

Session VI-B Perspectives of  
Engineering and Technology  
Companies in Managing Complex  
Decommissioning and Remediation  
Projects – Summary

# Presenters and Panel Members

- H. Kawamura, Obayashi Corporation, Environmental Remediation in Fukushima Prefecture (Japan)
- O. Maekawa, Toshiba Corporation, Efforts for the Restoration at Fukushima Daiichi Nuclear Power Plants (Japan)
- B. Adhemar, AREVA, Lessons learned from the experience of AREVA in Japan between March and July 2011 (France)
- R. Kury, CH2M Hill, Lessons Learned from Decontamination and Decommissioning Projects (USA)
- C. Austin, Energy Solutions LLC (USA)
- P. Knollmeyer, Fluor (USA)
- S. Rima, AMEC (USA)

# Observations from Fukushima

- Lessons and technologies from Engineering/Technology companies have provided valuable input to Fukushima post accident remediation. However, they must be applied carefully given site differences, country differences and differing radiological conditions.
- Much credit must go to TEPCO, the Government of Japan and Japanese contractors for their progress so far under difficult conditions.
- Innovative tools (web based) are being used to communicate status of cleanup to homeowners. Need a process/standard for cleanup – “need to be able to tell a homeowner when it is safe to move home.
- How to decide: is it better to leave contamination in place vs further damage the environment/ecology (i.e. cut down trees, drain lakes vs. institutional controls and monitoring).
- Cleanup workers are a key interface with local communities/residents for communication of the nature of the problem and success
- Use of visualization (3-d representations, mock-ups) are important communication tools for workers and the public.
- Pilot projects in less contaminated areas may be beneficial in demonstrating effectiveness of cleanup efforts to the public.

# Observations from Legacy Cleanup

- Utilize existing proven technology where ever possible. Use of commercial off the shelf equipment reduces costs and risks. Don't overlook simple common technology and solutions.
- Innovation is more important than technology, keep it simple and flexible. To be efficient need to use multiple technologies. No single answer.
- Future Site gaming simulation can be an effective tool with which stakeholders can gain an understanding of the problem, tradeoffs associated with the risks and costs of various strategies, foster teaming, and build trust.
- Workers have a unique perspective and are a good source for solutions. Worker involvement in all phases of the project (planning through execution) will help ensure success. Training the work force is paramount. People are the solution for a long journey; robotics can help collect preliminary information but may not be the long term solution
- Access to lessons learned needs to be improved. Systems in each country need to be visible/linked in some manner so as to be available to internal community. Examples (Energy Facility Contractor Operating Group Lessons Learned, Florida International University D&D knowledge Management Portal, etc.).

# General Observations

- The technical support needed in the decommissioning and remediation phases is different than response – Who do you call? It is difficult to sort out capabilities. There is a need for a clearing house for prequalified firms
- There would be benefits to developing standard approaches/protocol for companies to interface with each other and with host countries to help bridge cultural barriers.
- Would be beneficial for countries that are performing decommissioning and remediation to pilot activities where they work together to improve interfaces and knowledge sharing for more effective assistance to countries that are not performing this type of work.
- International support for action/safe levels to supplement local decision making. Role of post cleanup dose monitoring of residents in that process.
- National pride, cultural issues, visa processes, import controls and other barriers impede the ability to optimize international support in the wake of a nuclear accident. Protocols and improved preparedness measures could mitigate this in the future.