

## WM2015 Conference Panel Report

**PANEL SESSION 095:**      **International Co-Operation in Fuel-Cycle Activities, Including the International Framework for Nuclear Energy Cooperation (IFNEC)**

**Session Co-Chairs:**      **John Mathieson, NDA (UK)**  
**Everett Redmond II, Senior Director Fuel Cycle and Technology Policy, Nuclear Energy Institute (& panelist)**

**Panel Reporter:**      **John Mathieson, NDA**

### **Panellists:**

- **Ed McGinnis**, *Deputy Assistant Secretary, US DOE & Chair IFNEC Steering Group*
- **Doug Tonkay**, *Program Manager US DOE EM*
- **Gérard Bruno**, *Head Radioactive Waste and Spent Fuel Management Unit, Department of Nuclear Safety and Security, IAEA*

### **Summary of Presentations:**

#### **Introductory remarks**

Mr. Mathieson gave a brief introduction to IFNEC: a diverse range of the governments of over 60 countries, plus the IAEA, the European Commission, the OECD-NEA and Generation IV Forum. The aim of the organisation was to look at the gaps that newcomer countries may have and share the knowledge of the more experienced nuclear countries. **Mr. McGinnis** expanded on this and mentioned the financing and infrastructure workshops that had been held to assist newcomer countries, in addition IFNEC was also discussing approaches to multinational repositories.

**Dr. Everett** introduced the NEI, a trade association with representation from a number of countries. They recognised the importance of the global marketplace for the backend of the fuel cycle, although noting that the US would deal with its fuel within the US. **Dr. Bruno** commented that storage in itself was a step towards the ultimate goal which is disposal.

**Dr. Tonkay** described the US efforts to set up the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management in the 1990s. Now some 68 countries and Euratom would be coming together for the Review Meeting in Vienna in May. At the 2012 Review Meeting, the US had proposed a special meeting to consider IFNEC's proposals on the back end at which some 55 countries attended.

The panel responded to a number of questions and sub-questions:

1. How far can nuclear expand without back-end solutions?
  - a) Many nations have expressed interest in starting or expanding nuclear energy programs
  - b) Limits to expansion most often cited are safety, non-proliferation and financing
  - c) Lack of backend solutions have caused some INFEC members to defer their interest, while others choose to move forward deferring their solution

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- d) How significant is resolving the backend in limiting the global expansion of nuclear energy?

Mr. McGinnis said there were a number of examples of countries deploying nuclear but not giving sufficient thought to back-end issues. However, there were examples of where decommissioning and waste management was being addressed at the outset, including its financing. Clear laws and an independent regulatory authority were key – and indeed the Rating Agencies, commercial bankers and insurers considered this as imperative. Dr. Redmond concurred but noted that the US was still going ahead with new build despite having no repository. Dr. Bruno underscored the requirement to have clarity on the allocation of responsibilities early on, including the development of a policy framework.

One of the attendees commented that he was glad to hear a positive message from IFNEC, adding that the organization should promote the security and safeguards aspects, and propose a few regional locations for repositories.

### 2. Can a single international governance regime be created for back-end issues?

- a) Joint Convention for Spent Fuel Safety and Radioactive Waste Safety provides frameworks for good practice and compliant behavior
- b) But no sanctions, other than peer pressure
- c) INFEC promotes goals for nuclear expansion and reducing barriers for entry into nuclear
- d) IAEA and NEA seek member support for standards of performance and capability
- e) Is it possible to create something with enforcement such as *The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* for global trade and disposition of SNF and radioactive waste?

Dr. Tonkay said that peer pressure is an important aspect of the process. Dr. Bruno pointed out the purpose of the JC was to reach a higher level of safety and it was important to incentivise rather than punish. Mr. McGinnis added that as with other treaties, such as the NPT, it is possible to achieve enhanced safety without appearing to tell countries what to do.

### 3. “Extended” Centralized Storage— What are the international options?

- a) The events at Fukushima brought significant attention to fuel pools and dry cask storage
- b) The abandonment of the US in seeking a high-level waste repository at Yucca Mountain resulted in a Nuclear Regulatory Commission finding for extended storage for 300 years and perhaps more
- c) Many nations did not consider extended interim storage (greater than 60 years) as part of their fuel cycle management
- d) Given this sudden shift in policy and approach, does this create the opportunity for an international solution?

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Dr. Bruno again stressed that storage was an interim step to disposal. Dr. Everett noted that the US and other countries do have dry cask storage, so it is being implemented. Mr. McGinnis said that if the business case could be made, then private companies may come in and offer a centralised storage pending the availability of a repository.

An attendee posed the question as to whether fuel leasing offered a solution. IFNEC had looked at this according to Mr. McGinnis, and recognised that liability was an issue. Dr. Everett added that the US would probably not be able to offer leasing. It was also mentioned that fuel leasing was a good selling point for reactor sales.

### 4. Consent Based Siting—Do international partnerships help or hurt?

- a) The US Administration has rationalized that future repository siting decisions should be a populist referendum with acceptance from “communities directly affected”
- b) Other nations have attempted consent based siting with mixed results
- c) National repository programs in (Sweden, Finland, France) provide only national solutions to SNF/HLW disposal
- d) For nations using consent based siting, would multi-national partnerships be even possible, or would communities view this as a positive opportunity to develop a global business?

There was general consensus that consent based siting for repositories was the way forward, as had been shown with the near surface facility in Texas, and with the geological repositories in France, Sweden and Finland; but the challenge remained to gain this for multinational facilities. One Swedish member of the audience commented that the success of the Swedish case was based on the fact that no foreign fuel would be disposed of.

As a final thought, one member of the audience suggested that IFNEC should propose to countries surrounding the North Sea that a multinational facility be constructed in the salt deposits.