13154
Kenneth Rueter, URS | CH2M Oak Ridge LLC (UCOR); Jay Mullis, US DOE
- 5 Minute Break - Optional -

- 3:20 Recent Improvements in Interface Management for Hanford's Waste Treatment and Immobilization Plant** - 13263
Garth Duncan, Michael Pell, Bechtel National, Inc.; Stuart Arm, EnergySolutions; Christopher Harrington, US DOE; Jeffery Van Meighem, Washington River Protection Solutions

- 3:45 New Developments in the Technology Readiness Assessment Process in US DOE-EM** - 13247
Steven Krahn, Vanderbilt University; Herb Sutter, Consultant; Hoyt Johnson, US DOE

- 4:10 Hanford River Protection Project Lifecycle Cost Modeling Tool to Enhance Mission Planning** - 13396
Gary Dunford, AEM Consulting, LLC.; Rick Smith, Knowledge Systems Design, Inc.; David Williams, WIT, Inc.

- 4:35 World Record Earned Value Management System Certification for Cleanup of the East Tennessee Technology Park** - 13181
Ray Haynes, Anita Hirschy, URS | CH2M Oak Ridge LLC

Session 121

1:30 PM - 2:30 PM Room 106B

Radiological Dispersion Devices and Other Nuclear Weapons of Mass Destruction: Detection, Response, Decontamination and Recovery

Co-Chairs: **Connie Corcoran**, Lucas Engineering & Management Services, Inc.; **Kim Auclair**, KD Auclair & Associates, LLC

Lead Organizer & Paper Reviewer: **Kim Auclair**
Add'l Organizer: **Larry Regens**

- 1:35 Status Update on the NCRP Scientific Committee SC 5-1 Report: Decision Making for Late-Phase Recovery from Nuclear or Radiological Incidents** - 13450
S.Y. Chen, Argonne National Laboratory

2:00 A Planning Tool for Estimating Waste Generated by a Radiological Incident and Subsequent Decontamination Efforts - 13569
Paul Lemieux, Daniel Schultheisz, Thomas Peake, US EPA; Colin Hayes, Eastern Research Group, Inc.; Timothy Boe, Oak Ridge Institute for Science and Education

Session 122
1:30 PM - 3:40 PM Room 102A

Will There Be a Thorium Fuel Cycle?

Co-Chairs: **Keith Miller**, National Nuclear Laboratory (United Kingdom); **Chris Phillips**, EnergySolutions
Lead Organizer & Paper Reviewer: **Harry Babad**
Add'l Organizers: **Chris Phillips, Keith Miller**

1:35 The Use of Thorium within the Nuclear Power Industry - 13472
Keith Miller, National Nuclear Laboratory (United Kingdom)

2:00 Promises and Challenges of Thorium for Transuranic Waste Burning - 13550
Fausto Franceschini, Edward Lahoda, Michael Wenner, Westinghouse Electric Company LLC; Chris Phillips, EnergySolutions; Carlo Fiorina, Politecnico di Milano (Italy); Benjamin Lindley, University of Cambridge (United Kingdom)

2:25 The Potential Role of the Thorium Fuel Cycle in Reducing the Radiotoxicity of Long-Lived Waste - 13477
Keith Miller, Kevin Hesketh, Mike Thomas, National Nuclear Laboratory (United Kingdom)

2:50 Transmutation, Burn-up and Fuel Fabrication Trade-offs in Reduced-Moderation Water Reactor Thorium Fuel Cycles - 13502
Benjamin Lindley, Geoffrey Parks, University of Cambridge (United Kingdom); Fausto Franceschini, Westinghouse Electric Company

3:20 Imminent: Irradiation Testing of (Th,Pu)O₂ Fuel - 13560
Julian Kelly, Thor Energy (Norway); Fausto Franceschini, Westinghouse Electric Company

Session 123
1:30 PM - 3:15 PM Room 106A

Graphite & Decommissioning of Graphite Containing Reactors

Co-Chairs: **Anthony Banford**, National Nuclear Laboratory (United Kingdom); **Michelle Gresalfi**, Project Enhancement Corporation
Lead Organizer: **Maria Lindberg**
Add'l Organizers: **Anthony Banford, Kim Auclair**
Paper Reviewer: **Al Freitag**

1:35 Chemical Characterization and Removal of Carbon-14 from Irradiated Graphite II - 13023

Mary Lou Dunzik-Gougar, James Cleaver, Daniel LaBrier, Shilo McCrory, Tara Smith, Idaho State University

2:00 Method to Assess the Radionuclide Inventory of Irradiated Graphite from Gas-Cooled Reactors - 13072
Bernard Poncet, EDF-CIDEN (France)

2:25 Graphite Waste Tank Cleanup and Decontamination under the Marcoule UP1 D&D Program - 13166
Jean-Michel Chabeuf, AREVA; Philippe Thomasset, AREVA BE/NV; Valérie Thiebaut, CEA/DEN/DAPD/CPU (France); Frederic Chambon, AREVA Federal Services LLC

2:50 Treatment of Irradiated Graphite from French Bugey Reactor - 13424
Thomas Brown, Studsvik, Inc.; Bernard Poncet, EDF-CIDEN (France)

Session 124
3:15 PM - 5:00 PM Room 106A

Innovative D&D Technologies

Co-Chairs: **Al Freitag**, Mitsubishi Nuclear Energy Systems; **Con Lyras**, Australian Nuclear Science & Technology Organization (Australia)
Lead Organizer: **Rick Dearholt**
Add'l Organizers: **Rick Demmer, Jas Devgun**
Paper Reviewer: **Detlef Schmidt**

3:20 Steam Dryer Segmentation and Packaging at Grand Gulf Nuclear Station - 13577
Paul Kreitman, Mark Pillard, Steve Sirianni, Westinghouse Electric Company

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POSTER SESSIONS



Be sure to visit the technical posters located on the first floor near the technical sessions.

