VOLUME 3

FUSRAP Strategy: A Plan for the Next 10 Years - 14145
Karen Reed, Christopher Clayton, Cliff Carpenter, Ken Starr, Gwen Hooten

Managing Public Concerns about Risk in the Context of Historical Health Impacts - 14614
April Gil, Cliff Carpenter, Clay Carpenter, Laura Cummins

Abandoned Uranium Mines Report to Congress - 14132
John Elmer, Michael Butherus, Ray Pfenest

The Evolution of LTS at Hanford - 14189
Rick Moren, Keith Grindstaff

Geographic Information System Tools For Management Of US DOE Sites - 14125
Leonard Turton, John Montgomery, Cliff Carpenter, Stephen Pavel

Remote Environmental Monitoring: Applying Automated Sampling to Produce Real-Time Data for Long-Term Monitoring Cost Savings and Compliance Assurance - 14200
Jeff Myers, Dean Hoffman, Michael Boerste

The Future is Now: Experience with Remediating and Managing Groundwater Contamination at Uranium Mill Tailing Sites - 14587
David Shufer, Richard Bush, William Dom, Thomas Pauling

SESSION 043 – CROSSCUTTING SUBSURFACE MASS TRANSPORT AND ENVIRONMENTAL ASSESSMENT OF GEOLOGICAL DISPOSAL SYSTEMS

Raman Spectra of Calcium Silicate Hydrates Sorbing Iodine Ions in Saline Groundwater - 14077
Jun Funuya, Taiji Chida, Yuichi Nishio, Hitoshi Mimura
The Influence of Calcium Ions on Migration of Colloidal Silicic Acid in the Presence of Solid Phase - 14123
Taiji Chida, Yuichi Niibori, Hitoshi Mimura

Hydrogeologic Simulations of a Deep Seated Groundwater System: Bruce Nuclear Site - 14484
Eric Sykes, Jon Sykes, Stefano Normani, Yong Yin

In-situ Experiments for Investigating the Retention Properties of Rock Matrix in ONKALO, Olkiluoto, Finland - 14258

Permeability and Dispersion Coefficients in Rocks with Fracture Network - 14156
Cheo Kyung Lee, Sung Paul Yim, Myo Zaw Htway

Analysis of Pore Structure Effects on Diffusive Reactive Transport in Bentonite via Pore Network Models - 14068
Qingrong Yong, Simon Kwong, Andrey Jivkov

Web-Based Geographic Information System Tool for Accessing Hanford Site Environmental Data - 14447
Mark Triplett, Timothy E. Seiple, David J. Watson, Brian Charlton, John Morse

Building the Community of Practice for Performance and Risk Assessment in Support of Risk-Informed Environmental Management Decisions - 14575
Ming Zhu, Linda Suttor, William Levitan, Mark Gilbertson

SESSION 044 - PANEL: GRADUATING STUDENTS AND NEW ENGINEERS – WANTS AND NEEDS – ARE COMPANIES EVEN LISTENING?

Graduating Students and New Engineers Wants and Needs...
Melody C. Bell

Attracting and Engaging Young Nuclear Professionals...
Susan Salter

Regional Center for Nuclear Education & Training...
Kevin Cooper

Graduating Students and New Engineers Wants and Needs...
Gabriela Vazquez

SESSION 045 - PANEL: YOUNG PROFESSIONALS IN NUCLEAR SCIENCE AND ENGINEERING

North American Young Generation in Nuclear...
Christine Cziszmadia

Young Professionals in Nuclear Science & Engineering...
Duriem Calderin

SESSION 046A – LLW POSTERS: SAMPLING AND TREATMENT OF LLW, ILW, MW, NORM AND TENORM

Novel Inorganic Complexes for Tc Management in the Tank Waste - 14345
Tatiana Levitskaiia, Syandev Chatterjee, James Peterson, Emily Campbell

Prospects on Immobilization of Liquid Organic Radwaste with the Use of High Technology Polymers - 14065
Yury Pokhitonov, Valery Romanovsky, Dennis Kelley

Waste Processing Using WCATS with Its Underlying Task-Based Architecture - 14662
Justin Tocer, Keith Russell, J. Christopher Echowak

