our most sincere thanks
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2011 International High-Level Radioactive Waste Management Conference:

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Thank You!
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Take a look at the listing of sessions by day.

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19  Technical Tour Information
Limited spaces will be filled on a first-come, first-serve basis.
Conference Officials

**HONORARY CHAIR**
Claes Thegerström  
President,  
Swedish Nuclear Fuel and Waste Management Co. (SKB), Sweden

**GENERAL CHAIR**
Margaret S.Y. Chu  
Managing Director,  
(Former Director of Office of Civilian Radioactive Waste Management, USA)  
M.S. Chu + Associates, LLC, USA

**TECHNICAL PROGRAM CHAIR**
Sitakanta Mohanty  
Institute Engineer,  
Center for Nuclear Waste Regulatory Analyses (CNWRA), Southwest Research Institute, USA

**TECHNICAL PROGRAM AND ADVISORY COMMITTEE**

*Session Organizers:*
- Joonhong Ahn (University of California at Berkley (UCB), USA)
- Daniel Bullen (Exponent Failure Analysis Associates (EFAA), USA)
- Barry Butterfield (HDR, USA)
- Asad Chowdhury (Center for Nuclear Waste Regulatory Analyses (CNWRA), USA)
- George Danko (University of Nevada at Reno, USA)
- Al Aziz Eddebbarh (Eminates Nuclear Energy Corporation (ENEC), UAE)
- Charles Forsberg (Massachusetts Institute of Technology (MIT), USA)
- Robert Gamble (Oye County NWRPO, USA)
- Frank Garisto (Nuclear Waste Management Organization (NWMO), Canada)
- Brady Hanson (Pacific Northwest National Laboratory (PNL), USA)
- Scott James (Sandia National Laboratories (SNL), USA)
- Matt Kozak (INTERA Inc., USA)
- Erik Kremer (Nuclear Waste Management Organization (NWMO), Canada)
- Charles McCombie (Arius Association, Switzerland)
- Jude McMurty (Center for Nuclear Waste Regulatory Analyses (CNWRA), USA)
- David Pickett (Center for Nuclear Waste Regulatory Analyses (CNWRA), USA)
- Vincenzo Rondinella (Institute for Transuranium Elements (ITE), Germany)
- Andrew Sowder (Electric Power Research Institute (EPRI), USA)
- Peter Swift (Sandia National Laboratories (SNL), USA)
- Abe VanLuik (Waste Isolation Pilot Plant (WIPP)-DOE, USA)
- Stratis Vomvoris (National Cooperative for the Disposal of Radioactive Waste (NAGRA), Switzerland)
- Ruth Weiner (Sandia National Laboratories (SNL), USA)

*Other committee members and advisers:*
- Carl Di Bella (Nuclear Waste Technical Review Board (NWTRB), USA)
- Amanda Casella (Pacific Northwest National Laboratory (PNL), USA)
- Ray Clark (US Environmental Protection Agency (USEPA))
- Leif Eriksson (Nuclear Waste Dispositions, USA)
- Nava Garisto (SENES, Canada)
- John Kessler (Electric Power Research Institute (EPRI), USA)
- Kaname Miyahara (Japan Atomic Energy Agency (JAEA), Japan)
- Stephen Turner (SAIC, USA)
- John Walton (University of Texas at El Paso, USA)
Conference Officials

Peter Swift  
(SNL)  
Co-Lead:  
Total Repository System

Matt Kozak  
(INTERA, Inc.)  
Co-Lead:  
Total Repository System

George Danko  
(UNR)  
Co-Lead:  
Total Repository System

Straris Vomvoris  
(Nagra)  
Co-Lead:  
Natural Systems

Jude McMurry  
(CNWRA)  
Co-Lead:  
Natural Systems

Scott James  
(SNL)  
Co-Lead:  
Natural Systems

David Pickett  
(CNWRA)  
Co-Lead:  
Engineered Systems

Frank Garisto  
(NWMO)  
Co-Lead:  
Engineered Systems

Andrew Sowder  
(EPRi)  
Lead:  
Biosphere

Barry Butterfield  
(HDR)  
Co-Lead:  
Regulatory Topics

Charles McCombie  
(Arias)  
Co-Lead:  
Institutional Topics

Vincenzo Rondinella  
(ITE)  
Co-Lead:  
Interim Storage of High Level Waste

Brady Hanson  
(PNL)  
Co-Lead:  
Interim Storage of High Level Waste

Joonhong Ahn  
(UCB)  
Lead:  
Advanced Fuel Cycles: Impacts on Waste Management

Ruth Weiner  
(SNL)  
Lead:  
High-level Radioactive Waste Transportation

Erik Kremer  
(NWMO)  
Co-Lead:  
Security, Safeguards, and Non-Proliferation

Abdulaziz Edeebbarh  
(ENEIC)  
Co-Lead:  
Security, Safeguards, and Non-Proliferation

Robert Rechards  
(SNL)  
Lead:  
Retrievalability and Reversibility

Charles Forsberg  
(MIT)  
Lead:  
Fuel Cycle and Disposal System Optimization

Amanda Casella  
(PNL)  
Program Committee Member

Carl Di Bella  
(NWTRB)  
Program Committee Member

Leif Eriksson  
(Nuclear Waste Dispositions)  
Program Committee Member

Nava Garisto  
(SENES)  
Program Committee Member

Kaname Miyahara  
(JAEA)  
Program Committee Member

Not Photographed:

Daniel Bullen  
(EPA)  
Co-Lead: Regulatory Topics; Asadul Chowdhury  
(CNWRA), Co-Lead: Engineered Systems; Bob Gamble  
(Nye County NWPO), Co-Lead: Institutional Topics; Abe VanLuik  
(WIPP), Program Committee Member; Ray Clark  
(USEPA), Program Committee Member; John Kessler  
(EPRi), Program Committee Member; Stephen Turner  
(SAIC), Program Committee Member

John Walton  
(Univ of Texas, El Paso)  
Program Committee Member
Conference Information

SPONSOR
Sponsor: American Nuclear Society
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Cooperation is expected from numerous professional and technical societies, national laboratories, federal agencies and commercial organizations throughout the world.

CONFERENCE REGISTRATION
Registration is required for all attendees and presenters. Badges are required for admission to all events.

- The Full Conference Registration Fee includes admission to all technical sessions, the opening reception, the conference luncheon and the conference proceedings (CD-Rom)
- The Daily Conference Registration Fee includes admission to technical sessions on the day registered and the conference proceedings (CD-Rom)
- The Student Registration Fee includes admission to all technical sessions and the conference proceedings (CD-Rom).
  A full-time student i.d. is required.

Note: Additional tickets can be purchased at the ANS registration desk for the Opening Reception and the Conference Luncheon.

REGISTRATION HOURS
The ANS registration and message desks will be located in the Grand Ballroom Foyer of the Albuquerque Marriott Hotel. You may register, purchase tickets for events, or pick up your registration packet during the following hours:

SUNDAY, APRIL 10, 2011
1:00 PM - 4:00 PM

MONDAY, APRIL 11, 2011
7:00 AM - 7:00 PM

TUESDAY, APRIL 12, 2011
7:00 AM - 5:00 PM

WEDNESDAY, APRIL 13, 2011
7:00 AM - 5:00 PM

THURSDAY, APRIL 14, 2011
7:00 AM - 1:00 PM

CONFERENCE PROCEEDINGS
This year’s conference proceedings is available on CD-ROM. Copies of the conference proceedings will be available on-site. Each registrant will receive a copy of the proceedings as part of the registration fees. Additional copies may be purchased at the conference registration desk for $195.00.
To purchase copies following the conference, you may contact the ANS Accounting Department at 708-579-8210 (phone); 708-579-8314 (fax); accounting@ans.org (email); or submit your request in writing to: American Nuclear Society, 97781 Eagle Way, Chicago, IL 60678-9770. Payment information must accompany all orders.