In this informal atmosphere, Poster Presenters become discussion leaders sharing their ideas and visions. Each technical track presents a poster session. See the session descriptions for more information.

The WM2013 posters will be displayed approximately 3-1/2 hours and authors are scheduled to be at the booths for one 30-minute period and one 60-minute period.

In order to honor high quality presentations at WM2013, the American Nuclear Society (ANS) presents an award for the Best Poster/Paper and the American Society of Mechanical Engineers (ASME) also provides an award.

Judges select the poster/paper based on technical quality and preparation of the work as described in the guidelines as well as attendee votes. Be sure to turn in your vote by session, one hour before the session ends. Each track selects the best poster/paper which are then displayed and re-judged on Wednesday afternoon for the Best of the conference. The Best of the conference for WM2013 are presented to the recipients at the next WM conference, WM2014. The Best Poster Awards from last year's conference will be presented at the Honors & Awards Luncheon on Tuesday, February 26, 2013.

Poster Session Schedule and Author Attendance at Poster

Session #		Poster Period	Authors present -First Period-	Authors present -Second Period-	Poster Set-up	Poster Removal
MONDAY, FEBRUARY 25, 2013						
Afternoon	HLW, ST: 30	1:30-5 pm	1:30-2 pm	4-5 pm	1-1:30 pm	5-5:30 pm
TUESDAY, FEBRUARY 26, 2013						
Morning	LLW: 49	8:30 am-12 pm	8:30-9 am	11 am-12 pm	8-8:30 am	12-12:30 pm
Afternoon	ER, CE&T: 64	1:30-5 pm	1:30-2 pm	4-5 pm	1-1:30 pm	5-5:30 pm
WEDNESDAY, FEBRUARY 27, 2013						
Morning	NPP, PAT, D&D: 80	8:30 am-12 pm	8:30-9 am	11 am-12 pm	8-8:30 am	12-12:30 pm
Afternoon	Non-Paper: 100	1:30-5 pm	1:30-2 pm	4-5 pm	1-1:30 pm	5-5:30 pm

Student Poster Competition – Session 31

Be sure to visit the Student Posters session on Monday, February 25th in the Exhibit Hall and vote for your selection for Best Student Poster. The winning student will be presented with \$500 cash at the Tuesday Honors & Awards Luncheon.

Sampriti Bhattacharyya, Ohio State University (USA) won the WM2012 Student Poster Competition with her poster titled *"Intelligent Technologies for an Innovative Nuclear Reactor Enabling Waste Transmutation."*

EXHIBITION AND MARKETPLACE

WM Symposia provides the world's largest exhibition for the management of radioactive waste material, featuring four days of access to the key companies your organization needs for success!

Located on the lower level of the Phoenix Convention Center West Building, the comprehensive technical exhibit showcases all aspects of products and services related to the nuclear waste industry. Areas of interest include protective clothing, remote/robotic handling, hazardous waste storage, transportation, diagnostic instrumentation, engineering design and construction, environmental laboratories, decontamination and decommissioning and environmental remediation.

Attendees to the conference are typically decision makers of large worldwide corporations and government procurement agencies.

EXHIBIT HOURS

Sunday, February 24, 2013 5:00 PM – 8:00 PM (*Opening Welcome Reception*)
Monday, February 25, 2013 8:30 AM – 6:00 PM (*International Reception 5 PM – 6 PM*)
Tuesday, February 26, 2013 9:00 AM – 6:00 PM (*Best of Canada Reception 5 PM – 6 PM*)
Wednesday, February 27, 2013 9:00 AM – 1:30 PM (*Luncheon/Booth Prize Drawings 12 PM – 1:30 PM*)

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Aerotek, Inc. 411
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Burns & McDonnell Engineering Co., Inc. 125



