

WM Symposia WM2010 Conference Panel Report

PANEL SESSION 03 - Worldwide Perspectives on Waste Management Issues

Co-Chairs: John Mathieson, *NDA (United Kingdom)*;

Mark Matthews, *Consultant (USA)*

Panel Reporter: John Mathieson, *NDA*

Panelists included:

- Dr. Wang Ju, *VP, Beijing Research, Institute of Uranium Geology, Head, HLW Disposal Program, Chinese National Nuclear Corporation*;
- Christine Gelles, *Director, Office of Disposal Operations, US DOE EM*;
- Mike D. Johnson; *Executive Director, Waste & Effluent Disposition, Sellafield, Ltd*;
- Prof. Volodymyr Tokarevsky, *Former Director, State Special Company Technocentre, Chernobyl, Ukraine*;
- Prof Carl-Reinhold Bråkenhielm, *Swedish National Council for Nuclear Waste*; and
- Dr. Dan Metlay, *Senior Professional Staff, US Nuclear Waste Technical Review Board*.

This session attracted about 80 attendees at its peak.

Christine Gelles opened for the panel by mentioning the Department's welcome of President Obama's recent announcement on nuclear energy. In relation to the fate of Yucca Mountain, she revealed that the Office of Civilian Radioactive Waste Management (OCRWM) was in the process of being wound down and a new Office of Used Fuel Management was being created within Nuclear Energy; this will undertake R&D and address long-term management issues. The Department had confidence in the appointment of the Blue Ribbon Commission which will look at alternatives for the long-term management of waste. She reminded the audience that WIPP is an operating geological repository which takes both contact handled and remote handled waste. Ms Gelles also mentioned the Greater-than-Class-C EIS which is undergoing review and will be sent to Congress in 2011.

Dan Metlay said that despite the termination of the Yucca Mountain program, the NWTRB still had a role under the Nuclear Waste Policy Act to advise the DOE and Congress on technical issues related to nuclear waste management. The Board was similar to many such advisory bodies around the world, including the Swedish National Council for Nuclear Waste, which was represented on the panel. He added that the Board stands ready to support the activities of the Blue Ribbon Commission, the Secretary of Energy and Congress.

Ju Wang outlined the Chinese HLW disposal program in the general context of the country's nuclear expansion. National policy is to reprocess spent fuel because of the amount that will be generated in the expanding nuclear program. Repository site selection was under way and a potential location was being studied in the Gobi Desert. The intention is for this to also incorporate an underground rock lab (URL) and that the reprocessing plant is built nearby. However, Dr Wang said that there was some pressure to investigate two sites for comparison purposes. He concluded that international co-operation was a key feature of the Chinese program.

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Carl Reinhold Bråkenhielm talked about the successful Swedish repository siting program which was concluded in 2009 with the choice of Forsmark by SKB. He argued that such success was based on clear roles of the proposer, local authorities and stakeholders and that their interactions were based on dialogue and transparency. Moreover, there was basic agreement on values and that this generation had the responsibility to deal with the waste issue. Open meetings were a feature of the process and these managed to integrate the science with “trust and morality” and the ability to communicate risk effectively.

Mike Johnson described the UK industry set up under the NDA and where Sellafield fitted into that. He focused on the reprocessing capabilities and the program for returning the vitrified residues (HLW) to overseas customers. This involved dealing with many regulators and other stakeholders along the shipping routes between the UK and the country concerned. He showed a film of the first return of HLW to Japan which had started in January and arrived in Japan the week of the conference.

In a departure from the norm, Prof. Volodymyr Tokarevsky said he would not talk about Chernobyl! He gave an overview of the six regional RADON facilities in the country which take institutional low and intermediate level waste. In particular he described the new VECTOR storage facilities which were located in the Chernobyl exclusion zone and the counties approach to waste segregation.

Q&A

Q1: In the original US program several sites were highlighted for investigation as a potential repository location and two repositories were envisaged. However, eventually just one site was selected for investigation (Yucca Mountain). Just having one site had meant there was no technical redundancy and any “fatal flaws” would mean that site would not be suitable. The questioner suggested that China would be well served to investigate more than one site.

A1. Dr Wang agreed that characterizing more than one site had public perception benefits as well as technical benefits.

B1. Dr Metlay recalled the Interagency Review Group set up under the Carter administration which recommended three sites be characterized in parallel.

Q2: Views on reprocessing and the Advanced Fuel Cycle Initiative?

A2. Dr Metlay said that NWTRB were assuming that reprocessing and fuel cycle issues will be being considered by the Blue Ribbon Commission so they were gearing up to deal with it.

Q3: What will China do with the recycled plutonium?

A3. This will go into MOX fuel.

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Q4. Why do Swedish environmentalists prefer the borehole option to the SKB concept of a deep repository?

A4: Prof Bråkenhielm confirmed that this was the case. They believe that a location with stagnant groundwater and 2km deep boreholes would provide good safety and safeguards features; but the risk of course was a canister getting stuck during the lowering operation. The concept would be very difficult to demonstrate.

Q5. With the demise of Yucca Mountain and the winding up of the Office of Civilian Radioactive Waste Management, with the consequent dispersal of staff, how will DOE maintain its competence in geological disposal?

A5. Ms Gelles said the DOE acknowledged the issue and was under discussion within the department.