



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
ENVIRONMENTAL
MANAGEMENT

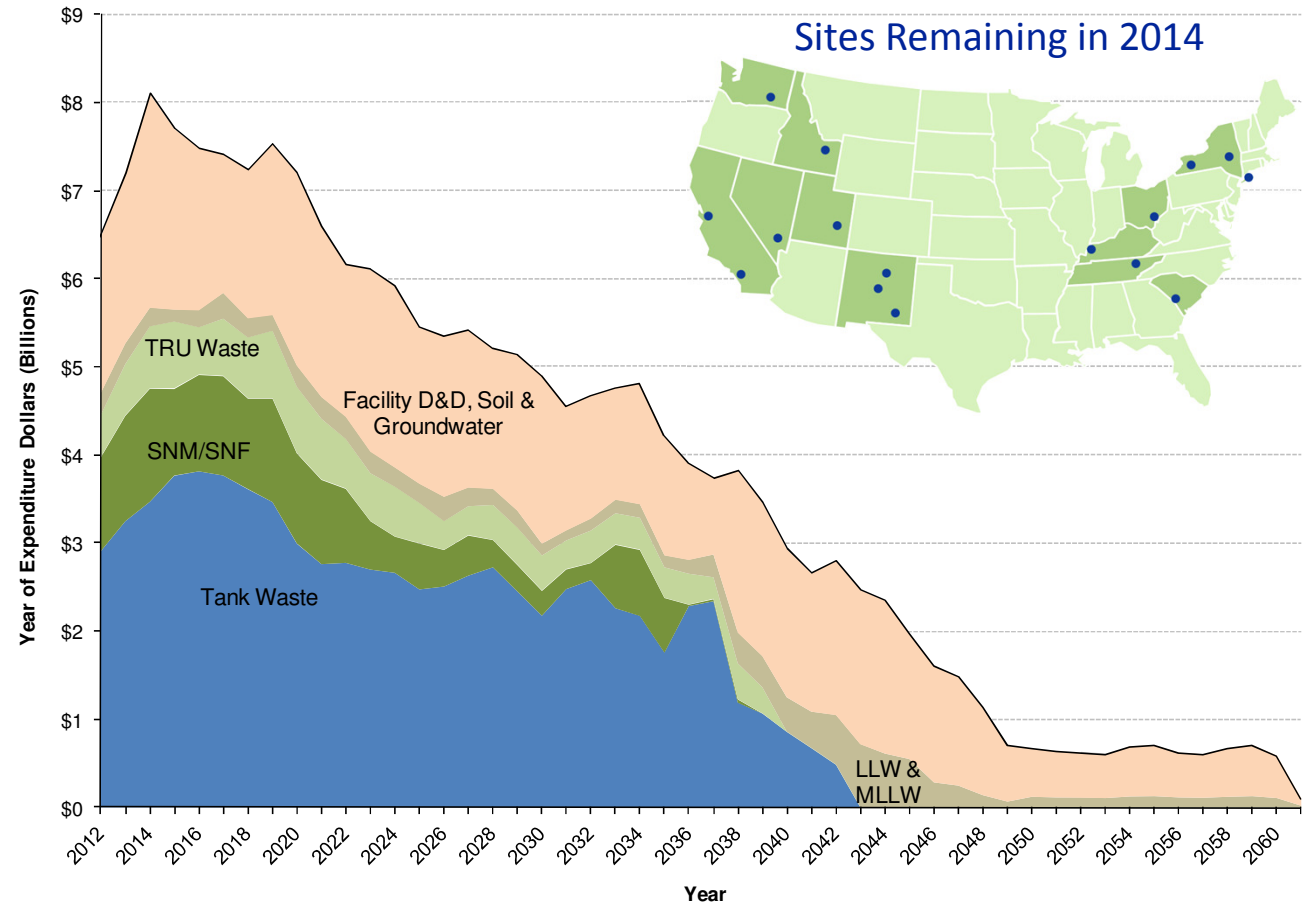
Status Updates on the Performance and Risk Assessment Community of Practice (P&RA CoP)