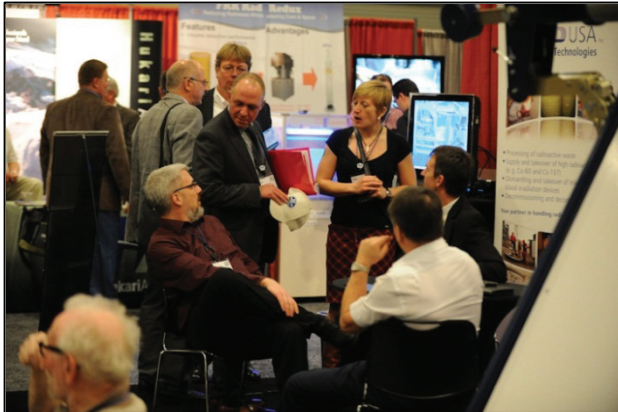
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118	Science Applications Int. Corp.	426	ALS Environmental
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122	Eckert & Ziegler Umweltdienste GmbH	432	ResinTech, Inc.
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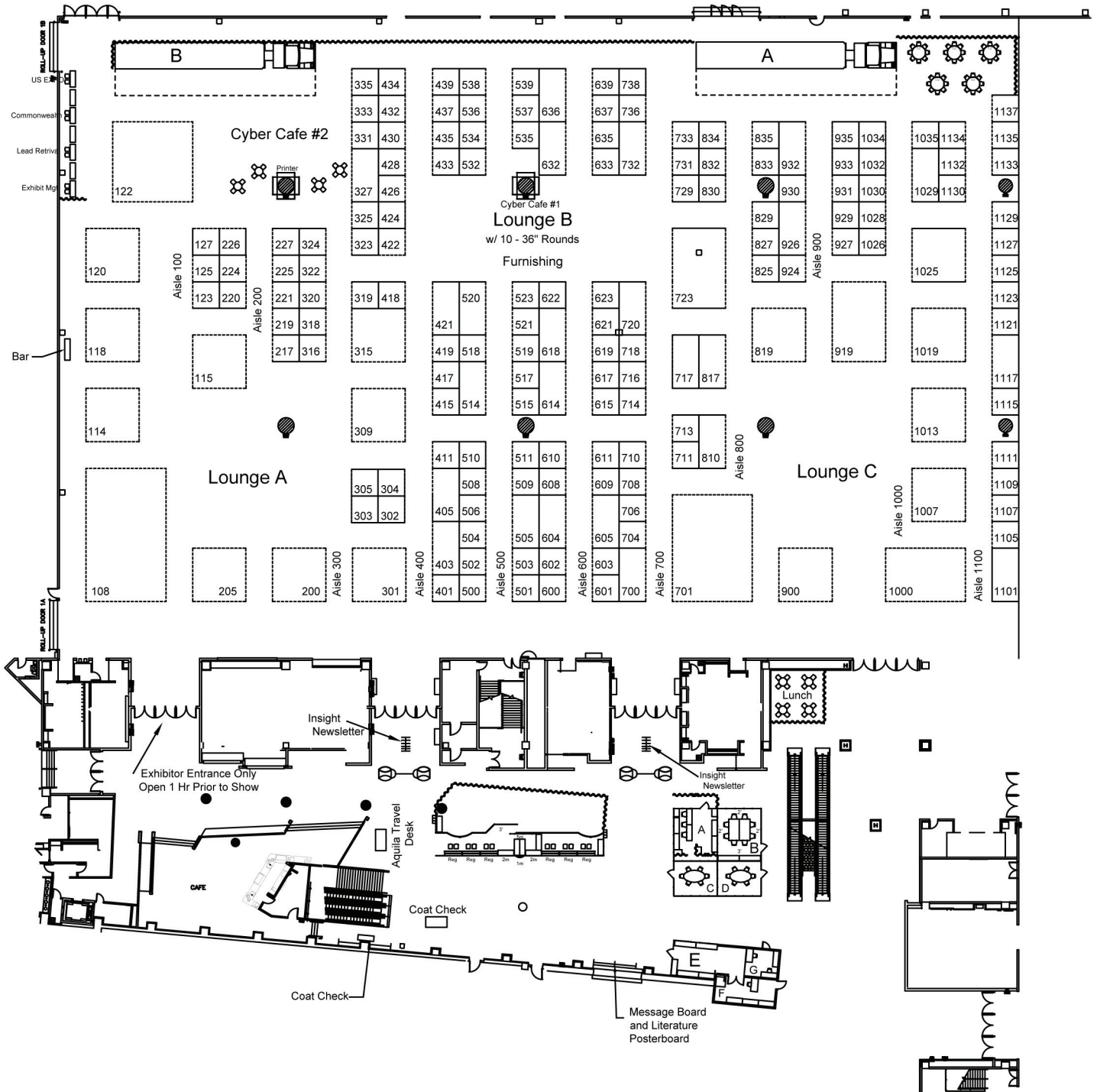


EXHIBIT HALL HOURS	
SUNDAY, February 24, 2013	5:00 PM - 8:00 PM
MONDAY, February 25, 2013	8:30 AM - 6:00 PM
TUESDAY, February 26, 2013	9:00 AM - 6:00 PM
WEDNESDAY, February 27, 2013	9:00 AM - 1:30 PM

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AMR German Products & Services GmbH

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Applied Research Center

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Florida International University's Applied Research Center is a university based research center located in Miami, Florida. Since 1995, ARC has supported US DOE's environmental restoration mission by conducting applied research in key US DOE-EM's technical areas such as Decontamination & Decommissioning, Waste Processing, and Soil & Groundwater. In 2007, US DOE and FIU established the US DOE-FIU Science & Technology Workforce Development Program; this unique program is designed to develop a pipeline of minority scientists and engineers students (called DOE Fellows) specifically trained and mentored to join federal or private sector workforce.

Applus RTD - Quality Inspection Svcs, Inc.

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ARES Corporation

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ARS International, Inc.

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Arvia Technology

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ATI Metals

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AVANTech, Inc. is a comprehensive water treatment company providing integrated solutions for the nuclear industry. We also provide custom design-build solutions for our nuclear clients utilizing our ASME certified fabrication facility and UL Certified panel shop. AVANTech recently completed the contract for designing, manufacturing, and starting up the contaminated water system (SARRY) at Japan's damaged Fukushima Nuclear Power Site.



Babcock & Wilcox Technical Services Group, Inc. – PLATINUM SPONSOR

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Babcock & Wilcox Technical Services Group, Inc. (B&W TSG), a subsidiary of The Babcock & Wilcox Company, provides a variety of services including uranium processing, environmental site restoration, and management and operating services to the US DOE and National Nuclear Security Administration. B&W TSG's principal operations include: managing and operating nuclear production facilities; managing and operating environmental management sites; managing spent nuclear fuel and transuranic waste; and providing critical skills and resources for US DOE sites.