SPEAKER REGISTRATION AND PREPARATION ROOM
All speakers are required to register for the conference in advance and to submit a registration fee. A Speakers’ Preparation Room, located in the Carlsbad Room of the Albuquerque Marriott Hotel, will be in operation for the duration of the conference to serve the needs of speakers and moderators. Speakers and session chairs are requested to check-in at the speakers’ desk located at the Grand Ballroom Foyer of the Albuquerque Marriott Hotel at least one day prior to their presentation.

SOCIAL FUNCTIONS
OPENING RECEPTION
MONDAY, APRIL 11, 2011
7:00 PM – 9:00 PM
Location: Sandia Ballroom

Each full conference registrant will receive a ticket for the reception. Additional tickets may be purchased at the ANS registration desk for $60.00.

CONFERENCE LUNCHEON
TUESDAY, APRIL 12, 2011
12:00 PM – 1:00 PM
Location: Sandia Ballroom

Each full conference registrant will receive a ticket for the luncheon. Additional tickets may be purchased at the ANS registration desk for $50.00.

Mark Your Calendars!

American Nuclear Society:
2011 ANNUAL MEETING
June 26-30, 2011
Hollywood, FL
The Westin Diplomat

Preliminary Program available online!
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# Conference Schedule

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<td>Welcome and Opening Remarks</td>
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<td>8:40 AM</td>
<td>Plenary—I</td>
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<tr>
<td>10:00 AM</td>
<td>Break</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>Panel Discussions—I and II: International HLW Program Status and Lessons Learned</td>
</tr>
<tr>
<td>12:30 PM</td>
<td>Lunch Break</td>
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<tr>
<td>2:00 PM</td>
<td>Technical Sessions</td>
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<td>3:15 PM</td>
<td>Break</td>
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<tr>
<td>7:00 PM</td>
<td>Opening Reception</td>
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## TUESDAY, APRIL 12, 2011

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<td>8:00 AM</td>
<td>Plenary—II</td>
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<tr>
<td>9:00 AM</td>
<td>Special Session: Reaching a Milestone in the Swedish Nuclear Waste Management Program—License Application for a KBS-Repository at Forsmark—Papers/Panel</td>
</tr>
<tr>
<td>9:50 AM</td>
<td>Break</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>Technical Sessions</td>
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<tr>
<td>12:00 PM</td>
<td>Conference Luncheon</td>
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<tr>
<td>1:30 PM</td>
<td>Technical Sessions</td>
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## WEDNESDAY, APRIL 13, 2011

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<tbody>
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<td>Panel Discussion: Future Direction for the U.S. High-Level Waste Program</td>
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<tr>
<td>10:20 AM</td>
<td>Break</td>
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<td>10:45 AM</td>
<td>Technical Sessions</td>
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<td>12:00 PM</td>
<td>Lunch Break</td>
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<td>2:35 PM</td>
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<td>1:00 PM</td>
<td>Conference Adjourns</td>
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Technical Sessions

MONDAY, APRIL 11, 2011, 8:15 A.M.–8:40 A.M.
Welcome and Opening Remarks
Grand Salon E/F
Speaker to be determined

MONDAY, APRIL 11, 2011, 8:40 A.M.–10:00 A.M.
Plenary—I
Grand Salon F
Speaker:

Dr. Peter Lyons (U.S. Assistant Secretary of Nuclear Energy, U.S. Department of Energy (DOE)(NE-1))

(15 minute break: 10:00 A.M. – 10:15 A.M.)

MONDAY, APRIL 11, 2011, 10:15 A.M.–12:30 P.M.
Panel Discussions—I and II: International HLW Program Status and Lessons Learned
Grand Salon E/F
Moderator: Dr. Wesley Patrick (VP, Southwest Research Institute)

Panelists:
- Mr. Ken Nash (President, Nuclear Waste Management Organization (NWMO) of Canada)
- Mr. Claes Thegerström (President, SKB, Sweden)
- Dr. Seong Won Park (Sr. VP of Korea Atomic Energy Research Institute)
- Dr. Gerald Ouzounian (Director, IP, Andra, France)
- Dr. Weiming Chen (Director, Beijing Research Institute of Uranium Geology, China)
- Dr. Stratis Vomvoris (Director ISP, Nagra, Switzerland)
- Mr. John Mathieson (Head of International, Nuclear Decommissioning Authority, UK)

MONDAY, APRIL 11, 2011, 12:30 P.M.–2:00 P.M.
LUNCH BREAK

MONDAY, APRIL 11, 2011, 2:00 P.M.–4:45 P.M.
(15 minute break at 3:15 P.M)

Track 1, Session 1: Post Closure Safety Assessment
Session Organizers: Peter Swift (SNL), Matt Kozak (INTERA Inc.), George Danko (Univ of Nevada, Reno)
Session Chairs: Allan Hedin (SKB), Sean Russell (NWMO)
Grand Salon E/F

2:00 p.m.
(3345) A Performance Assessment Model for Generic Repository in Salt Formation
Joon H. Lee, Malcolm Siegel, Carlos Jove-Colon, Yifeng Wang (SNL)

2:25 p.m.
(3363) Performance Assessment for Korean Concept of Geological Disposal
Jihae Yoon, Joonhong Ahn (University of California, Berkeley)

2:50 p.m.
(3374) Postclosure Safety Assessment of a Deep Geological Repository for Canada’s Used Nuclear Fuel
E. P. Kremer (NWMO), J. D. Avis (Geoforma Eng), T. Chshyolkova (AECL),
F. Garisto, P. Gierszewski, M. Gobien, N. G. Hunt (NWMO),
C. J. Kitson (AECL), C. L. D. Medri (NWMO), T. W. Melnyk, L. C. Wojciechowski (AECL)

3:30 p.m.
(3604) A Vision of Next Generation Performance Assessment Models
H. Makino, H. Umeki (IAEA), H. Takase (Quintessa Ltd.),
J. G. McKinley (McKinley Consulting)

4:20 p.m.
(3426) Development of an Integrated Clay Generic Disposal System Environment Modeling Capability
W. Mark Nutt, Edgar E. Morris, Theodore H. Bauer, Nikolai Dosev (ANL)

Track 3, Sessions 2 and 4: Engineered Barriers: Container Types and Sealing Materials
Session Organizers: David Pickett (CNWRA), Frank Garisto (NWMO),
Asadul Chowdhury (CNWRA)
Session Chairs: David Sassani (SNL), Stephen Turner (SAIC)
Grand Salon A/B

2:00 p.m.
(3536) Large-Scale Tests of the Behaviour of Bentonite-Based Barriers: FEBEX & GAST
S. Vomvoris, I. Gaus, J. Rueddi, P. Marschall (Nagra)

2:25 p.m.
(3343) Feasibility Assessment of the Belgian Supercontainer Disposal Concept
W. Wacquier, H. Van Humbeeck, R. Gens (ONDRAF-NIRAS), S. Wickham,
L. Harvey (Galon Sciences Ltd.), L. Areias (EIG EURIDICE),
G. de Schutter (Ghent Univ), A. Van Cotthem, L. Villers (Techum Tractebel Eng)
Technical Sessions

