



U.S. DEPARTMENT OF
ENERGY



Office of Environmental Management International Program

Rosa R. Elmetti
Technical Advisor for Foreign Affairs

Waste Management Symposia 2013
February, 2013



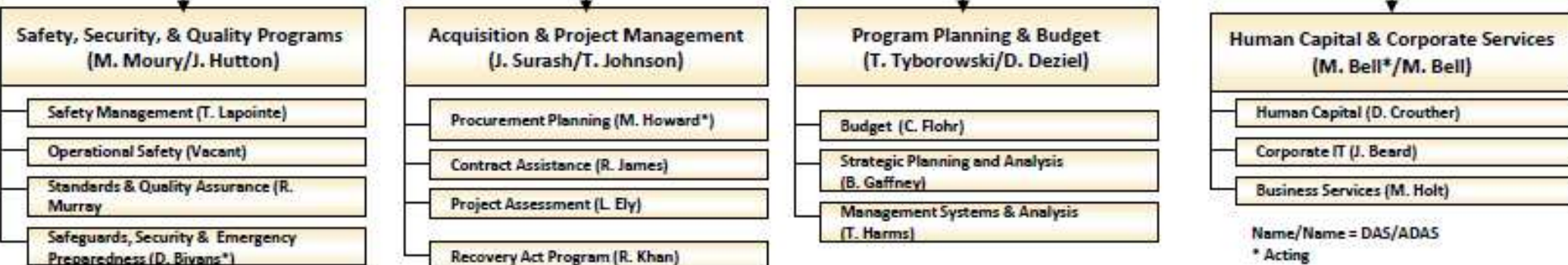
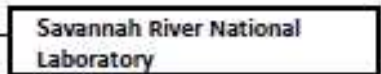
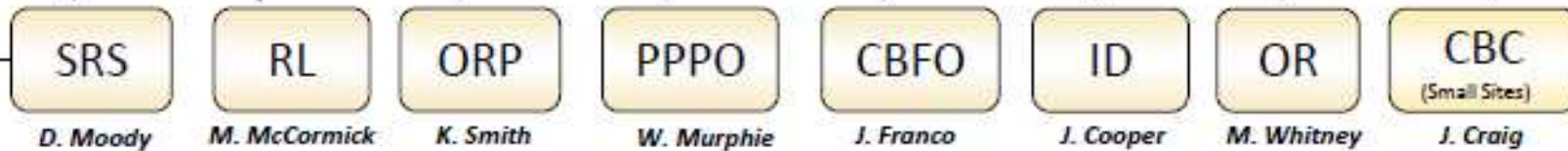
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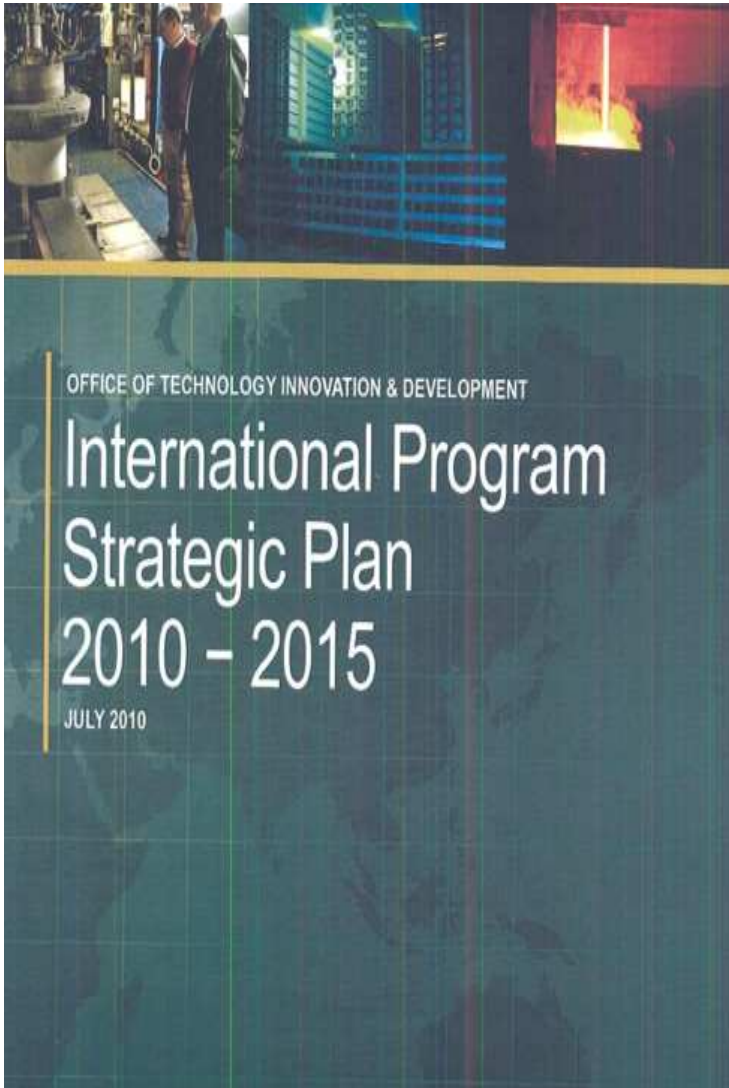
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EM Organization

