DOE NATIONAL LABORATORY AND TEPCO COLLABORATIONS

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Direct National Laboratory Engagement

- October 26 – 27, 2011 (Japan) US-Japan Workshop on Decontamination and Decommissioning
- February 13 – 15, 2012 (U.S.) US-Japan Workshop on Fukushima Daiichi Nuclear Power Plant Cleanup
- February 29 – March 6, 2012 (U.S.) TEPCO technical expert visit and tours of SRNL and PNNL
- September 3 – 7, 2012 (Japan) SRNL and PNNL management visit and meet with TEPCO management, finalize scope of Feasibility Study and visit Fukushima Daiichi site
- September 6, 2012 Work for Others contract for Feasibility Study executed between TEPCO and U.S. DOE Laboratories
- October 29 – November 2, 2012 (Japan) Feasibility Study laboratory technical team leads meet with TEPCO technical experts and visit Fukushima Daiichi site
- January 14 – 18, 2013 (U.S.) TEPCO technical experts visit SRNL and PNNL and meet with Feasibility Study laboratory technical teams

January 2012, Deputy Secretary Poneman formally invites TEPCO to visit SRNL and PNNL

TEPCO Delegation Visiting SRNL Engineering Development Laboratory

November 16, 2012 (U.S.) TEPCO Chief Nuclear Officer (Mr. Aizawa) visits SRNL

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WFO Contract for Feasibility Study

- **Term of agreement: 6 months** (September 6, 2012-March 6, 2013)
- Initial contract designed to **examine relevant cleanup expertise and experience in seven specific items of interest** for potential future collaboration
- **Feasibility study will address 7 items of interest** :
    1. Groundwater
    2. Grouting-related Techniques
    3. Sample Analysis Laboratory
    4. Waste Treatment
    5. Fuel Debris
    6. Water Treatment
    7. Community Revitalization


Fukushima Debris Removal

- **Preliminary report** submitted on December 20, 2012
- January meetings provided **intermediate team reviews of progress** on technical work under WFO contract and tours of site facilities.
- **Final feasibility study** to be delivered to TEPCO in early March along with stand-alone Statements of Work for potential future collaborations

Future Potential Collaborations from Feasibility Study

- **Item 1 – Groundwater**
  - Expert technical advice on groundwater bypass design, sea wall implementation, and hydraulic control of contaminants
  - Development of program to determine nuclide movement in groundwater
- **Item 2 – Grouting-related Techniques**
  - Grouting technologies; experience, properties, placement, testing and remote sensors
  - Hydrogen generation risk assessment
  - Strategies for reducing leakage
- **Item 3 – Sample Analysis Laboratory**
  - Laboratory design
  - Sample preparation techniques/technologies
  - Experiences in quality control and assurance, independent validation

Future Potential Collaborations from Feasibility Study

- **Item 4 – Waste Treatment**
  - Identification of methodologies to support waste forecasting and integration
  - Assistance in identification of key radionuclides affecting storage, treatment, and disposition
  - Assistance in decision-making on treatment and disposition options
  - Consultation on DOE waste treatment experience

- **Item 5 – Fuel Debris**
  - In-situ detection of fissionable material
  - Enhanced predictive capability for fuel and debris conditions
  - Lessons from relevant K-Basin experience
  - Support in baseline and sensitivity data for simulants of molten debris

- **Item 6 – Water Treatment**
  - Tritium removal from process water
  - Salt removal from process water

- **Item 7 – Community Revitalization**
  - Develop vision for revitalization of local communities

16

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Moving Forward

- **Deliver Final Feasibility Study by March 6, 2013**
  - Capitalize on several decades and billions of dollars invested in U.S. cleanup
  - Engage in early business and technical planning
- **Collaborative partnership provides mutual benefit of credibility and reputation**
- **Start collaborations in focused technical areas April 2013**

SRNL and PNNL Management Visit TEPCO Management in Japan

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