2:50 p.m.
(3380) Application of the Prefabricated EBS Concept in Unsaturated, Oxidizing Host Media
Ernest Hardin, David Sassani (SNL)

3:30 p.m.
(3561) Polymer Composite Waste Containers for the Ultimate Disposal of Radioactive Waste

3:55 p.m.
(3425) Use of Iron-Base Waste Packages in a Salt Repository
L. H. Brush, G. T. Roselle, Y.-L. Xiong (SNL)

4:20 p.m.
(3431) Anoxic Corrosion of Steel and Lead in Na-Cl±Mg Dominated Brines
G. T. Roselle (SNL)

Track 2, Session 3: Modeling Geodynamic and Hydrogeologic Processes
Session Organizers: Stratis Vomvoris (Nagra), Jude McMurry (CNWRA), Scott James (SNL)
Session Chairs: Jan-Olof Selroos (SKB), Stephen Self (NRC)
Grand Salon C/D

2:00 p.m.
(3427) Two-Dimensional Simulations of Magma Interaction with Subsurface Tunnels
Debashis Basu, Kaushik Das (CNWRA), Stephen Self (NRC)

2:25 p.m.
(4282) Groundwater Flow Modelling of Operational Temperate and Periglacial/Glacial Periods in the Swedish Safety Assessment SR-Site of a Subsurface Tunnels
(3427) Two-Dimensional Simulations of Magma Interaction with Subsurface Tunnels

2:50 p.m.
(3475) Thermodynamic Modeling of Liquid-Liquid Extraction (LLE) for the System TBP-HNO3-UO3(NO3)2-H2O-Diluent
Carlos F. Jové Colón, Harry K. Moffat, Rekha R. Rao (SNL)

3:30 p.m.
(3478) Predicting Water Activity in Electrolyte Solutions with the Cisternas-Lam Model
Jacob G. Reynolds, Daniel A. Greer, Robert S. Disselkamp (Washington River Protection Solutions, LLC)

3:55 p.m.
(3542) On-Line Monitoring Techniques for Spent Nuclear Fuel Reprocessing
Amanda Casella, Sam Bryan, Tariatna Levitskaia, James Peterson, Troy Robinson, Crystal Rutherford (PNNL), Omed Muzaffery (Univ of California-Irvine), Amanda Lines (Purdue), Mikael Nilsson (Univ of California-Irvine)

Track 6, Session 3: Institutional Aspects of Repository Siting
Session Organizers: Charles McCombie (Aries), Robert Gamble (NYE County, Nevada)
Session Chairs: Olle Olsson (SKB), Ahmed Al Neaimi (ENEC)
Grand Salon I/J

2:00 p.m.
(3442) The Added Value Approach in Nuclear Waste Facility Siting Processes
Matti Kojo (Univ of Tampere), Phil Richardson (Galson Sciences Ltd)

2:25 p.m.
(3347) Site Selection for Canada’s National Repository for Used Nuclear Fuel
Kathryn Shaver, Jo-Ann Facella (NWMO)

2:50 p.m.
(3569) Public Involvement and Site Selection of a Deep Geological Repository
Sébastien Farin, Gérard Ouzounian (Andra)

3:30 p.m.
(3459) Enhancing Acceptability and Credibility of Repository Development for Spent Nuclear Fuel
Hank C. Jenkins-Smith, Carol L. Silva, Kerry G. Herron (Univ of Oklahoma), Rob P Rechard (SNL)

3:55 p.m.
(3438) Site Selection, Characterization, and Research and Development for Spent Nuclear Fuel and High-Level Waste Disposal
Rob P. Rechard (SNL), Frank V. Perry (LANL), Thomas A. Cotton (Complex Systems Group)

4:20 p.m.
(3320) Radioactive Waste Disposal in the U.S.
Aubrey V. Godwin (Arizona Radiation Regulatory Agency)
Technical Sessions

TUESDAY, APRIL 12, 2011, 8:00 A.M.–8:50 A.M.

Plenary Session—II

Grand Salon E/F

Speaker:
Shirley Olinger (Associate Principal Deputy, Environmental Management, U.S. Department of Energy (DOE))

TUESDAY, APRIL 12, 2011, 9:00 A.M.–11:55 A.M.

Track 5, Session 2: Special Session: Reaching a Milestone in the Swedish Nuclear Waste Management Program—License Application for a KBS-Repository at Forsmark—Papers/Panel

Session Chair: John Kessler (EPRI)

Grand Salon E/F

9:00 a.m.
Overview of the Road to the License Application
Claes Thegerström (SKB)

9:25 a.m.
(4280) The License Application for the KBS-3 System—A Milestone for the Swedish Spent Fuel Disposal Program
Claes Thegerström, Olle Olsson (SKB)

10:15 a.m.
The Selection of the Forsmark Site
Olle Olsson (SKB)

10:40 a.m.
The License Application for a KBS-3 Repository at Forsmark
Olle Olsson (SKB)

11:05 a.m.
(4281) The SR-Site Safety Assessment for Licensing a Spent Fuel Repository in Sweden
Allan Hedin (SKB), Eva Andersson (Sudvik Nuclear AB), Johan Andersson (JA Streamflow AB), Christina Grecis, Lena Zetterström Evins, Ulrik Kaunsky, Christina Lilja, Tobias Lindborg (SKB), Maria Lindgren (Kemaka Konsult AB), Martin Löfgren (Nireus), Raymond Munier, Jens-Ove Náslund, Ignasi Puigdomenech, Patrik Sellin, Jan-Olof Selroos (SKB), Kristina Skagius (Kemaka Konsult AB), Kastriot Spahić, Fredrik Vahlund (SKB)

11:30 a.m.
The Next Steps Towards Implementation
Claes Thegerström (SKB)

TUESDAY, APRIL 12, 2011, 10:15 A.M.–11:55 A.M.

Track 7, Session 4: Technical Issues in Dry Storage

Session Organizers: Vincenzo Rondinella (ITU), Brady Hanson (PNL)
Session Chair: George Danko (U. of Nevada, Reno)

Grand Salon G/H

10:15 a.m.
(3458) Effects of Helium Build-up on Nuclear Fuel Evolution During Storage
Vincenzo V. Rondinella, Thierry Wiss, Emilio Maugeri, Jean-Yves Colle (EC-JRC)

10:40 a.m.
(3376) Impacts Associated with Early Transfer of SNF from Pool Storage to Dry Storage
Eileen M. Supko (Energy Resources International, Inc.), John H. Kessler (EPRI)

11:05 a.m.
(3450) Repository Independent Packaging Strategy of DOE-Owned SNF
Abdelhalim A. Alsaeed (Enviros Nuclear Services), Brett W. Carlsen (INL)

TUESDAY, APRIL 12, 2011, 10:15 A.M.–11:55 A.M.