SESSION 046B – LLW POSTERS: MANAGEMENT OF LLW, ILW, MW, NORM AND TENORM

The Expanded Capabilities of the Cementitious Barriers Partnership Software Toolbox Version 2.0 - 14331
Heather Burns, Greg Fluch, Frank Smith, Christine Langston, Kevin Brown, David Kosson, Eric Samson, Pramod Mallick

Waste Information Management System with 2013-14 Waste Streams - 14192
Himanshu Upadhyay, Leonel Lagos, Walter Quintero, Peggy Shoffner, David Roelant

Waste Information Management System with 2013-14 Waste Streams - 14192
Himanshu Upadhyay, Leonel Lagos, Walter Quintero, Peggy Shoffner, David Roelant

Installation and Performance Test of a LL/ILW Drum Assay System at KAERI - 14387
Won-Hyuk Jung, Kyung-Kil Kwak, Dae-Seok Hong, Tae-Kook Kim, Shi-Up Jang

Development of Re-Packaged Drum Radioactivity Estimation Method - 14158
Seong Gyu Shin, Joo Hyun Moon

Hydraulic Conductivity of Geosynthetic Clay Liners Exposed to Low-Level Radioactive Waste Leachate - 14082
Craig H. Benson, Kuo Tian

Computation of the Residual Radionuclide Activity within Three Natural Waterways at the Savannah River Site - 14136
Bob Hjersell, Mark Phifer

SESSION 047 – NPP POSTERS: MANAGEMENT OF NUCLEAR POWER PLANT (NPP) WASTE

A New Adsorbent for Simultaneous Removal of Cesium and Strontium - 14110
Yoko Kani, Takashi Isano, Shin Tamada
Separation of Radiocobalt and Radionickel from NPPEvaporation Concentrates - 14395.............................. 2186
Risto Kaivula, Risto Harjula, Maria Kaipiainen

Test Works of Treatment of Problematic Evaporator Concentrate from Kola NPP - 14081.............................. 2192
Alexander Savkin

SESSION 048 – P&T POSTERS: EMERGING PACKAGING AND TRANSPORTATION ISSUES

Experimental Investigation of RAM Packages Impact Limiters - 14256............................................................ 2202
Andre Musolf, Thomas Quercetti, Bernhard Droste, Karsten Müller, Klaus-Peter Gränder

Methodology and Experiences of Experimental Drop and Fire Testing of Radioactive Waste Containers for Final Disposal - 14478......................................................................................................................... 2212
Thomas Quercetti, Karsten Müller, Bernhard Droste, Holger Völkel, Uwe Zencker, Guenier Wieser, Tino Neumeyer

Development of a Wood Material Model for Impact Limiters of Transport Packages - 14111............................... 2226
Germar Eisenacher, Frank Wilke, Bernhard Droste, Martin Neumann

Potential Impact of Interfacial Bonding Efficiency on Used Nuclear Fuel Vibration Integrity during Normal Transportation - 14502......................................................................................................................... 2236
Jy-An Wang, Hao Jiang, Hong Wang

SESSION 049 – TUESDAY US DOE FEATURED SITE: HANFORD – OFFICE OF RIVER PROTECTION –
PART 2 OF 2

Protecting the Columbia River: The Office of River Protection Mission ................................................................. 2254
Kevin Smith

Waste Treatment and Immobilization Plant Project ................................................................................................. 2287
William Hamel

Tank Farms Project ................................................................................................................................................. 2294
Thomas Fletcher

Hanford Tank Operations Contract .......................................................................................................................... 2300
Dave Olson

SESSION 050 – FINLAND / SWEDEN FEATURED NATIONS: NPP D&D AND WASTE DISPOSITION

Decommissioning and Disposal of the Decommissioning Waste at the Site of the Loviisa Nuclear Power Plant - 14254 .............................................................................................................................................. 2308
Matti Kaisanlahti

On-Site Disposal of Radioactive Waste as a Part of Finnish Radioactive Waste Management System - 14547........................................................... 2320
Jari Tummala, Pekka Viitanen

