EM Engineering & Technology Overview

Al Baione
Engineering & Technology
Waste Processing

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Engineering and Technology Program

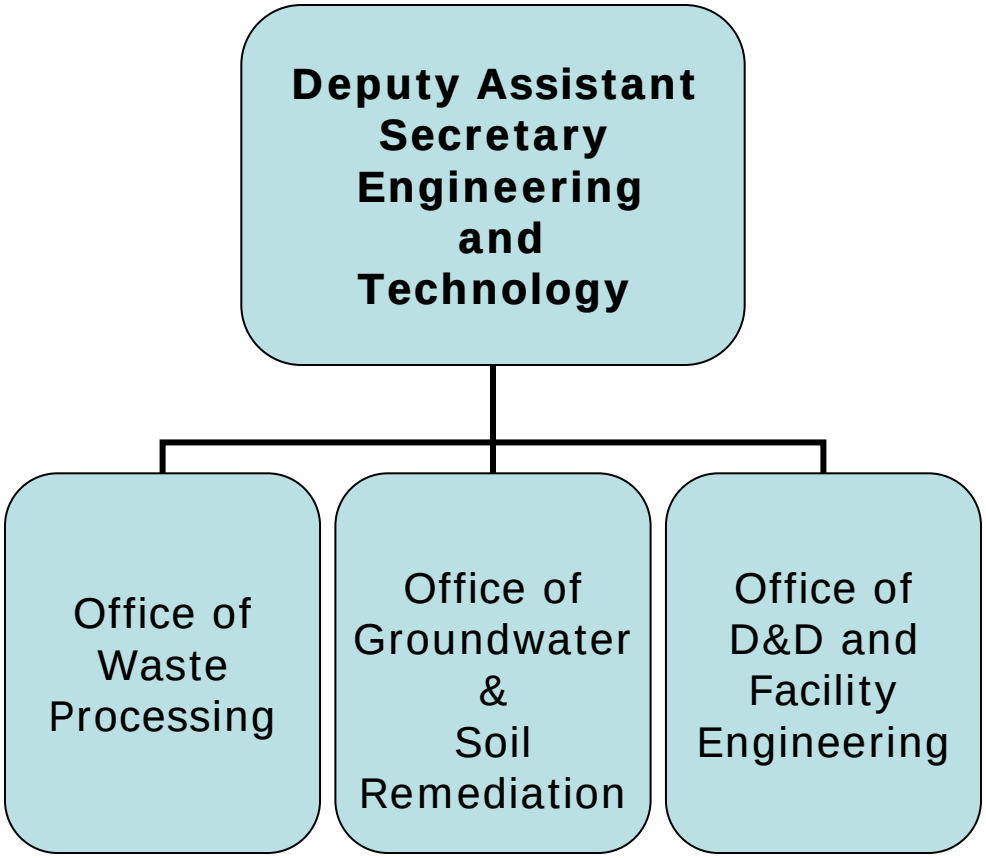
Mission

To Identify Vulnerabilities and to Reduce the Technical Risk and Uncertainty of EM Programs and Projects

Vision

Engineering and technology initiatives will provide the engineering foundation, technical assistance, new approaches, and new technologies that contribute to significant reductions in risk (technology, environmental, safety, and health), cost, and schedule for completion of the EM mission.

EM Office of Engineering and Technology



Established to Reduce Technical Risk and Uncertainty in the EM Program

Functions

- Develop policy and guidance
- Assess projects and programs through technical reviews and oversight
- Provide technical assistance and support to the field and other Headquarters offices
- Manage the EM Technology, Development and Deployment Program

Strategic Planning for Engineering and Technology Program Activities

- Strategic Approach
  - Implement Roadmap Initiatives
  - Perform External Technical Reviews and Technology Readiness Assessments
  - Conduct Technical Workshops and Exchanges
- Collaboration with Field Offices, National Laboratories, Private Sector, and Universities for innovative technologies and technical exchanges
- Work with Federal Project Directors

Engineering and Technology Roadmap

- Identifies technology risks in Waste Processing, Groundwater and Soil Remediation, and Deactivation & Decommissioning/Facility Engineering.
- Establishes strategic initiatives to address technical risks and identifies expected outcomes when implemented.
- NAS found the roadmap to be an important tool.
- Published in March 2008, it is a living document.