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Chair of P&RA CoP

P&RA CoP Technical Exchange Meeting
Las Vegas, NV
December 11-12, 2014

DOE Environmental Cleanup Program: Mission, Priorities & Work to Go

- Safeguards and security
- Tank waste stabilization, treatment, and disposal
- SNF & SNM disposition
- TRU and MLLW disposition
- Soil and groundwater remediation
- Facility D&D



Environmental Compliance

- Environmental compliance is one of EM's top program drivers
- Environmental statutes, regulations (RCRA, CERCLA, NEPA), and state regulations give oversight authorities to U.S. EPA, State environmental and health regulatory agencies, OSHA, and U.S. DOT.
- DOE EM self regulates radioactive waste management under DOE Order 435.1 which includes disposal of radioactive waste
- U.S. Nuclear Regulatory Commission has a consultative and monitoring role in determining when waste is no longer high-level waste.



- Of particular concern to the regulators are impacts of proposed actions on human health and the environment
- Site-specific performance and risk assessments (PAs and RAs) (also called safety assessments) are conducted to assess these impacts and used to inform and support management decisions associated with CERCLA, RCRA, and NEPA, as well as DOE Order 435.1 and NDAA Section 3116 compliance
- PAs and RAs provide a demonstration of compliance and important technical inputs to meet regulatory requirements for:
 - waste form development and implementation;
 - tank closure activities;
 - waste site closure activities;
 - in-situ decontamination and decommissioning;
 - soil and groundwater remediation; and
 - management of disposal facilities

Need for Robust P&RAs in Decision Making

- Robust risk assessments are critically needed for risk-informed, performance-based, and cost-effective environmental management decisions.
- The PAs and RAs or P&RAs become public documents upon completion
- Continued improvements in the consistency of P&RAs and reductions in their underlying uncertainty will provide a sound foundation for future.
- DOE needs to ensure that P&RAs continue to be performed and documented consistently and to high standards
- To address these needs, the Low-Level Waste Disposal Facility Federal Review Group (LFRG) was chartered to provide reviews of the performance assessment completed to demonstrate compliance with DOE Order 435.1 requirements on DOE self-regulated radioactive waste disposal activities
- In addition, this Community of Practice (P&RA CoP) was established and envisioned as means to foster improved consistency at individual sites and across the DOE Complex.

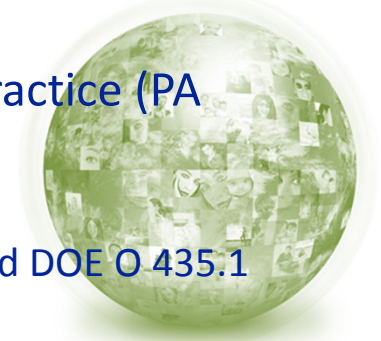
Main Objectives of P&RA CoP

- Consolidate and expand the body of knowledge relating to the preparation and application of P&RAs that incorporates the concept of model and data reuse applicability and builds on lessons learned across the DOE complex;
- Draft appropriate additional guidance, based upon this agreed-upon body of knowledge (and any desired improvements), in a clear and easy to understand manner with particular emphasis on continuing improvements to the consistency of approaches for P&RA implementation;
- Provide support to DOE sites in the initial stages of developing and planning P&RA activities;
- Formalize the conduct of technical exchanges, education, and training sessions as appropriate to accomplish the goals of the charter;
- Develop a repository of P&RAs and risk-based modeling tools, data, and supporting technical information; and
- Continue to develop the community of P&RA practitioners and technical expertise to support waste management and closure needs.

Interagency Steering Committee on P&RA CoP

- P&RA CoP activities are governed by a steering committee through a charter; otherwise, the P&RA CoP is self-directing.
- The steering committee consists of members from a variety of organizations, including:
 - Department of Energy
 - Nuclear Regulatory Commission;
 - Environmental Protection Agency;
 - State regulators;
 - DOE national labs;
 - Universities; and
 - Engineering/environmental firms.