Assessment of Radioactivity Inventory in Swedish LWRs at time of Decommissioning - 14279................................. 2327
Arne Larsson, Klas Lundgren

Detailed Decommissioning Plans for the Oskarshamn and Forsmark Nuclear Power Plants in Sweden - 14008........................................................... 2334
Niklas Bergh, Gunnar Hedin, Fredrik De La Gardie

Reactor Internals Segmentation Experience in the Nordic Region - 14267.................................................................. 2344
Per Segerud, Stefan Fallstrom, Lennart Nilsen

RPV In-Situ Segmentation Combined with Off-Site Treatment for Volume Reduction and Recycling - 14286........... 2355
Per Lidar, Arne Larsson, Per Segerud, Gunnar Hedin

Planning for the Dismantling of the Barsebäck NPP - 14558.................................................................................. 2363
Håkan Lorentz

Disposal of LLW/ILW: The Extension of the SFR-Repository for Handling and Disposal of Decommissioning Waste - 14489.............................................................................................................................................. 2371
Börje Torstensson, Peter Larsson, Fredrik Vahlund

SESSION 051 – PANEL: US DOE – ENERGY FACILITY CONTRACTORS GROUP’S KNOWLEDGE PORTAL (EFCOG) REVIEW

Working Together: More Than 20 Years of Sharing Best-in-DOE Solutions and Lessons Learned to Meet Mission Needs Across the Complex.............................................................................................................................................. 2388
Susan Stiger

ISMS Safety Culture Improvement Initiative ............................................................................................................. 2395
John McDonald

Work Planning and Control Initiative ....................................................................................................................... 2398
Donna Governor

New Radiological Waste Requirements and Transportation Release Issues Initiative ............................................... 2402
Sonny Goldston

Acquisition/Contracting/Training Initiatives ............................................................................................................... 2406
Joseph Tanek
Key Issues/Actions in Implementing DOE 413.3B
Paul Henry

SESSION 052A – PANEL: ADDRESSING THE SMALL BUSINESS BARRIERS IN CONTRACTING WITH THE US DOE

Environmental Management Small Business Program
Jack Surash
Department of Energy's Small Business Program - Overview
John Hale

SESSION 053 – PANEL: US NUCLEAR POWER PLANT WASTE MANAGEMENT – LLW DISPOSAL ISSUES

WCS WM2014 Update
Dan Burns
LLRW Clive Disposal Update
James Miller

SESSION 054 – PANEL: US NUCLEAR POWER PLANT WASTE MANAGEMENT – LLW PROCESSOR ISSUES

Solutions for the Nuclear Industry
Scott Elder
Perma-Fix Environmental Services, Inc. (Perma-Fix)
John Hugan

SESSION 055 – EFFICIENCIES AND LESSONS LEARNED IN TRANSPORTATION

Optimizing a National Transportation Program for Efficiency and Effectiveness - 14187
Stephen O'Connor, Ella McNeil
Operating Experience and Lessons Learned in the Use of Soft-Sided Packaging for Transportation and Disposal of Low Activity Radioactive Waste - 14112
Ashok Kapoor, Sydney Gordon, Sonny Goldston

SESSION 056 – PANEL: CHALLENGES IN MANUFACTURING OF RADIOACTIVE MATERIAL PACKAGES AND CONTAINERS

Challenges in Manufacturing of Radioactive Materials Packages and Containers
Mike Lewis
Skolnik Industries WMS Presentation 2014
Howard Skolnik, W. Dean Ricker

SESSION 057 – PANEL: PROGRESS IN DEALING WITH THE WORLD’S STOCKPILE OF USED NUCLEAR FUEL – HOW CAN CONSOLIDATED INTERIM STORAGE AND REPROCESSING HELP?