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Babcock Services, Inc. and its affiliate company IceSolve specialize in providing high quality professional services to the nuclear industry. BSI performs the Design/Fabrication/Operating of specialized fuel pool volume reduction equipment. We also own and operate the Oak Ridge Service Center, performing decontamination of tools and equipment for the purposes of recycling and reuse.

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Banda Group International, LLC (BGI), a 8(a)certified, veteran owned MBE, is a world-class technical and project management services company supporting government and private sector clients around the globe. Founded in 2003, we provide specialized capabilities in construction safety management; occupational safety and health program development, assessment, and oversight; project management and execution; startup and commissioning; environmental management and compliance; industrial hygiene management; and radiation safety management.

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Barnhart's team of experts has backgrounds from the nuclear industry. Barnhart has the kind of innovative design and execution that reduces Critical Path and reduces a project overall costs. Barnhart has built an impressive nuclear project resumé.

Bartlett Services, Inc.

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Bartlett Services, Inc. is a leading provider of professional and technical, radiation safety, D&D and environmental management solutions with over

30 years of experience serving government facilities and contractors. We offer complete project management and implementation, quality personnel, contamination control and epoxy coatings and other decontamination technologies to support our client's needs.

BIG Entsorgungstechnologien GmbH

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BIG Entsorgungstechnologien GmbH is experienced for more than 20 years in planning, designing and manufacturing machines and plants for conditioning low and intermediate level waste for longtime storage or final disposal. Our equipment and services cover processes as cutting or shearing, sorting, compaction, handling systems, design studies and on-site services.

Bluegrass Concrete Cutting Inc

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Bluegrass is a specialty decommissioning subcontractor specializing in concrete surface decontamination using it's dry diamond shaving system. Walls, floors, ceilings can be shave to required depths leaving a surface smooth enough for direct frisk. Bluegrass is also the industry leader in diamond wire cutting of concrete and metal structures. We have successfully cut reactor nozzle, reactor heads, large components, bio-shield and containment walls. Bluegrass has participated in every significant commercial decommissioning project in the United States as well as numerous US DOE projects.

Brokk

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Brokk heavy duty remotely controlled machines are used worldwide in many challenging applications including; D&D, demolition, remote surveys, size reduction, sorting/handling radioactive waste. The operators complete multiple tasks at safe distances from high radiation or hazardous environments.

Our machines feature remotely interchangeable attachments and can be customized to meet specific project requirements.

Burns & McDonnell Engineering Co., Inc.

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Burns & McDonnell has a solid reputation of providing comprehensive turnkey services to federal, institutional, and commercial facilities worldwide. During our 114 year history, Burns & McDonnell has acquired extensive experience in working with government agencies, US DOE Contractors, the Corps of Engineers and other DOD agencies, giving us a thorough knowledge of processes, procedures and requirements needed for successful project completion. Burns & McDonnell's professional staff is dedicated to providing quality services in an economical and timely fashion.

Since Burns & McDonnell is 100% employee-owned, our staff has a vested interest in the firm's success, which translates into responsive, expert service for our clients.



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Cabrera Services is an SBA-certified small minority-owned business providing full-service environmental remediation services for hazardous, toxic, and radioactive waste (HTRW) sites. Cabrera specializes in radiological engineering and remediation, radioactive waste management, environmental engineering, MARSSIM/TRIAD survey design and implementation, on-site measurement & analysis, and MEC/UXO response and range support.

Cameco Fuel Services Division

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Cameco Fuel Services Division is a major supplier of uranium processing services required to produce fuel for the generation of clean electricity. The Division is headquartered in Port Hope with operating locations in Port Hope, Cobourg and Blind River, Ontario. The Port Hope conversion facility is one of only four commercial converters of uranium hexafluoride (UF₆) and the only commercial supplier of uranium dioxide (UO₂) in the world.

Cameco Fuel Manufacturing produces finished fuel bundles for CANDU® reactors and specialized components for nuclear reactors. The Blind River Refinery is the world's largest and newest uranium refinery producing high-purity uranium trioxide (UO₃). Also, half of Ontario's electricity is generated using uranium processed in these facilities.

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Campbell Scientific manufactures rugged, reliable instrumentation for measurement and control. Our low power requirements allow for automated data collection and transmission in harsh environments and remote locations. Applications include monitoring weather, soil water, water level and quality, slope stability, and research.



Canberra Industries – BRONZE SPONSOR

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Canberra is the leading supplier of innovation and cost-effective nuclear measurement solutions and services used to maintain safety of personnel, assess the health of nuclear facilities and safeguard the public and the environment.

Applications for Canberra offerings include health physics, nuclear power operations, Radiation Monitoring Systems (RMS), nuclear safeguards, nuclear waste management, environmental radiochemistry and other areas.

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CAST Transportation is a motor carrier handling Heavy Haul, Hazmat, LL Waste, Flatbed, Lowboy & Chemical Tanker movements. CAST operates a Rail Transload Center from its tracks on the BNSF at Irontdale Station (Denver, CO). Participant in the WIPP Program and has been a privately held company since 1948.

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Central Research Laboratories designs and manufactures equipment and systems for the safe and efficient handling of hazardous materials in a remote environment. This includes telemanipulators and glove ports for dexterous handling and waste drum transfer systems for sealed repeatable transfers of materials across containment boundaries.