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International Program Strategic Plan 2010-2015



Strategic Approach: Leverage world-wide expertise, particularly in the EM Mission Units and Support focus areas in soil/gw remediation; D&D; tank waste; and, nuclear materials disposition

Objective: Contribute to the advancement and deployment of technologies/practices to meet environmental & waste management needs

The Strategic Plan identifies collaborative opportunities with various nations and international organizations (i.e. IAEA, NEA)

“Scientific progress is seldom made by a lone explorer working in seclusion.”
— Secretary Chu



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FY12 DOE-EM International Projects

OFFICE	TITLE	COUNTRY
OPAB	Overseas Presence Advisory Board	<i>supports DOE personnel assigned overseas to represent DOE issues abroad</i>
Waste Processing	Next Generation Melter Technologies with Emphasis on Cold Crucible Induction Melters (CCIM), Phase II	RUSSIA <i>St. Petersburg State Electrotechnical University (ETU "LETI")</i>
Waste Processing	Development of Cryograb technology for application to sludge removal challenges in tanks with significant obstructions, Phase II	UNITED KINGDOM <i>UK Nuclear National Laboratory (UK NNL)</i>
Waste Processing	Glass Chemistry and Processing Issues – Sulfur Solubility	United Kingdom <i>Sheffield Hallam University (SHU)</i>
Soil and Groundwater Remediation	Mercury Remediation Technology Development, Phase II	RUSSIA <i>V.G. Khlopin Radium Institute (KRI)</i>



FY12 DOE-EM International Projects (Cont.)

OFFICE	TITLE	COUNTRY
Soil and Groundwater Remediation	Fundamental research of contaminant transport processes in geological media to support of the Advanced Simulation Capabilities for Environmental Management (ASCEM), Phase II	RUSSIA <i>Russian Academy of Sciences (IBRAE RAS)</i>
Nuclear Material Disposition	Development of Improved Techniques for Monitoring and Retrieval of Spent Nuclear Fuel SNF in Extended Storage	CANADA <i>Atomic Energy of Canada Limited (AECL)</i>
Nuclear Material Disposition	Fuel packaging technologies and methods for long-term storage of SNF spent nuclear fuel	SWEDEN <i>Swedish Nuclear Fuel and Waste Management Company (SKB)</i>
D&D	Advanced Fogging Technologies Demonstration - Misting	UNITED KINGDOM <i>UK Nuclear National Laboratory (UK NNL)</i>

Total FY12 Funding = \$2 M



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Current Agreements

Hungary, *Public Agency for Radioactive Waste Management (PURAM)*

- Memorandum of Understanding (MOU) for Information Exchange Relating to Operation of Modular Vault Systems for Storage of Spent Nuclear Fuel
- Signed: December 2, 2009
- Published Report: Summary of the Fort St. Vrain Independent Spent Fuel Storage Installation Operational experience, July, 2011

United Kingdom, *Nuclear Decommissioning Authority (NDA)*

- Statement of Intent (SOI) for Exchange of Information Concerning Management of Radioactive Waste
- Renewed on February 27, 2012 in Phoenix, AZ
- The Office of Nuclear Energy is now also part of the agreement



Current Agreements (Cont.)