Progress in Dealing with the World's Stockpile of Used Nuclear Fuel - How Can Consolidated Interim Storage and Reprocessing Help?
Frederic Bailly
The Case for Interim Storage Remains Valid Today
Jeff Williams
Waste Confidence - Status Update
Keith McConnell
How Government Policy on Spent Fuel Management is Being Implemented in the UK
Graham Jonsson
Progress in Dealing with the World's Stockpile of Used Nuclear Fuel - How Can Consolidated Interim Storage and Reprocessing Help? - The German Case
Horst Geckes
Progress in Dealing with World's Stockpile of UNF
Chris Phillips

SESSION 058 – GEOLOGIC DISPOSAL METHODOLOGIES AND MODELING

A Decision Methodology for Prioritizing R&D Supporting Geologic Disposal of SNF/HLW in Salt - 14030
S. David Sevougian, Robert Mackinnon
Virtual Underground Laboratory for Rock Salt – VIRTUS - 14247
Klaus Weckorek, Steffen Masik, Joachim Behlau, Christian Mueller

Performance Assessment Modeling of a Generic UNF/HLW Repository in Salt - 14313
Geoff Freeze, W. Payton Gardner, Palmer Vaughn, S. David Srvougian, Paul Mariner, Vince Mousseau, Glenn Hammond

Simulations in Support of the Salt Defense Disposal Initiative (SDDI): Water and Salt Transport Driven by Heat
Generating Nuclear Waste in Bedded Salt - 14512
Philip Stuuffer, Bruce Robinson, Dylan Harp, Amy Jordan, Hakan Bankhuja, Yasin Laybed, James Ten Cate, Roger Nelson

WIPP Compliance Recertification Application 2019 (CRA-2019) - Big Changes Coming - 14148
Russell Patterson, Michael Gross

Changes, Approach, and Results for the 2014 WIPP Compliance Recertification Application Performance Assessment - 14047
Chris Camphouse, Sangtae Kim, Thomas Kirchner, Bwalya Malama, Todd Zeitler, Dwayne Kicker

Mahrez Ben Belfadhel, Alec Blyth, Sarah Hirschorn, Jennifer McKelvie, Aaron Desroches, Maria Sanchez-Rico Castejon, Andy Parmenter, Andres Urrutia-Bustos, Andre Vorauer

SESSION 059 – STABILIZATION / IMMOBILIZATION OF HLW, SNF/UNF AND LONG-LIVED ALPHA / TRU

High-Temperature Pressing of Silver-Exchanged Mordenite into a Potential Iodine Waste Form - 14096
Robert John, Stephanie Bruffey

Organic Waste Treatment by Incineration and Coupled Incineration/Vitrification Process - 14059
Patrice Charvin, Florent Lemont, Sébastien Francoise

Laboratory Capabilities for Qualification of Hanford Tank Waste Feed for Treatment and Vitrification - 14377
Aruna Arakali, Peter Benson, Jeffrey Markillie, Ross Hamlett, Stuart Arm, Scott Saunders

Development and Initial Testing of Off-Gas Recycle Liquid from the WTP Low Activity Waste Vitrification Process - 14333
Daniel McCabe, William Wilmarth, Charles Nash, Megan Morse, Kathryn Taylor-Pashow, Duane Adamson, Charles Crawford

Consensus Standardization of Slurry Simulant Development Process to Reduce Design Risk within the DOE Complex - 14639
Gary L. Smith, Carl Enderlin, Beric Wells, Dean E. Kurath, Kayte Denslow

Summary of Cold Crucible Vitrification Tests Results with Savannah River Site High Level Waste Surrogates - 14464
Sergey Stefanovsky, James Marra, Vladimir Lebedev

SESSION 060 – RADIOLOGICAL CHARACTERIZATION METHODS AND DATA ANALYSIS – PART 1 OF 2

Nuclide Distribution in the Metal Recycling Process - 14290
Per Lidar, Maria Lindberg, Arne Larsson, Patrik Korneus

Performance Assessment of a Correction Matrix Effect Method Based on a H-3 Drum Monitor on a DDT Measurement Station for the Assay of Fissile Mass in Large-Size Drums - 14026
Rodolphe Antoni, Christian Passard, Bertrand P. Perot, Marc Bafol, François Guillaumin, Gabriele Grassi, Pierre Strock

Methods for Reduction of the Minimal Detectable Activity in Neutron Assay of High Mass/High Z Objects - 14504
Alan Simpson, Martin Clapham