

WM2013 Conference Panel Report

PANEL SESSION 70: International Deep Repository Progress

Co-Chairs: Nancy Zacha, *American Nuclear Society (USA)*
Gérald Ouzounian, *Andra (France)*

Panel Reporter: Keith Miller, *National Nuclear Laboratory, UK*

Panelists:

1. **Patrick Landais**, *Scientific Director of the French National Science Centre and Director of the R&D Division, ANDRA (France)*
2. **Michael Siemann**, *Head, Radiological Protection and Radioactive Waste Management, OECD/NEA*
3. **Mariano Molina**, *Head, Department of International Relations, Technical Management Division, ENRESA (Spain)*
4. **Carl Reinhold Bråkenhielm**, *Vice Chair, Swedish National Council for Nuclear Waste (Sweden)*
5. **Enrique Biurrun**, *Head, International Cooperation Department, DBE Technology GmbH (Germany)*
6. **Glenda Crockett**, *Concept Selection Manager Disposal System Specification Department, Radioactive Waste Management Directorate, NDA (United Kingdom)*
7. **Joe Franco**, *Manager, US DOE-EM-CBFO [WIPP]*
8. **Pete Lyons**, *Assistant Secretary, US DOE-NE*

About 75 people attended this panel session which focused on the progress on deep geological repository programs worldwide. The session opened with Leif Erikson showing a video of POSIVA's repository-related facilities in Finland that malfunctioned in Session 39 and then all the panelists presented an update on their individual national programmes. Question and Answer sessions followed each presentation and included questions on the status of WIPP in relation to the disposal of HLW, new siting processes in Germany and would there ever be an International Repository.

Summary of Presentations

Joe Franco due to a prior commitment, there was a slight change in the order of presenters, with Joe kicking-off the session by providing an overview of WIPP, key dates in the facility's history and some of the challenges faced due to an ageing infrastructure. He then went onto discuss the issues related to the clean-up of legacy TRU waste across 22 sites in the USA and the completion of a "National TRU Waste Plan". Going forward new concepts in remote handling will need to be developed, together with potential new missions for WIPP in relation to the disposition of High Level Waste (HLW). Further discussions are planned on this key issue and will need to include a comprehensive range of both Local and National Stakeholders.

Patrick Landais explained the background to the Industrial Geological Disposal Centre (CIGEO) Project by giving an overview of the waste volume arising for the years 2020 and 2030. CIGEO will include Long Lived ILW. Intermediate Thermicity HLW (HA) and Vitrified HLW (HA). He then went onto explain the approach used in determining a suitable location for the repository in France, culminating in a local consultation in 2009 and a detailed survey in

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2010. CIGEO will include 100 km of galleries, 10 to 15 km² of underground surface and 7 to 8 million m³ excavated rock. The timeline includes design, construction and operation phases stretching out over 100 years, with operations based on specific designs of disposal packages and cells for IL-LLW and HLW.

Patrick concluded his presentation with a discussion on “Reversibility Issues” and by describing the process of public engagement Andra has entered into on the basis of “National Commitment” to “Local Involvement”.

Michael Siemann summarised the recent and future work and activities in OECD/Nuclear Energy Agency space. NEA consists of 31 countries in Europe, North America and the Asia-Pacific region. Its mission is to assist member countries in their scientific, technological and legal activities in relation to the peaceful deployment of nuclear energy. Michael outlined the Committee structure, and specifically the Radioactive Waste Management Committee. Michael concluded by stating the importance of “Records Management” and how vital this activity is in maintaining continuity across the generations that will be involved with any repository.

Mariano Molina provided some background to the long term management of SF and HLW in Spain. This included a summary of existing and planned facilities, and current inventory estimates. He then went onto describe the historical objectives, starting back in 1990 and going forward through the 21st century. There are clearly perceived advantages of having a Centralised Storage Facility (CSF) in operation, not least of which is the de-coupling of interim and final management (disposal) of SF and HLW. Mariano then went onto describe the conceptual facility design including the associated Technology building and Business Park. He then provided a summary of the previous work undertaken in the period 1986 to 1996 and concluded with an overview of the totality of nuclear activities being undertaken in Spain.

Carl Reinhold Bråkenhielm began his presentation with an overview of nuclear facilities in Sweden, and then outlined the Swedish Waste Management System, including the KBS-3-System of cask design and emplacement in the repository. He then went onto discuss events since 2002 and outline the forward programme to 2070. It is essential that key Stakeholders are involved at all stages in the process, and Carl identified a broad range of those participating in Sweden. He discussed the Swedish Legal Framework and also concluded with the importance of Knowledge Management/Transfer to future generations.

Enrique Biurrun presented a summary of “Recent Developments in Germany in Radioactive Waste Disposal”. He began from an historical perspective (1980’s) through to controversial decisions made by the German government in 2009 to extend NPP lifetimes by between 8 and 12 years. The incident at Fukushima changed the whole attitude to nuclear power in Germany, and shortly after the events of March 2011, all political Parties vowed to abandon nuclear. The focus now is on a timely exit and the impact this will have on the availability of a Repository and its operational date. Enrique outlined key dates at Morsleben and Konrad repositories and at the Gorleben exploration mine and concluded with an overview of the Gorleben site.

Glenda Crockett discussed the “Status of the UK Programme” providing the historical context, leading into the establishment of current Governmental policy (published in June 2008). She then presented the process for “Site” selection and progress with local communities in locating a

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suitable host. The UK has a number of “Legacy” waste issues which will need to be incorporated in the repository design, and will clearly influence the disposal system specifications. Glenda concluded with an overview of the propose UK layout, and outlined the future programme from a “Policy” and “Science” perspective.

Pete Lyons brought the formal presentations to a conclusion, providing the USA view. The Blue Ribbon Commission has made a number of recommendations in this area, in particular by changing the basis of interaction to a “Consent-Based” approach. Clearly the Administration regards these issues as being highly important and is proposing a 10-year project of work. Key elements of the strategy include: System Design, Consent-based Facilities Siting and Governance and Funding. Pete then stated an operational date of 2048 and concluded with legislation needed for implementation.

Questions and Answers

In response to a question on whether WIPP could take HLW, **Joe Franco** replied that further discussion would be required and that we were right at the start of the process.

Patrick Landais was asked why there is a 50 year delay between the repository opening in 2025 and the first fuel being received in 2075. He replied that there are technical issues relating to fuel packaging at a temperature higher than 50°C and ILW disposal.

Patrick Landais was also asked the criteria for choosing an option. He replied that Andra based criteria on describing functions of the repository. Public are not involved.

The Panel was asked will there ever be an International Repository? The general consensus was that there are no political or economic drivers and that whoever proposes or seeks consent for construction will always be faced with the label of “Nuclear Dump”.