Track 8, Session 1: Modeling for Advanced Fuel Cycle Performance

Session Organizer: Joonhong Ahn (Univ of California, Berkeley)
Session Chair: Andrew Sowder (EPRI)

Grand Salon I/J

10:15 a.m.
(3375) Comparison of Fuel Cycle Costs for Alternative Fuel Cycles
Eileen M. Supko (Energy Resources International, Inc.), Albert Machiels, Andrew Sowder (EPRI)

10:40 a.m.
(3403) Transient Analysis of Nuclear Technologies—Waste Reduction and Environmental Impact
J. Hart (NRG)

11:05 a.m.
(3404) Impact of (V)HTRs Introduction on the Nuclear Fuel Cycle
J. Hart, A. I. van Heek (NRG)
Technical Sessions

TUESDAY, APRIL 12, 2011, 12:00 P.M.–1:30 P.M.
Conference Luncheon
Sandia Ballroom
Speaker: Lake Barrett (L. Barrett Consulting, LLC)

TUESDAY, APRIL 12, 2011, 1:30 P.M. – 3:35 P.M.
Track 1, Session 6: Repository Information Management and Decision Support
Session Organizers: Peter Swift (SNL), Matt Kozak (INtera Inc),
George Danko (Univ of Nevada, Reno)
Session Chairs: Lena Morén (SKB), H. Makino (JAEA)
Grand Salon A/B

1:30 p.m.
(3571) Support of the Repository Closure Decision with an Integrated Safety Case
Hideki Kawamura (Ohayashi Corp), Ian G. McKinley (McKinley Consulting)

1:55 p.m.
(3430) The Disposal Systems Evaluation Framework for DOE-NE
James A. Blink (LLNL), Carlos F. Jove-Colon (SNL), Harris R. Greenberg, William G. Halsey (LLNL), Mark Nutt (ANL), Mark Sutton (LLNL)

2:20 p.m.
(3598) A Geographic Information System-Based Tool for Evaluating Siting Options
G. T. Mays, R. J. Belles, O. Omitaomu (ORNL)

2:45 p.m.
(3350) A Requirements Management System for a Spent Nuclear Fuel Repository
Lena Morén, Åsa Olson (SKB)

Track 12, Session 1: Fuel Cycle and Disposal System Optimization
Session Organizer: Charles Forsberg (MIT)
Session Chairs: Peter Swift (SNL), Joonhong Ahn (Univ of California, Berkeley)
Grand Salon C/D

1:30 p.m.
(3213) Alternative Fuel-Cycle Repository Designs
Charles Forsberg (MIT)

1:55 p.m.
(3565) A Multi-Functional Storage Facility and/or Repository for Yucca Mountain
G. Danko, D. Bahrami (University of Nevada, Reno)

2:20 p.m.
(3441) A Preliminary Study on Back-End Fuel Cycle Scenario for Searching a Task in Korea Industry
Jong Kuk Lee, Yoon Hee Lee, Dong Hyoung Lee, Sung Yeop Jung, Sung Yeop Kim, Sang Chul Lee (KAIST), Kun Jai Lee (KAIST/KUSTAR), Seong Ki Lee, Ki Seong Choi, Chang Sok Cho (KNFC)

2:45 p.m.
(3575) Importance of Decay Time on HLW Disposal
E. D. Collins, B. B. Spencer, G. D. Del Cul (ORNL)

3:10 p.m.
(3392) Closing the Nuclear Fuel Cycle with Salt
Yifeng Wang (SNL), Michael Simpson (INL), Jonathan Rath, Francis Hansen, Joon H. Lee, Carlos Jove-Colon, Kevin McMahon, Peter Swift (SNL)

Track 2, Session 4: Natural Analogs
Session Organizers: Stratis Vomvoris (Nagra), Jude McMurry (CNWRA), Scott James (SNL)
Session Chairs: John Walton (U. of Texas at El Paso), Jude McMurry (CNWRA)
Grand Salon G/H

1:30 p.m.
(3568) Application of Natural Analogues to Support a Realistic Safety Case
Hideki Kawamura (Ohayashi Corp), Ian G. McKinley (McKinley Consulting), Shoko Yashio (Ohayashi Corp)

1:55 p.m.
(3412) Peña Blanca Natural Analogue Project: Summary of Activities
Schön Levy, Steven Goldstein (LANL), Patrick E. Dobson (LANL), Philip Goodell (Univ of Texas at El Paso), Tch-Lung Ku (Univ of Southern California), Amr Abdel-Fattah (LANL), George Saulnier (AREVA), Mostafa Fayek (Univ of Mannio), Rodrigo de la Garza (Universidad Autónoma de Chihuahua)

2:20 p.m.
(3365) Natural Disturbances of Argillaceous Caprock Integrity: Petroleum Analogues for Nuclear Waste Repository Systems
J. E. Houseworth (LBNL)

2:45 p.m.
(3369) Engineered and Natural New Mexico Analogues for Geologic Isolation of Heat Generating Waste in Rock Salt
Norbert T. Rempe (Independent)

Track 3, Session 7: Engineered Barriers: Waste Forms
Session Organizers: David Pickett (CNWRA), Frank Garisto (NWMO), Asadul Chowdhury (CNWRA)
Session Chairs: David Pickett (CNWRA), Christopher Markley (NRC)
Grand Salon I/J

1:30 p.m.
(3581) Review of Results for the OECD/NEA Phase VII Benchmark Study of Spent Fuel Compositions for Long-Term Disposal
G. Radulescu, J. C. Wagner (ORNL)

1:55 p.m.
(3456) A Flexible Model for Calculating Potential Future Radionuclide Inventories
Timothy Sippel (NRC), Earl Lynn Tipton (CNWRA), Christopher Markley (NRC)

2:20 p.m.
(3472) Solubilities of Radionuclides Released from Graphite Waste Calculated Using PHREEQC
Bret P. van den Akker, Joonhong Ahn (Univ of California, Berkeley)

2:45 p.m.
(3522) Uranium Metal Oxidation, Grinding and Encapsulation in BoroBond: TRU Waste Management
Kevin S. Cook, Larry Addington, Elizabeth Utley (Boron Products LLC)
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Technical Sessions

Track 9, Session 1: Transportation of High-Level Radioactive Waste
Session Organizer: Ruth Weiner (SNL)
Session Chair: Ruth F. Weiner (SNL)
Cimarron
1:30 p.m.
Ruth F. Weiner (SNL)

1:55 p.m.
(3413) Railway Accident Analyses for Spent Nuclear Fuel Transportation Packages
Todd S. Mintz, George Adams, Marius Necsoiu (CNWRA), Chris Bajwa, Earl Easton (NRC)

2:20 p.m.
(3341) Repository Transportation Planning, Risk Management, and Public Acceptance: Lessons Learned
Robert J. Halstead (State of Nevada, Agency for Nuclear Projects), Fred C. Dilger (Black Mountain Research)

2:45 p.m.
(3420) Roadway Accident Analyses for Spent Nuclear Fuel Transportation Packages
Todd S. Mintz, George Adams (CNWRA), Chris Bajwa, Earl Easton (NRC)

Track 6, Session 2: International Progress in Disposal Programs
Session Organizer: Charles McCombie (ARIUS), Bob Gamble (NYE County, Nevada)
Session Chair: Lawrence Johnson (Nagra), Rod McCullum (NEI)
Santa Fe
1:30 p.m.
(3436) Lessons Learned from the Five Decade Pursuit of Geologic Disposal in the U.S. and Abroad
Andrew Swower, John Kessler (EPRI), Michael Apted, Matthew Kozak, Michael Stenhouse (INTERA Inc.)