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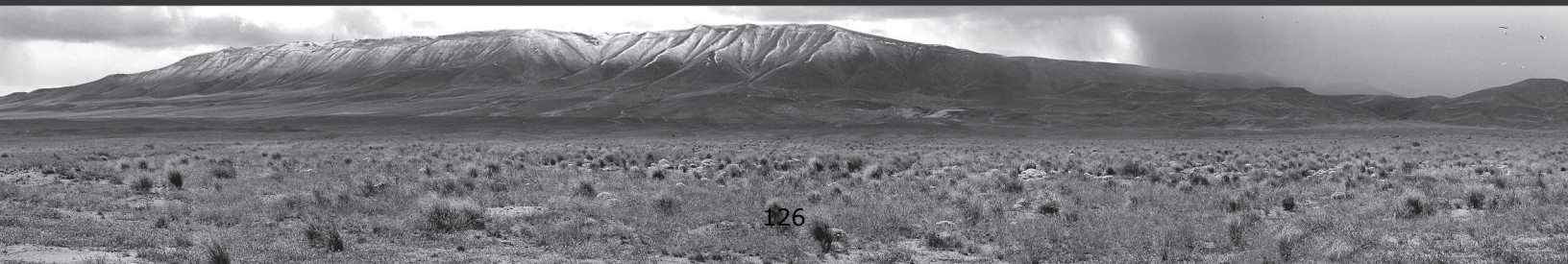
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CH2M HILL, Inc. specializes in the operations and management of complex nuclear programs and projects around the globe. CH2M HILL provides innovative clean up, environmental remediation and closure solutions for commercial and government nuclear facilities and sites in the US, UK, and Canada while safely delivering projects ahead of schedule and under budget.

COH Inc.

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COH Inc. is a leader in the design, manufacturing, installation and service of custom overhead equipment used in the most severe and demanding lifting, handling and positioning applications where enhanced safety by means of either single-failure proof features or seismic design may be required. Operating since 1969, COH is highly recognized for the outstanding quality and reliability of its engineered products in the nuclear, automotive, cement, hydropower, aluminum and steel industries. In the nuclear industry, COH provides electric wire rope hoists, electric overhead and gantry traveling cranes for fuel handling systems, cask handling (inside or outside of the power plant), turbine handling and radiation exposed high precision lifting equipment for research facilities.

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Columbiana Hi Tech (CHT) is a leading manufacturer and designer of nuclear fuel cycle packaging. CHT is the world's largest manufacturer of front-end radioactive packaging and a major fabricator of containers and related products to transport and store spent nuclear fuel.

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Conestoga-Rovers & Associates (CRA) is a worldwide, full-service provider of engineering, environmental, construction, and IT services with over 3,000 staff in 90 offices. CRA has been involved in some of the largest environmental remediation projects in North America, from the Love Canal project in Niagara Falls, NY to Sydney Tar Ponds project in Sydney, Nova Scotia. CRA's diversified staff is committed to providing high-quality services through a team approach, hands-on experience, and technical expertise. Our common goal is to meet and exceed the expectations of our clients in a responsive, safe, and cost-effective manner.

Container Products Corporation

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Container Products Corporation has been providing containers, compactors and decontamination equipment to the nuclear industry since February 1981. CPC is the largest and most experienced producer of LLW containers in the United States and its compactors and decontamination equipment are located throughout the world.

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Container Technologies leads the industry in the design, testing and manufacturing of IP-1, IP-II and 7A containers. ASME NQA-1 compliant and approved for US Government applications. AWS D1.1, D1.3 certified. Certified Welding Inspector (CWI) on staff.

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Cutting Edge Services provides engineered solutions for the cutting or drilling of concrete and metal structures.

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Dade Moeller provides a full range of professional and technical services to federal, state and commercial clients in support of nuclear, radiological, and environmental operations. With 11 locations nationwide, our staff is recognized for expertise and proven performance in radiation/nuclear services, occupational safety, environmental protection, and safety training.

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DBD is a UK-based, independent enterprise providing innovative solutions to complex management, technical and engineering issues, focused on highly regulated industries. Our success since launch in 2004 has been built on the quality of our delivery to our Clients, provided by our management and technical expertise. This consistent high quality delivery has led to the establishment of trust based, long term relationships with our clients. Today, our specialists operate across many major processing and power sites, including key nuclear sites in the UK. We also provide services to clients and partners in North America, Europe, Japan and South Africa.

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DeNuke provides turnkey staffing and recruiting services for nuclear facility D&D, radioactive and mixed waste management, radiation protection program development and implementation, and specialized training, including curriculum development and instruction (US DOE, DOT, and OSHA).

DeNuke has current qualifications in Environmental Services; Radiological Engineering/Health Physics; Health and Safety; and Nuclear Staffing.

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Diversified Metal Products provides fabricating services to the nuclear industry. Our 60,000 sq. ft. manufacturing facility and highly trained staff have the ability to handle any project. Our attention to quality, and NQA-1 adherence, has been verified by the industry leading US DOE Prime Contractors.

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DTS provides systems and services to manage and process low-level radioactive and hazardous wastes. Technologies include demineralization, polymer solidification, filtration, ultrafiltration, reverse osmosis, dewatering, and drying. These are applied on a stand-alone basis, or combined to effect waste stream or pool cleanup, sludge collection, silica removal, boric acid recovery, and zero environmental release. DTS also provides underwater systems, ion exchange and ion specific media, and NOCHAR filtration products.

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Durasystems specializes in passive "Life Saving" fire protection systems for the industrial, institutional and commercial markets. Offering a solid background in fire protection, Durasystems is a Canadian-based manufacturer specializing in supplying fire-rated systems and assemblies to the industrial, commercial, institutional and nuclear sectors.