Roadmap Implementation

- Multiyear Program Plans (MYPP) further define the Roadmap for implementation.
- Staff from National Laboratories across the DOE complex have been involved in formulating the Engineering and Technology MYPP.
- Funding assigned annually for prioritized work activities under the Technology Demonstration and Deployments Program

Waste Processing Program

Initiative Development Team Organization

Legend:

Personnel:

Blue* – EM-20
Green – SRNL
Red – INL
Purple – PNNL
Brown – ORNL
Black – Other Affiliated Institutions

Waste Processing Programs
(WBS 1.0)
Steve Krahn (EM-21)
Al Baione (EM-21)
Lead – Jeff Griffin (SRNL)
Deputy – Paul Bredt (PNNL)
Jay Roach (INL)
Ben Lewis (ORNL)

Improved Waste Storage Technology
(WBS 1.1)
John Shultz*/Hoyt Johnson* (EM-21)
Lead – Paul Bredt (PNNL)
Bruce Wiersma (SRNL)
Rick Demmer (INL)
Rodney Hunt (ORNL)
Charlie Waggoner (ICET/MSU)
Laurie Judd (NuVision Engineering)

Reliable and Efficient Waste Retrieval Technologies
(WBS 1.2)
Gary Smith*/Gary Peterson* (EM-21)
Lead – Sharon Marra (SRNL)
Mike Rinker (PNNL)
Rick Demmer (INL)
Mark Noakes (ORNL)
Charlie Waggoner (ICET/MSU)
Laurie Judd (NuVision Engineering)

Enhanced Tank Closure Processes
(WBS 1.3)
Gary Peterson*/Steven Ross* (EM-21)
Lead – Sharon Marra (SRNL)
Mike Rinker (PNNL)
Rick Demmer (INL)
Mark Noakes (ORNL)
Charlie Waggoner (ICET/MSU)
Laurie Judd (NuVision Engineering)

Next Generation Pretreatment Solutions
(WBS 1.4)
Nick Machara*/John Shultz* (EM-21)
Lead – Bill Wilmarth (SRNL)
Reid Peterson(PNNL)
Dan McCabe (SRNL)

Enhanced Stabilization Technologies
(WBS 1.5)
Kurt Gerdes*/Nick Machara* (EM-21)
Lead – John Vienna (PNNL)
Dirk Gombert (INL)
David Peeler (SRNL)
Joe Westsik (PNNL)
Innocent Joseph (VSL – Catholic U.)

Challenging Materials
(WBS 1.6)
Hoyt Johnson*/Monica Regalbuto* (EM-21)
Lead – Jay Roach (INL)
Alice Murray (SRNL)
Jim Marra (SRNL)
Dave Parks (INL)
David Seaver (PNNL)
Phil McGinnis (ORNL)

Spent Nuclear Fuel
(WBS 1.7)
Al Baione*/Steve Wahnschaffe* (EM-21)
Lead – Bill Hurt (INL)
Brady Hansen (PNNL)
Natraj Iyer (SRNL)

External Technical Reviews

- External Technical Reviews (ETRs) support EM projects in addressing their risks and uncertainties, independent from the project.

- Engineering and Technology works with Federal Project Directors to put together ETR charters and lines of inquiry using subject matter experts.

Technology Readiness Assessments

- Technology Readiness Assessments (TRAs) establish the degree of development of critical technologies, independent of the project.
- Assesses the readiness of critical technologies for proceeding with design and construction.
- Maturation plans are required for critical technologies not sufficiently developed.

Conduct Technical Workshops & Exchanges

- Technology Exchange meetings have assured maximum benefits from outcomes of R&D performed across the DOE Complex
- Focused workshops bring technical expertise to bear on complex technical challenges
- Communities of Practice are being developed to focus technical expertise in select areas for resolving problems and improving programs