1:55 p.m.
(3553) Radioactive Waste Disposal Within a Clay Environment: The French Experience
Marie-Claude Dupuis, Fabrice Boissier, Thibault Labalette, Patrick Landais, Gérald Ouzounian (Andra)

2:20 p.m.
(3507) Staged Implementation of the Japanese Geological Disposal Project
H. Tsuchi, K. Ishiguro, K. Kaku, Y. Kubo, S. Shimura (NUMO)

2:45 p.m.
(3513) Background and Overview of the NUMO 2010 Technical Report
H. Tsuchi, K. Ishiguro, K. Kaku, Y. Kubo, S. Shimura (NUMO)

3:10 p.m.
(3534) The Nagra RD&D Plan for Disposal of Radioactive Waste in Switzerland
Lawrence Johnson, Piet Zuidema (Nagra)

Track 5, Session 1: Licensing Process, Reviews, and Guidance
Session Organizer: Barry Butterfield (HDR), Daniel Bullen (EEAA)
Session Chair: Jack Davis (NRC), Stratis Vomvoris (Nagra)
Grand Salon C/D
3:55 p.m.
(3481) Pre-Project Review of a Proposed Canadian Deep Geological Repository for Used Fuel
L. Lang, A. Khan (NWMO)

4:20 p.m.
(3674) From CNE1 (1991 Law) to CNE2 (2006 Law)
Pierre Berest (CNE2)

4:45 p.m.
(3504) Review of U.S. Regulations for Geologic Disposal for Used Fuel and High-Level Radioactive Waste
Matthew W. Kozak (INTERA Inc), Andrew Sowder (EPRI), Michael J. Apted (INTERA Inc), John Kessler (EPRI)

5:10 p.m.
(3576) Licensing Review of a Spent Nuclear Fuel Repository in Sweden
Björn Overstorp, Bo Strömberg, Eva Simic (Swedish Radiation Safety Authority)
Track 2, Session 2: Coupled Processes

**Session Organizers:** Stratis Vomvoris (Nagra), Jude McMurry (CNWRA), Scott James (SNL)
**Session Chairs:** Gerald Ouzounian (Andra), Christine Stockman (SNL)
**Grand Salon G/H**

3:55 p.m.
Chandraka Manepally (CNWRA), Randall Fedors (NRC)

4:20 p.m.
(3355) Thermal-Hydrologic-Chemical-Mechanical Modeling of Deep Borehole Disposal
Bill W. Arnold, Teklu Hadgu, Daniel Clayton, Courtney Herrick (SNL)

4:45 p.m.
(3424) Experimental Study and Numerical Modeling of Natural Convection with Condensation
Kaushik Das (CNWRA), Randall Fedors (NRC), Chandrika Manepally, Debasis Basu (CNWRA)

5:10 p.m.
(3358) Constitutive Relationships for Elastic Deformation of Clay Rock
H. H. Liu, J. Rutqvist, J. T. Birkholzer (LBNL)

Track 6, Session 1: U.S. Disposal Policy Issues

**Session Organizers:** Charles McCombie (Arias–Switzerland), Robert Gamble (NYE County, Nevada)
**Session Chairs:** Joseph Ziegler (Nye County, Nevada)
**Grand Salon I/J**

3:55 p.m.
(3506) United States Used Nuclear Fuel Policy Options
Lake H. Barrett (L. Barrett Consulting, LLC)

4:20 p.m.
(3331) Some Personal Observations of the “Late” Yucca Mountain Project
Barry L. Butterfield (HDR), Daniel B. Bullen (Exponent)

4:45 p.m.
(3463) Technical Lessons to Learn in Disposal of Spent Nuclear Fuel and High-Level Waste
Rob P. Reichard (SNL), Thomas A. Cotton (Complex Systems Group), Mark Nutt (ANL), Joe T. Carter (SRNS), Frank V. Perry (LANL), Ruth F. Weiner (SNL), James A. Blink (LLNL)

5:10 p.m.
(3323) Nye County Perspective on Yucca Mountain Repository
L. Darrell Lacy, Robert P. Gamble (Nye County Nuclear Waste Repository Project Office)

5:35 p.m.
(3548) Disposal of High-Level Radioactive Waste in the USA at the End of 2010—A View with Peripheral and Forward Visions
Leif G. Eriksson (Nuclear Waste Disposition), George E. Dials (B&W Conversion Services)

Track 3, Session 1: Underground Repository Design Concepts

**Session Organizers:** David Pickett (CNWRA), Frank Garisto (NWMO), Asadul Chowdhury (CNWRA)
**Session Chairs:** Michael J. Driscoll (MIT), Asadul Chowdhury (CNWRA)
**Santa Fe**

3:55 p.m.
(3238) A Multibranch Borehole Approach to HLW Disposal
J. S. Gibbs, J. Buongiorno, M. J. Driscoll (MIT)

4:20 p.m.
(3304) Drop-in Concept for Deep Borehole Canister Emplacement
E. A. Bates, M. J. Driscoll, J. Buongiorno (MIT)

4:45 p.m.
(3515) Improvement of Repository Concepts for Realistic Underground Environmental Conditions in Japan
S. Kubota, S. Suzuki, K. Ishiguro, H. Tsuchi (NUMO)

5:10 p.m.
(3521) Reference Used Fuel Repository Designs in Crystalline and Sedimentary Rock
S. Russell, A. Murchison, D. Wilson (NWMO)

WEDNESDAY, APRIL 13, 2011, 8:00 A.M.–10:20 A.M.

Panel Discussion: Future Direction for the U.S. High-Level Waste Program
**Moderator:** Paul Dickman (ANL)
**Grand Salon F**

**Panelists:**
- Dr. Charles Forsberg (Massachusetts Institute of Technology (MIT))
- Dr. Dorothy Davidson (Vice President, AREVA)
- Mr. Lawrence Kokajko (Director HLWRS, U.S. Nuclear Regulatory Commission (NRC))
- Dr. Peter Swift (Sandia National Laboratories (SNL))
- Mr. Rod McCullum (Nuclear Energy Institute (NEI))
- Mr. Robert Sanchez (U.S. Government Accountability Office (U.S. GAO))

(25 minute break: 10:20 A.M. – 10:45 A.M.)
Technical Sessions

WEDNESDAY, APRIL 13, 10:45 A.M. – 12:00 P.M.

Track 1, Session 4: Sensitivity and Uncertainty Analysis Tools and Methods
Session Organizers: Peter Swift (SNL), Matt Kozak (INTERA, Inc.), George Danko (Univ of Nevada, Reno)
Session Chairs: James Blink (LLNL), Scott James (SNL)
Grand Salon F

10:45 a.m.
(3518) – Simple Biosphere Model for Non-Site-Specific Performance Assessments
R. R. Benke (CNWRA), A. T. Gray (NRC), P. A. LaPlante (CNWRA)

11:10 a.m.
(3446) - Model Abstraction of Stainless Steel Waste Package Degradation
X. He, O. Pensado (CNWRA), T. Ahn (NRC), P. Shukla (CNWRA)

11:35 a.m.
(3561) Atmospheric Chemistry Impacts on the Corrosion Environments of Waste Packages
Bruce E. Kirstein, Carlos W. Di Bella (NWTRB)

This session continues after the lunch break

Track 3, Session 5: Engineered Barriers: Geophysical and Nuclear Criticality Aspects
Session Organizers: David Pickett (CNWRA), Frank Garisto (NWMO), Asadul Chowdhury (CNWRA)
Session Chairs: Paul E. Mariner (SNL), J. M. Scaglione (ORNL)
Grand Salon G/H

10:45 a.m.
(3593) Potential Long-Term Conversion Mechanisms of Spent Fuel after Repository Closure
Lara Duro, Mireia Grive, Jordi Bruno (Amphos 21)

11:35 a.m.
(3419) Prediction of Formation Constants of NdB4O72+ up to 200°C
Yongliang Xiong (SNL), Marian Borkowski (LANL), Larry Brush (SNL)

11:10 a.m.
(3460) Model Abstraction of Stainless Steel Waste Package Degradation
X. He, O. Pensado (CNWRA), T. Ahn (NRC), P. Shukla (CNWRA)

11:35 a.m.
(3561) Atmospheric Chemistry Impacts on the Corrosion Environments of Waste Packages
Bruce E. Kirstein, Carlos W. Di Bella (NWTRB)

