National Responsibility for the Back End of the Nuclear Fuel Cycle

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Introduction

- Difficulty and costs associated with developing a national repository mean that many countries with emerging nuclear power programs will accumulate inventories of spent fuel and radioactive waste in the future without a clear path forward for ultimate disposition.

- Multinational/regional repositories are one option for meeting this challenge.

- Consideration of such multinational/regional disposal options gives rise to questions regarding **national responsibility** for spent fuel and radioactive waste management.
The Joint Convention

The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management:

- provides the international legal framework under which States exercise their responsibility for the management and disposal of spent nuclear fuel and radioactive waste; and

- provides an important element of the international control system for transboundary movements of spent fuel and radioactive waste, including one-way transfers from generating State to disposing State.
Overview

The Joint Convention:

- Establishes a framework whereby countries are free to determine the most efficient and safe manner of managing spent fuel and radioactive waste.
- Recognizes that a State is ultimately responsible for spent fuel and radioactive waste generated within that State, but recognizes that a State can transfer that responsibility to another country in certain circumstances.
- Contemplates comprehensive approaches to the back end of the fuel cycle, including regional or shared repositories.
Key Provisions of the Joint Convention that Relate to National Responsibility

- Preamble
- Article 21, Prime Responsibility of the License Holder
- Article 27, Transboundary Movement
Preamble

- Reaffirms that the ultimate responsibility for ensuring the safety of spent fuel and radioactive waste management rests with the State.
- Does not say that ultimate responsibility must remain at all times with the generator State.
- Specifically contemplates arrangements involving multinational/regional repositories.
Reaffirming that the ultimate responsibility for ensuring the safety of spent fuel and radioactive waste management rests with the State;

Radioactive waste should, as far as is compatible with the safety of the management of such material, be disposed of in the State in which it was generated, whilst recognizing that, in certain circumstances, safe and efficient management of spent fuel and radioactive waste might be fostered through agreements among Contracting parties to use facilities in one of them for the benefit of other parties.

Recognizing the desirability of strengthening the international control system applying specifically to radioactive materials as referred to in Article 1 (3) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989);
Article 21, Prime Responsibility of the License Holder

- Requires Contracting Parties to “ensure that prime responsibility for the safety of spent fuel or radioactive waste management rests with the holder of the relevant licence.”

- Does not require the responsible party/license holder to remain within the generator country.
Article 27, Transboundary Movement

- Contemplates transfer of responsibility from the generator country to another country.
- Places conditions on both the exporting State and the State of Destination under which transboundary movement may be authorized.
Article 27

- Focus is on the sufficiency of the administrative and technical capability and the regulatory framework of the importing State.

- Provided that such conditions can be satisfied, Joint Convention does not prohibit the transfer of responsibility from one Contracting Party to another.
Article 27

- A generator could fulfil its ultimate responsibility through an arrangement that provides for transfer of responsibility to a State with the appropriate technical, regulatory and administrative capabilities to provide for safe disposal.

- Under the right circumstances, such a transfer of responsibility could provide for safer and more efficient management of spent fuel and radioactive waste than would be available in the generator country, thus contributing to the ultimate objectives of the Convention.
Approaches to National Responsibility under Current Legal Frameworks

- Some States authorize imports of spent fuel or radioactive waste under their national legal frameworks.
- Others, consistent with their rights acknowledged in the Joint Convention, have elected to prohibit or severely restrict such imports.
- EU has adopted Waste Directive
U.S. Approach

- **Foreign Power Reactor Fuel**
  - Certain procedural and other conditions on the import for storage and disposition of foreign power reactor spent fuel
  - Nonetheless, the U.S. legal and regulatory framework does not prohibit such imports if conducted in compliance with applicable conditions.
Foreign Research Reactor Spent Fuel

- U.S. currently imports spent fuel irradiated in foreign research reactors for disposition in the U.S. under the Foreign Research Reactor Spent Fuel Acceptance Program
- The statutory conditions applicable to import of foreign power reactor spent fuel do not apply to imports of foreign research reactor spent fuel.
Radioactive Waste

- The U.S. Nuclear Regulatory Commission authorizes commercial imports of radioactive waste for storage or disposition in the U.S.
- The NRC regulations governing Import and Export of Radioactive Material require a “specific license” for imports of radioactive waste, but there is nothing in the regulatory framework that prohibits such imports.
Recent Joint Convention Activities Considering Multinational Approaches

2012 – Fourth Review Meeting
  o United States proposed that commercially based fuel services be considered as an option for the back end of the fuel cycle
  o Contracting Parties (CPs) agreed to hold a Topical Meeting to examine the concept in more depth

2013 – Topical Meeting on Multilateral Approaches to the Back End
  o Facilitated discussion of challenges and opportunities involved in multinational approaches to SNF disposal

2015 – Fifth Review Meeting
  o CPs decide to organize a second topical meeting examining issues involving multinational approaches to the back end. The topical meeting is expected to occur in 2016
Conclusion

- Joint Convention establishes obligations to ensure safety of spent fuel and radioactive waste management and provides basis for international control system for transboundary movements of spent fuel and radioactive waste.
- No need to amend Joint Convention or adopt new Convention to address multi-national approaches to back-end of the fuel cycle.
- A country or group of countries can adopt requirements, guidance or policy that is consistent with Joint Convention. Examples include US policy on foreign research reactors and EU Waste Directive.
Conclusion

- Nothing in the Joint Convention precludes States from considering arrangements that include transfer of responsibility from the generating country to another country.
- There may be differing views regarding the circumstances under which such responsibility may be transferred, but ultimately such transfers must be in accordance with Article 27.
- Further discussion of these issues will contribute to States’ willingness and ability to consider the full range of spent fuel and radioactive waste management options.