Relying on over a half century of proven performance and utilizing the engineered properties of DuraSteel fire resistant sheet, Durasystems can provide passive fire protection solutions for telecommunication and electrical power utilities, petrochemical, mining and resource industries, transportation industry and off-shore oil and gas

platforms. DuraSystems can provide up to 6 hours protection against temperatures in excess of 1,200°C.

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DW James Consulting provides technical services for characterization of radioactive materials and wastes. Services include software for the preparation of shipping documentation and scaling factor analysis, characterization and shipping training, activated component analyses, MCNP Shielding Analysis for onsite and offsite dose assessments, and decommissioning program support to both US commercial and government clients as well as international customers.

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Eastern Technologies Incorporated (ETI) is uniquely positioned to provide solutions to all your protective clothing needs. With the continued advancement of our OREX line of protective clothing and related products, ETI also has the ability to provide state of the art single use garments that far exceed industry standard. The revolutionary OREX Ultra coveralls have made possible historically low personnel contaminations at several nuclear power plants over the past 12 months. ETI also operates the most technologically advanced radiological laundry in the world.

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Eberline Services, Inc. has provided radiological and environmental services to clients nationwide for more than 60 years. The company offers specialized expertise in radiological characterization and analysis; radioactive and hazardous waste management; and environmental, safety, and health management. The company's analytical laboratory network performs radiochemistry and environmental analytical laboratory services.

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Since 1985, ECC has been solving complex environmental problems in the US and abroad. ECC provides comprehensive and cost-effective design-build, construction, engineering, environmental remediation, closure, energy, O&M, and munitions response services. With more than 500 professionals and 17 offices worldwide, we secure and complete a variety of large-scale, multi-faceted concurrent projects, providing our customers with optimal solutions.

Eckert & Ziegler Umweltdienste GmbH

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Eckert & Ziegler Umweltdienste GmbH (Environmental Services) offers comprehensive services for collection, recycling and disposal of sealed radioactive sources and all relevant process steps for treatment and conditioning of low activity radioactive waste from hospitals, research institutes and nuclear power industry.

EcoMetrix Incorporated

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EcoMetrix is a team of experienced environmental professionals applying leading edge science and knowledge of regulatory requirements to measure, assess, and quantify the potential effects of human activities on the environment. EcoMetrix provides specialized knowledge-based services to the Nuclear, Energy, Forest Products and Mining Sectors, and to Government Agencies and other professional service companies. EcoMetrix provides a broad range of environmental services for the nuclear industry. These include modeling of radionuclides and other contaminants in air, water, groundwater and soil; geochemical analysis; source term characterization; analysis of transport pathways and radiation doses to biota and humans; environmental baseline studies; environmental monitoring; development of cleanup criteria and strategies for remediation of contaminated materials; preparation of environmental assessments; and development of decommissioning plans.

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An employee-owned company, our culture drives us to provide superior customer service as individual owners. Combining this culture and these services, ENERCON has an outstanding reputation of providing superior support to our commercial and government clients in a wide variety of services including: engineering; decommissioning planning and execution; environmental remediation and consulting; radiologic and industrial health and safety; licensing and permitting; and facility siting and construction.

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ETEBA is a non-profit trade association representing more than 250 small, large and mid-sized companies that provide environmental, technology, energy, engineering, construction and related services to government and commercial clients. Our mission is to promote the success of our members by fostering market understanding, identifying business opportunities and advocating for our common interests.

**EnergySolutions – SILVER SPONSOR**

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EnergySolutions is a leading provider of specialized technology based nuclear services to government and commercial customers. We are committed to environmental protection, energy independence and the nuclear industry. Our services include engineering, in-plant operations, outsourced specialty services, spent nuclear fuel management, decontamination and decommissioning, logistics, transportation processing and disposal.

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EnergySolutions is a nuclear technology and services company with operations around the world. EnergySolutions Canada provides comprehensive, integrated services and solutions to the Canadian nuclear industry. We operate an impressive 130,000 sq ft CNSC licensed facility named the EnergySolutions Walker Operation (ESWO), where we support refurbishment and decommissioning projects and meet the fuel cycle and waste management challenges faced by our government and commercial customers.

With capacity to store more than 40,000 cu. m of equipment or waste in sealands, crates or specialty boxes in a climate controlled environment, ESWO is providing the Canadian nuclear industry with resources previously not available.

Entellic Corporation/TeamSQA

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Entellic delivers software solutions, software services, and software quality assurance to DOE subcontractors. Since 1999, our clients leveraged rapid-development software to automate and simplify rad waste workgroup tasks. We maximize efficiency and simplify documentation using barcode, RFID, or tablet-based tools with full compliance and quality assurance.

Environmental Rail Solutions, Inc.

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Environmental Rail Solutions, Inc. (ERS) is a recognized leader in the transportation of hazardous, non-hazardous and radioactive material and has transported over 1.5 million tons of material utilizing the safe and efficient rail infrastructure as the primary mode of transportation. As a women owned small business, ERS is an approved government contractor and has met the rigid qualification and performance standards of the US DOE, DOD and USACE.

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EQ is a fully-integrated environmental management services organization with over 50 years of experience. EQ creates environmental solutions for customers by managing and disposing of FUSRAP waste, NORM and TENORM. Along with a full line of environmental services, EQ also offers hazardous and non-hazardous waste recycling, treatment, disposal and wastewater treatment.