Performance and Risk Assessment Community of Practice (P&RA CoP)

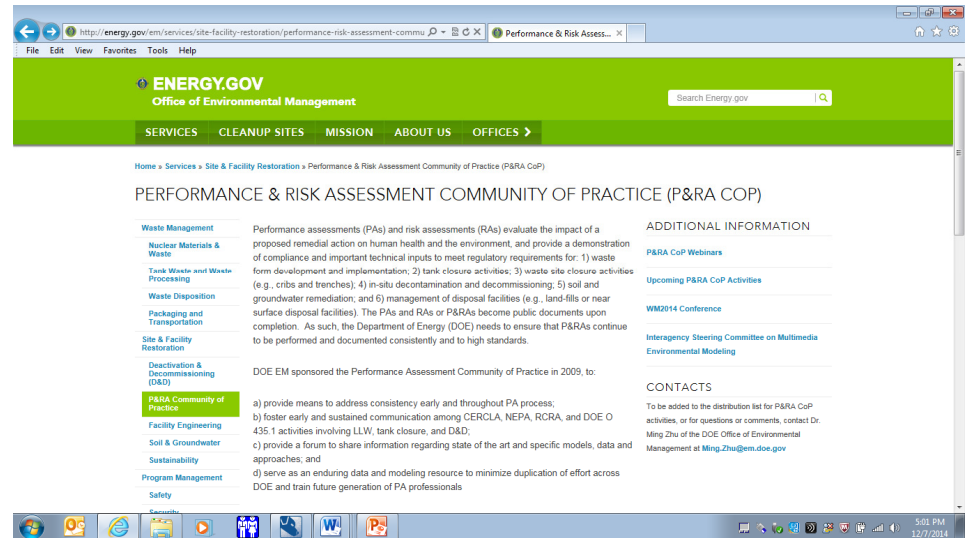


- DOE EM sponsored the Performance Assessment Community of Practice (PA CoP) in 2009, to:
 - a) provide means to address consistency early and throughout PA process;
 - b) foster early and sustained communication among CERCLA, NEPA, RCRA, and DOE O 435.1 activities involving LLW, tank closure, and D&D;
 - c) provide a forum to share information regarding state of the art and specific models, data and approaches; and
 - d) serve as an enduring data and modeling resource to minimize duplication of effort across DOE and train future generation of PA professionals
- PA CoP held 3 technical exchange meetings between 2009 and 2011:
 - July 13-14, 2009: Salt Lake City (<http://www.cresp.org/education/workshops/pacop/>)
 - April 13-14, 2010: Richland, WA (<http://srnl.doe.gov/copexchange/links.htm>)
 - May 25-26, 2011: Atlanta, GA (<http://srnl.doe.gov/copexchange/2011/links.htm>)
- In late 2013, the group was broadened as P&RA CoP to emphasize:
 - a) the need for an integrated regulatory framework when cleanup work at a given site is subject to overlapping environmental regulations (CERCLA, RCRA, NEPA, DOE Order 435.1 and NDAA Section 3116); and
 - b) the importance of risk assessments in non-DOE self-regulated cleanup activities

Recent Accomplishments

- We held several Steering Committee meetings/telecons:
 - 8/2013, 03/2014,
- We organized public Webinars, nominally on a quarterly basis:
 - 12/12/2013: Alaa Aly (INTERA) & Dib Goswami (Washington State Ecology),
“The Use of Graded Approach in Hanford Vadose Zone Modeling”
 - 2/5/2014: David Kosson (Vanderbilt University/CRESP) et al.,
“The Cementitious Barriers Partnership Toolbox Version 2”
 - 2/20/2014: Craig Benson (University of Wisconsin/CRESP),
“Performance of Engineered Barriers: Lessons Learned”
 - 6/3/2014: Geoff Freeze (SNL) and Roger Seitz (SRNL), “Features, Events, and Processes: Practical Considerations for Development and Selection of Scenarios”
 - 10/16/2014: Paul Black (Neptune), “Decision Making under Uncertainty:
Introduction to Structured Decision Analysis for Performance Assessments”

- In July 2014, we launched the P&RA CoP Website that is hosted by DOE EM
 - Charter
 - Webinar presentations
 - Links to other resources
- We restart the annual Technical Exchange Meeting



- Continue quarterly Webinars:
 - Confidence building and performance confirmation
 - Intruder scenario analysis
 - Risk communications
 - Regulatory developments (10 CFR 61 and DOE Order 435.1 updates)
- Steering Committee meeting:
 - Sideline meeting at WM2015 in Phoenix, March 2015
- Website improvements
- Topical analyses?