This session continues after the lunch break
Technical Sessions

10:45 a.m.
(3384) Fuel Cycle Potential Waste for Disposition
Joe T. Carter (SRNS), Alan Luptak (INL)

11:10 a.m.
(3444) Pyro-Processing and Its Implication to Radioactive Waste Disposal
Yongsoo Hwang (CSRIS/KAERI), Kwangeok Lee (KAERI)

11:35 a.m.
(3391) Thermal Management of Wastes from Advanced Fuel Cycles
Ernest Hardin, Laura Price, Peter Swift (SNL)

This session continues after the lunch break

WEDNESDAY, APRIL 13, 12:00 – 1:20 P.M.
LUNCH BREAK

WEDNESDAY, APRIL 13, 1:20 P.M. – 2:35 P.M.
Track 1, Session 4: Sensitivity and Uncertainty Analysis Tools and Methods
Session Organizers: Peter Swift (SNL), Matt Kozak (INTERA, Inc.), George Danko (Univ of Nevada, Reno)
Session Chair: James Blink (LLNL), Scott James (SNL)

Grand Salon F

1:20 p.m.
(3409) Representative Pathway Length for Contaminant Transport in Performance Assessment Models
Stuart Stothoff, Osvaldo Pensado (CNWRA), Jin-Ping Gwo (NRC)

1:45 p.m.
(3455) β-SOAR: A Flexible Tool for Analyzing Disposal of Nuclear Waste
Christopher Markley (NRC), E. Lynn Tipton, James Winterle, Osvaldo Pensado (CNWRA), Jin-Ping Gwo (NRC)

2:10 p.m.
(3338) Monte Carlo Simulations for Generic Granite Repository Studies
Shaoping Chu (LANL), Joon H. Lee, Yifeng Wang (SNL)

Track 4, Session 1: Biosphere Description and Modeling in Support of Disposal
Session Organizer: Andrew Cowder (EPRI)
Session Chair: Ray Clark (EPA), Lisa Griffault (Andra)

Grand Salon A/B

1:20 p.m.
(3417) Radioactive Disequilibria in the Saturated Zone Transport Model and the Biosphere Model for the Yucca Mountain Repository—The Case of Radon-222
Maryla A. Olzewska-Wasiolek, Bill W. Arnold (SNL)

1:45 p.m.
(3440) Andra’s Strategy and Approach Applied in Defining and Describing Biosphere(s) for Safety Assessment
L. Griffault, J. Brulhet, Y. Thiry, S. Voinis, E. Leclerc (Andra)

2:10 p.m.
(3577) Field Study on Discharge of Natural Isotopes from the 238U and 232Th Series Through Quaternary Deposits
Anders Worman (The Royal Institute of Technology), Lars Marklund (The Royal Institute of Technology/The Swedish Meteorological), Jose Luis Gutierrez Villanueva (SLU)
Unio de Cantabria), Klas Rosén (SLU), Shulan Xu, Björn Dverstorp (Swedish Radiation Safety Authority)

Track 3, Session 3: Engineered Barriers: Container Corrosion
Session Organizers: David Pickett (CNWRA), Frank Garisto (NWMO), Asadul Chowdhury (CNWRA)
Session Chairs: Carl Di Bella (NWTRB), Frank Garisto (NWMO)

Grand Salon C/D

1:20 p.m.
(3435) Estimating the Extent of Damage to Waste Package Surfaces by Localized Corrosion in Potential Disposal Environments
Pavan Shukla, Roberto Pabalan, Osvaldo Pensado (CNWRA)

1:45 p.m.
(3519) Assessment of Stress Corrosion Cracking Susceptibility of 316 Stainless Steel in Different Disposal Environments
K. Chiang, P. Shukla (CNWRA)

Track 3, Session 5: Engineered Barriers: Geochemical and Nuclear Criticality Aspects
Session Organizers: David Pickett (CNWRA), Frank Garisto (NWMO), Asadul Chowdhury (CNWRA)
Session Chair: Paul E. Mariner (SNL), J. M. Scaglione (ORNL)

Grand Salon G/H

1:20 p.m.
(3587) Review of Yucca Mountain Disposal Criticality Studies
J. M. Scaglione, J. C. Wagner (ORNL)

Track 7, Session 1: International Experience in Dry Interim Storage
Session Organizers: Vincenzo Rondinella (ITU), Brady Hanson (PNL)
Session Chair: Vincenzo Rondinella (ITU), Roland Huegenberg (GNS)

Grand Salon I/J

1:20 p.m.
(3332) Long-Term Containment Performance Test of Metal Cask
Koji Shirai, Masumi Wataru, Toshiari Saegusa, Chihiro Ito (CRIEPI)

1:45 p.m.
(3333) SCC Evaluation Test of Multi-Purpose Canister
Koji Shirai, Junichi Tani, Taku Ari, Masumi Wataru, Hirofumi Takeda, Toshiari Saegusa (CRIEPI)

Track 8, Session 2: Advanced Fuel Cycles and Geological Disposal
Session Organizer: Joonhong Ahn (Univ of California, Berkeley)
Session Chairs: Gene W. Rowe (NWTRB), Ernest L. Hardin (SNL)

Cimarron

1:20 p.m.
(3387) Low Level Waste Generation From Various Fuel Cycle Options
Robert H. Jones (SRNS)
Technical Sessions

1:45 p.m.
(3399) Cradle-to-Grave Analysis of Fusion-Fission Transmutation Fuel Cycles
Christian D. Di Sanzo, Joonhong Ahn (Univ of California, Berkeley)

2:10 p.m.
(3346) Nuclear Waste Assessment System for Technical Evaluation (NUWASTE)
Gene Rowe, Mark Abkowitz, Nigel Mote, Bruce Kirstein (NWTRB)

(WEDNESDAY, APRIL 13, 2011, 3:00 P.M. – 5:30 P.M.
Track 1, Session 2: Evaluation of Scenarios
Session Organizers: Peter Swift (SNL), Matt Kozak (INTERA, Inc.), George Danko (Univ of Nevada, Reno)
Session Chairs: Kenichi Kaku (NUMO), Osvaldo Pensado (CNWRA)

Grand Salon F

3:00 p.m.
(3570) A Storyboard-Led Hybrid Development Method for Safety Assessment Scenarios
Shoko Yashio, Hideki Kawamura (Ohyashi Corp), Keiichiro Takeshi (Kawasugi IAEA), Takeshi Ebashi, Katsuhiko Ishiguro (NUMO), Ian G. McKinley (McKinley Consulting)

3:25 p.m.
(3573) Hydrothermal Scenario Development for Japanese Geological Disposal Systems
Hideki Kawamura (Ohyashi Corp), Ian G. McKinley (McKinley Consulting), Shigeyuki Saito (JNES)

3:50 p.m.
(3407) Modeling Disruptive Events Using the Θ-SOAR Model: Levels of Θ-SOAR Model Flexibility in Applications and Initial Insights
J. Gwo, T. Ahn (NRC), X. He (CNWRA)

(15 minute break: 4:15-4:30 P.M.)