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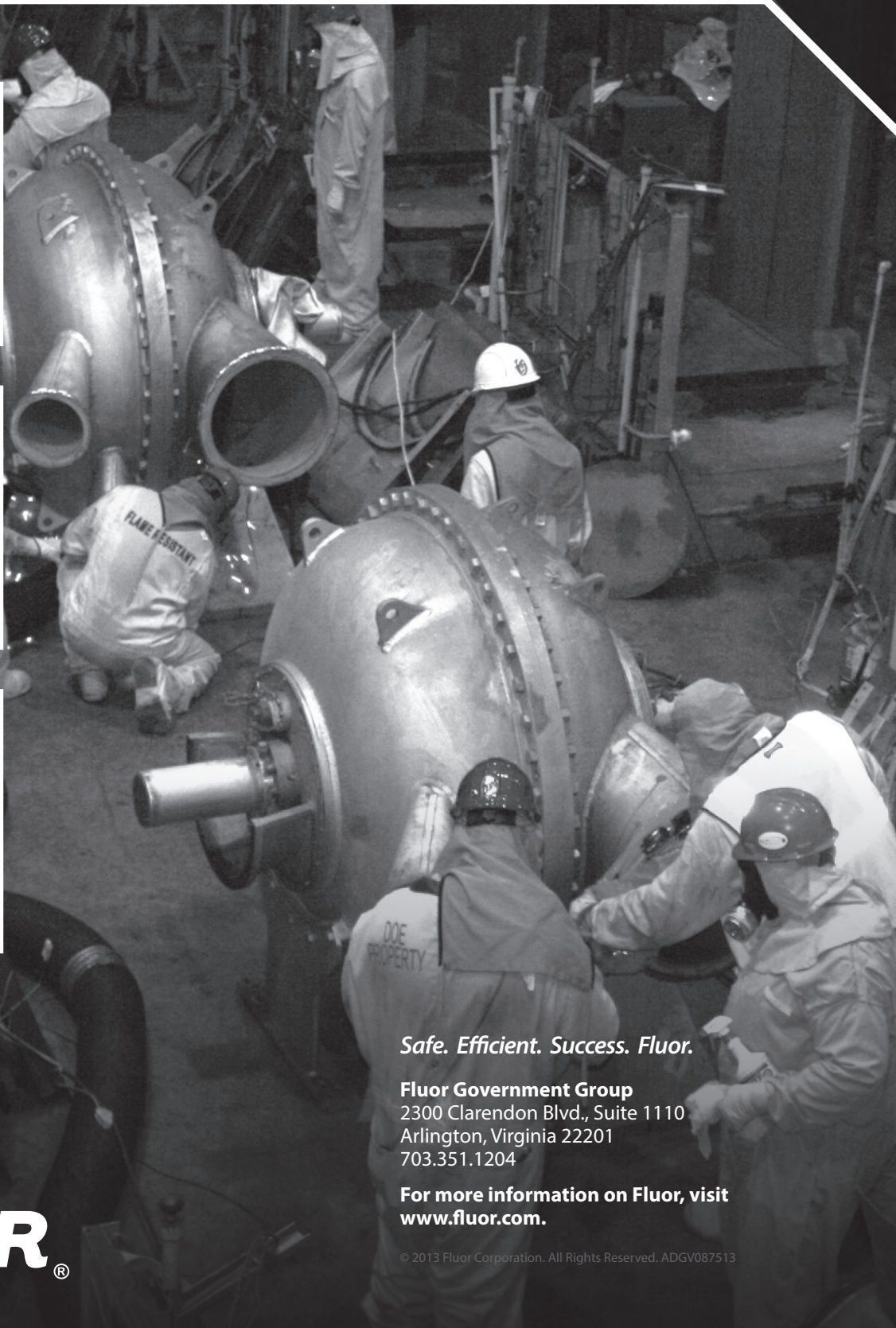
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FE&C is a full-service international construction and engineering small business specializing in highly technical and hazardous work. We perform remediation, D&D, construction and technical services to government and commercial clients with an exceptional safety and performance record.