France, *National Radioactive Waste Management Agency (ANDRA)*

- Memorandum of Understanding (MOU) concerning cooperation in the field of radioactive waste management signed November, 2012
- Allows for exchange of information on geological repository issues
- The Office of Nuclear Energy is also part of the agreement

Russian Federation, *State Atomic Energy Corporation (ROSATOM)*

- US DOE-Rosatom Statement of Intent (SOI) concerning Collaboration in Innovative Technologies for Environmental Restoration and Radioactive Waste Management signed by Secretary Chu September, 2012 in Vienna, Austria

Canada, *Atomic Energy of Canada Limited (AECL)*

- Statement of Intent (SOI) in the field of radioactive waste management, decommissioning and environmental restoration
- Signed February 26, 2013 in Phoenix, AZ

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Areas of Cooperation with the UK NDA

Advances due to the bilateral agreement between UK NDA and DOE have allowed both parties to benefit in the following topic areas:

- Waste Processing
- Soil & Groundwater Remediation
- Nuclear Material Disposition
- Decommissioning and Decontamination

Discussions are also taking place in other non-technical areas, examples include:

- Acquisition and Project Management
- Safeguards, Security and Emergency Preparedness



Renewal of the UK NDA-US DOE Statement of Intent, February 2012, Phoenix, AZ



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Potential Future Agreements

Sweden, Swedish Nuclear Fuel and Waste Management Company (SKB)

Potential areas of information exchange/collaborations exist between both organizations concerning cooperation and disposition of spent nuclear fuel and surplus nuclear materials

United Kingdom, Office of Nuclear Regulation (ONR)

Potential Information Exchange Arrangement (IEA) focusing on nuclear safety matters

Argentina, National Atomic Energy Commission (CNEA)

Explore potential areas of mutual interest for collaboration:

- Waste Processing
- Groundwater and Soil Remediation
- Nuclear Materials Disposition
- Deactivation and Decommissioning



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Opportunities for Expansion



International Atomic Energy Agency (IAEA)

- The 57th IAEA General Conference (September 16-20, 2013)



France's Commission for Atomic and Alternative Energies (CEA)

- US DOE-CEA agreement on Cooperation in Low-Carbon Energy Technologies, signed on June 19, 2012 by Secretary Chu
- Allows for cooperation in environmental management, including the areas of deactivation and decommissioning and soil and groundwater remediation



Expand US DOE-UK NDA collaboration to include EM non-technical areas

- New areas include:
 - Safeguards, Security and Emergency Preparedness
 - Acquisition and Project Management



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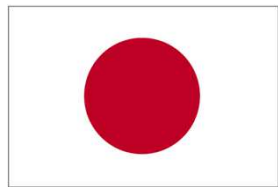
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Upcoming International Activities



China

- US-China Peaceful Uses of Nuclear Technology (PUNT) Joint Coordination Committee (JCC) meeting (April 15-17, 2013)
 - EM leads Working Group III on Environment and Waste Management



Japan

- US-Japan Bilateral Commission on Civil Nuclear Energy Cooperation Environmental Management and decommissioning Working Group (April, 2013)
 - US-Japan 3rd Cleanup workshop
 - National Laboratory staff to work with a Japanese technical team to identify projects for joint collaboration to address Fukushima cleanup



ICEM 2013

- 15th International Conferences on Environmental Remediation and Radioactive Waste Management (September 8-12, 2013)



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Upcoming International Activities (Cont.)



United Kingdom

- UK Nuclear Decommissioning Authority (NDA)-US DOE 11th Standing Committee Meeting (September, 2012)



Argentina

- State Department led US-Argentina Joint Standing Committee on Nuclear Energy Cooperation (JSCNEC) (September, 2013)



Russia

- AtomEco 2013: V International Conference and exhibition on environmental technologies (October 16-17, 2012)



Taiwan

- State Department led American Institute in Taiwan (AIT)-Taipei Economic and Cultural Representative Office in the United States (TECRO) meeting (November, 2013)



Contact Information

Ms. Rosa R. Elmetti

Technology Advisor for Foreign Affairs

U.S. Department of Energy

Office of Environmental Management

Office of the Associate Principal Deputy Assistant Secretary

Rosa.Elmetti@em.doe.gov

Phone: 202-586-7652



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