4:30 p.m.
(3357) Safety Assessment for a Glaciation Scenario
F. Garisto (NWMO), R. Walsh (Geofirma Engineering), L. Wojciechowski (AECL), J. Avis (Geofirma Engineering), T. Chshyolokova (AECL), P. Gierszewski (NWMO), M. Gobien (Geofirma Engineering), C. Kitson (NWMO), T. Melynky, J. Miller (AECL)

4:55 p.m.
(3516) Scenario Development Methodology for Dynamic System Evolution in Coastal Areas
Takeshi Ebashi, Katsuhiko Ishiguro, Keisuke Ishida (NUMO), Hiroyasu Takase, Masaaki Yamaguchi, Daisuke Kawasaki (Quintessa Japan)

5:20 p.m.
(3433) Features, Events and Processes (FEPS) for the Used Fuel Disposition Campaign
James A. Blink (LLNL), Florie Caporuscio (LANL), James C. Cunnane (ANL), Geoff Freeze (SNL), Harris R. Greenberg (LLNL), James E. Houseworth (BNL), Paul Mariner (SNL)

Track 1, Session 7: Evaluations of Alternatives and Policy
Session Organizers: Peter Swift (SNL), Matt Kozak (INTERA, Inc.), George Danko (Univ of Nevada, Reno)
Session Chairs: Bjorn Dverstorp (Swedish Radiation Safety Authority), Abe Van Luik (DOE-WIPP)

Grand Salon A/B

3:00 p.m.
(3342) Belgian Feasibility Strategy and Assessment Methodology for Geological Disposal
William Wacquier, Hughes Van Humbeeck (ONDRAF/NIRAS), Steve Wickham, Liz Harvey (Galson Sciences Ltd)

3:25 p.m.
(3428) A Simplified Performance Assessment Model for Radioactive Waste Disposal Alternatives
Geoff Freeze, Joon H. Lee (SNL)

3:50 p.m.
(3310) Policy Issues Associated with Deep Borehole HLW Disposal
K. G. Jensen, M. J. Driscoll (MIT)

(15 minute break: 4:15-4:30 P.M.)

4:30 p.m.
(3319) Risk-Informed Evaluations of Waste Form Performance in Disposal Systems
Michael Apted (INTERA Inc.)

4:55 p.m.
(3325) Safety Strategy and Assessment for a German HLW-Repository in Salt
Jan Richard Weber, Siegfried Keller, Sabine Mrugalla (Bundesanstalt für Geowissenschaften und Rohstoffe), Jens Wolf, Dieter Buhmann, Jürg Mönig (GRS), Wilhelm Bollingerfehr, Jürgen Krone, Andree Lommerzheim (DBE TECHNOLOGY)

5:20 p.m.
(3379) Geologic Disposal Options in the USA
F. D. Hansen, E. Hardin, A. Orrell (SNL)

Track 10, Session 1: Security, Safeguards, and Non-Proliferation—I
Session Organizers: Al Aziz Eddeehbar (ENEC), Erik Kremer (NWMO)
Session Chairs: Jack Parrott (NRC), Al Aziz Eddeehbar (ENEC)

Grand Salon C/D

3:00 p.m.
(3558) Securing and Safeguarding High Level Waste
Markku Koskelo, Steve Kadner, Mike Ondrik, Dennis Mangan (Aquila Technologies)

3:25 p.m.
(3373) Role of Neutron Detection in the High Reliability Safeguards Approach
R. A. Borrelli (University of California, Berkeley)

3:50 p.m.
(3437) Decay of Dose Rates Surrounding Commercial Spent Nuclear Fuel
Jabo S. Tang (Independent), John H. C. Wang (URS)

(15 minute break: 4:15-4:30 P.M.)
**Technical Sessions**

4:30 p.m.
(3562) Technologies for Monitoring Containers of Highly Radioactive Nuclear Material
Dennis L. Mangan, Markku J. Koskelo, Michael A. Ondrik, Steven P. Kadner (Aquila Technologies)

**Track 3, Session 6: Engineered Barriers: Modeling Near Field Conditions**
Session Organizers: David Pickett (CNWRA), Frank Garisto (NWMO), Asadul Chowdhury (CNWRA)
Session Chairs: Lara Duro (Amorph 21), Scott Painter (LANL)
Grand Salon G/H

3:00 p.m.
(3465) Radionuclide Release in Performance Assessment Under Future Waste Management Scenarios
David A. Pickett (CNWRA), Tae Ahn (NRC)

3:25 p.m.
(3288) Calculation of pH Inside a Breached Waste Package
Paul E. Mariner, Yifeng Wang (SNL), Paul S. Domski (S. M. Stoller)

3:50 p.m.
(3329) Thermal Performance of a Generic High-Level Waste Salt Repository
D. J. Clayton (SNL)

(15 minute break: 4:15-4:30 P.M.)

4:30 p.m.
(3360) Disturbed Zone Evolution Around a Geological Repository for Nuclear Waste
Liz Harvey (Galson Sciences Ltd), Philippe Van Marcke (SCK•CEN), Clive Kent, Steve Wickham (Galson Sciences Ltd), Maarten Van Geet, Xavier Sillen (ONDRAF/NIRAS)

4:55 p.m.
(3469) Modeling of Coupled Geomechanical Processes Associated With Bentonite-Backfilled Repository Tunnels in Clay Formations
J. Rutqvist, J. T. Birkholzer, J. Houseworth, H. H. Liu (LLNL)

5:20 p.m.
(3511) Potential Microbial Effects on Near-Field Chemistry for Alternative Waste Management Scenarios
Jude McMurry (CNWRA)

**Track 6, Session 5: Used Fuel Management Programs and Planning**
Session Organizers: Charles McCombie (Arias), Bob Gamble (NYE County, Nevada)
Session Chairs: Ken Sorensen (SNL), Erik Kremer (NWMO)
Grand Salon I/J

3:00 p.m.
(3382) Nuclear Fuel Cycle Management in Emerging Nuclear Countries
Lance Kim, Joonhong Ahn (Univ of California, Berkeley), Jongshan Choi (Univ of Tokyo), Yongsoo Hwang (Center for Strategic and International Studies), Per F. Peterson (Univ of California, Berkeley)

3:25 p.m.
(3394) Role of Flexible Design in Staged Development of Repositories for Spent Nuclear Fuel and High-Level Waste
Jeffrey R. Williams (DOE), Thomas A. Cotton (Complex Systems Group LLC), Rob F. Rechard (SNL)

3:50 p.m.
(3471) Used Fuel and HLW Management Programs in Different Countries
Michael Stenhouse, Michael Apted, Wei Zhou (INTERA Inc.), Andrew Sowder, John Kessler (EPRI)

(15 minute break: 4:15-4:30 P.M.)

4:30 p.m.
(3340) Office of Fuel Cycle Technologies, Used Disposition Campaign Objective, Mission, Plans, and Activity Status
Mark Nutt, Mark Peters (ANL), Peter Swift, Kevin McMahon, Ken Sorensen (SNL), Patrick Schwab (DOE)

4:55 p.m.
(3464) Integrated Waste Management System for Spent Nuclear Fuel and High-Level Waste
Rob P. Rechard (SNL), James A. Blink, William G. Halsey (LLNL), Thomas A. Cotton (Complex Systems Group)

**Track 1, Session 5: Approaches for Conceptual Model Uncertainty**
Session Organizers: Peter Swift (SNL), Matt Kozak (INTERA, Inc), George Danko (Univ of Nevada, Reno)
Session Chairs: Matt Kozak (INTERA), Francis D. Hansen (SNL)
Grand Salon F

8:30 a.m.
(3429) Yucca Mountain 2008 Performance Assessment: Incorporation of Seismic Hazard Curve Uncertainty
Jon C. Helton, Cédric J. Sallaberry (SNL)

8:55 a.m.
(3328) Model-Based Decision Making: A New Perspective
John Doherty (Flinders Univ), Scott C. James (SNL), Paul W. Reimus (LANL)