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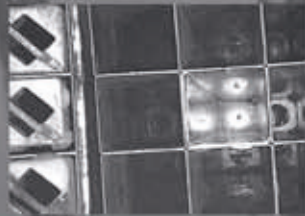
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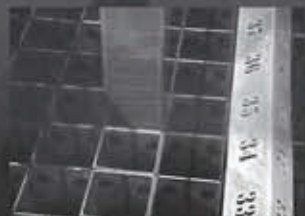
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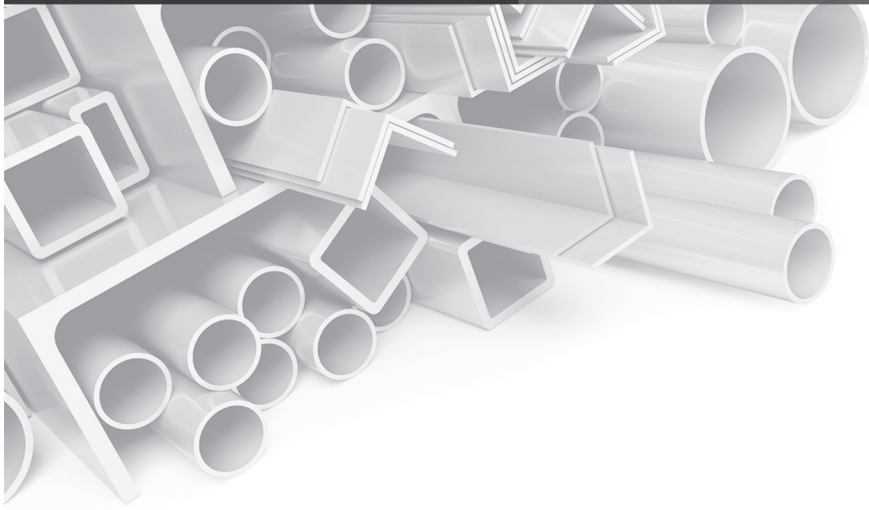
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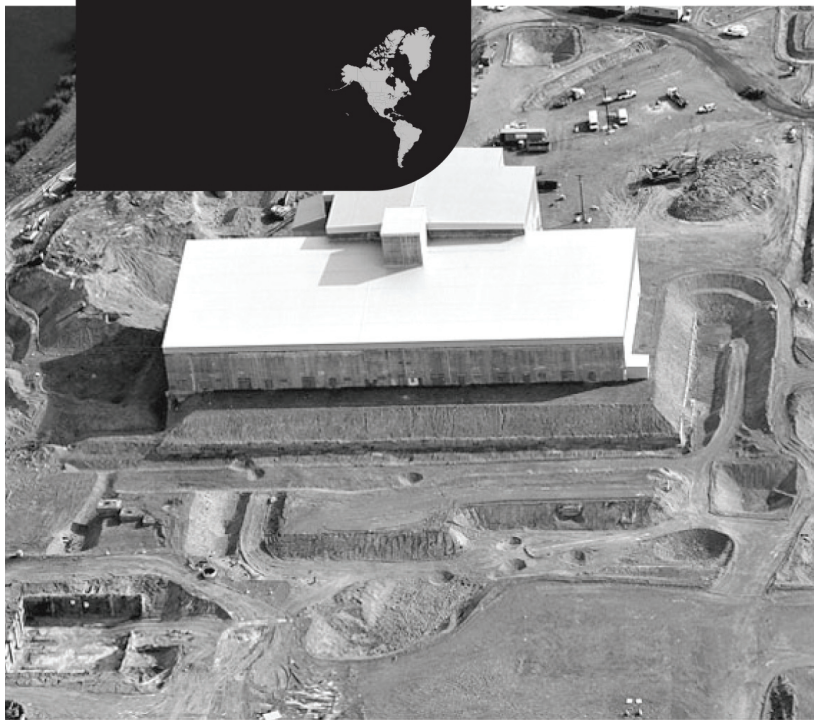
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US DOE - Waste Isolation Pilot Plant

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The US DOE Waste Isolation Pilot Plant became the nation's first operating underground repository for radioactive defense wastes in 1999. The WIPP facility, located in southeastern New Mexico, was designed for permanent disposal of radioactive transuranic waste, the byproduct of nuclear weapons research and production.

US DOE NV Site Office

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Website: www.nv.energy.gov

The US DOE, National Nuclear Security Administration Nevada Site Office Environmental Management Program is responsible for addressing contamination from historic nuclear testing in Nevada, disposing low-level and mixed low-level radioactive waste from approved generators, and conducting environmental protection and compliance activities at the Nevada National Security Site.

US DOE Office of Legacy Management

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Website: www.hq.doe.gov

The US DOE-LM was established in 2003 to provide a long-term, sustainable solution to the legacy of the Cold War.

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US Ecology

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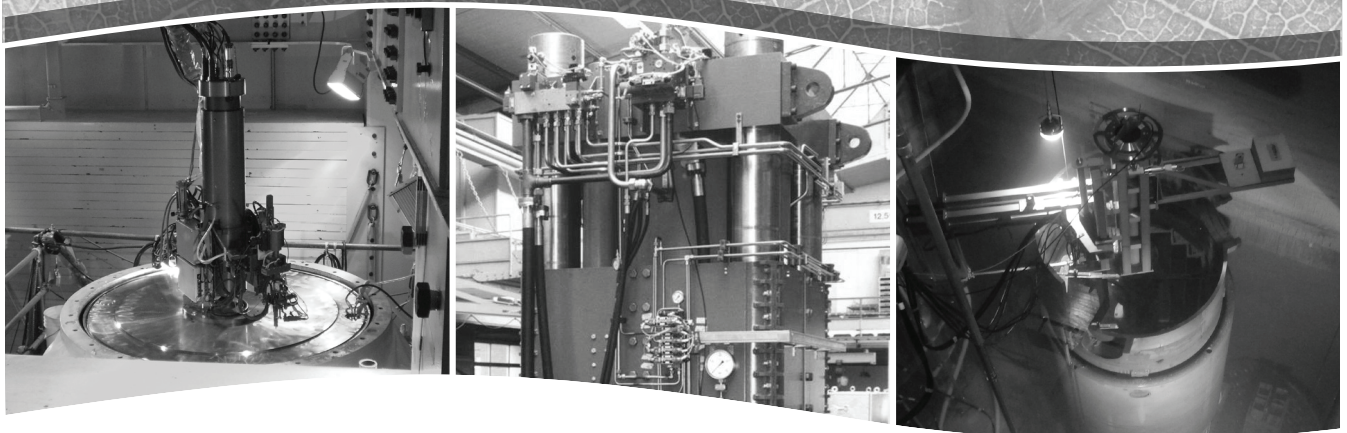
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 Website: www.wastrenadvantage.com

Wastren Advantage, Inc. (WAI) is a Small Business Administration (SBA)-Certified 8(a) small disadvantaged business headquartered in Piketon, OH with over 300 employees based in eight regionally distinct project offices throughout the United States, and had an annual revenue of \$95 million in 2011. WAI provides waste management, environmental services, decontamination and decommissioning, and facility management and operations to commercial and federal clients.

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