9:20 a.m.
(3378) Comparisons of Release Probabilities Obtained in Recent WIPP Performance Assessments
R. Chris Camphouse, Daniel J. Clayton, Moo Y. Lee (SNL)

10:10 a.m.
(3383) Performance Confirmation Monitoring
F. D. Hansen (SNL)

10:35 a.m.
(3364) A Quantitative Risk Assessment Description of a Radionuclide Source Term
Bruce E. Kirstein (NWTRB), B. John Garrick (NWTRB/Independent Consultant), William M. Murphy (NWTRB/California State Univ)

**Track 7, Session 2: DOE Nuclear Energy (NE) Program for Long Term Storage**
Session Organizers: Vincenzo Rondinella (ITU), Brady Hanson (PNL)
Session Chairs: Nigel Mote (NWTRB), Andrew Sowder (EPRI)
Grand Salon A/B

8:30 a.m.
(3526) Overview of the DOE Program Supporting the Very Long Term Storage and Transportation of Used Nuclear Fuel
Ken B Sorensen (SNL)
Technical Sessions

8:55 a.m.  
(3529) Extended Storage of Used Nuclear Fuel: Objective, Methodology and Evaluation Criteria  
Abdelhalim A. Alsaed (Enviro Nuclear Services)

9:20 a.m.  
(3454) Security for Very Long-Term Storage of Used Fuel  
Felicia A. Durán, Gregory D. Wyss (SNL)

10:10 a.m.  
(3585) Research and Development Needs for Very Long Term Storage: Used Fuel and Cladding  
Brady D. Hanson (PNNL)

10:35 a.m.  
(3528) Extended Storage of Used Nuclear Fuel: Research and Development Needs for Neutron Poisons and Shields  
Abdelhalim A. Alsaed (Enviro Nuclear Services)

11:00 a.m.  
(3535) Research Needs for Extended Storage of Used Nuclear Fuel: Container and Overpack  
Christine T. Stockman, David G. Enos (SNL)

Track 8, Session 4: Alternate Waste Forms

Session Organizer: Joonhong Ahn (Univ. of California, Berkeley)  
Session Chairs: Tae Ahn (NRC), Mick Apted (INTEGRA)

Grand Salon C/D

8:30 a.m.  
Clifford W. Hansen, Peter N. Swift, Ernest Hardin, Robert J. MacKinnon, David Sassani, S. David Sevougian (SNL)

8:55 a.m.  
(3705) Numerical Evaluation of Super-Compacted Radioactive Waste  
S. Schneider (Forschungszentrum Jülich GmbH), H. Tietze-Jaensch (Forschungszentrum Jülich GmbH), D. D. Saridakis, R. Odoj (Forschungszentrum Jülich GmbH)

9:20 a.m.  
(3386) Iodine Capture in Silver-Loaded Zeolites and Metal Organic Frameworks and Storage in Novel Low Temperature GCM Waste Forms  
James L. Krumhansl, Tim Nenoff, Dorina Sava, Terry Garino, Dave Rademacher (SNL), Karen W. Chapman, Peter J. Chupas (ANL)

Track 6, Session 4: Used Fuel Management Policy Issues

Session Organizers: Charles McCombie (Arias), Robert Gamble (NYE County, Nevada)  
Session Chairs: Leif G. Eriksson (Nuclear Waste Disposition), Robert Gamble (NYE County, Nevada)

Grand Salon G/H

8:30 a.m.  
(3443) The Dynamics of Technical Communities Through the Multiple Phases of a Nuclear Waste Management Project  
Hank Jenkins-Smith, Carol Silva, Tim Davidson (Univ. of Oklahoma), Evrastro J. (Tito) Bonano (SNL)

8:55 a.m.  
(3211) Deep Geological Repositories—Really Necessary?  
Christopher M. Timm, Cassandra Mueller (PECOS Management Services, Inc.)

(25 minute break: 9:45 A.M. – 10:10 A.M.)

THURSDAY, APRIL 14, 2011, 10:10 A.M. – 11:35 A.M.

Track 2, Session 1: Site Characterization Techniques and Facilities

Session Organizers: Stratis Vomvoris (Nagra), Jude McMurry (CNYRA), Scott James (SNL)  
Session Chairs: Bill Arnold (SNL), Douglas B. Rigby (NWTRB)

Grand Salon I/J

10:10 a.m.  
(3520) Methodology for Early-Stage Site Evaluation in Japan and Technical Challenges  
Junichi Goto, Ryuta Hataya, Kimitaka Yoshimura, Hirofumi Moriya, Hiroyuki Tsuchi (NUMO)

10:35 a.m.  
(3317) Hydrogeology Associated with the Waste Isolation Pilot Plant  
Kristopher L. Kuhlman, Kevin S. Barnhart (SNL)

11:00 a.m.  
(3583) Influence of Cavities on Mechanical Properties of Tuff-Like Rock  
Douglas B. Rigby (NWTRB), Moses Karakouzian, James A. Nott (Univ. of Nevada Las Vegas)

11:25 a.m.  
(3537) Nagra’s Activities in the URLs in Switzerland: Update and Outlook  
S. Vomvoris, I. Blechschmidt, T. Victor, L. Johnson (Nagra)

Track 10, Session 2: Security, Safeguards, and Non-Proliferation—II

Session Organizers: Al Aziz Eddebbarh (ENEC), Erik Kremer (NWMO)  
Session Chairs: Markku Koskelo (Aquila Technologies), Robert Angelo Borrelli (U. of California, Berkeley)

Cimarron

10:10 a.m.  
(3453) Assurance of Non-Proliferation for Pyro-Processing  
Yongsoo Hwang (CSISKAERI), Kwangseok Lee (KAERI)

10:35 a.m.  
(3502) Nuclear Material Attractiveness: An Assessment of Used-Fuel Assemblies  
Charles G. Bathke, Paul G. Edelmann (LANL), Bartley B. Ebbinghaus, Brad W. Sleaford (LLNL), Brian A. Collins (PNNL), Kevin R. Hase (LANL), Martin Robel (LLNL), Andrew W. Prichard, Brian W. Smith (PNNL)

11:00 a.m.  
(3584) A Comparison of the Isotopic Characteristics of WG-MOX and UOx Fuel in Extended Dry Storage  
A. Mendez Torres, D. W. Vinson, S. Branney (SRNL)

THURSDAY, APRIL 14, 2011, 11:30 A.M. – 1:00 P.M.

Box Lunch Social

THURSDAY, APRIL 14, 2011, 1:00 P.M.

CONFERENCE ADJOURNS
Technical Tour

Technical Tour: Waste Isolation Pilot Plant (WIPP) Sponsored by Sandia National Laboratories

[Please note the tour is fully booked; the following information is for those people registered for the tour]

Date: Thursday April 14, 2011 – Friday April 15, 2011

April 14

Board the “Follow the Sun” motor coach at the Albuquerque Marriott Uptown 12:30pm

Bus will depart 1:00pm

Travel to Carlsbad, NM 1:00pm – 5:00pm

Check in to hotel room at the Holiday Inn Express (hotel is included in tour cost) 5:00pm – 6:00pm

Board bus for group dinner (dinner is included in the tour cost) 6:30pm – 8:00pm

April 15

Board the motor coach 7:00am

Travel to WIPP Site 7:30am – 8:00am

WIPP Tour 8:00am – 12:00pm

Board bus for lunch and return to Albuquerque (lunch is included in the tour cost) 12:00pm – 1:00pm

Travel to Albuquerque 1:00pm – 5:00pm