

**IAEA/ANL**  
**Interregional Training Course**



**Technical and Administrative Preparations  
Required for Shipment of Research Reactor  
Spent Fuel to Its Country of Origin**

Argonne National Laboratory  
Argonne, IL  
13 - 24 January 1997

**Lecture L.6.1**

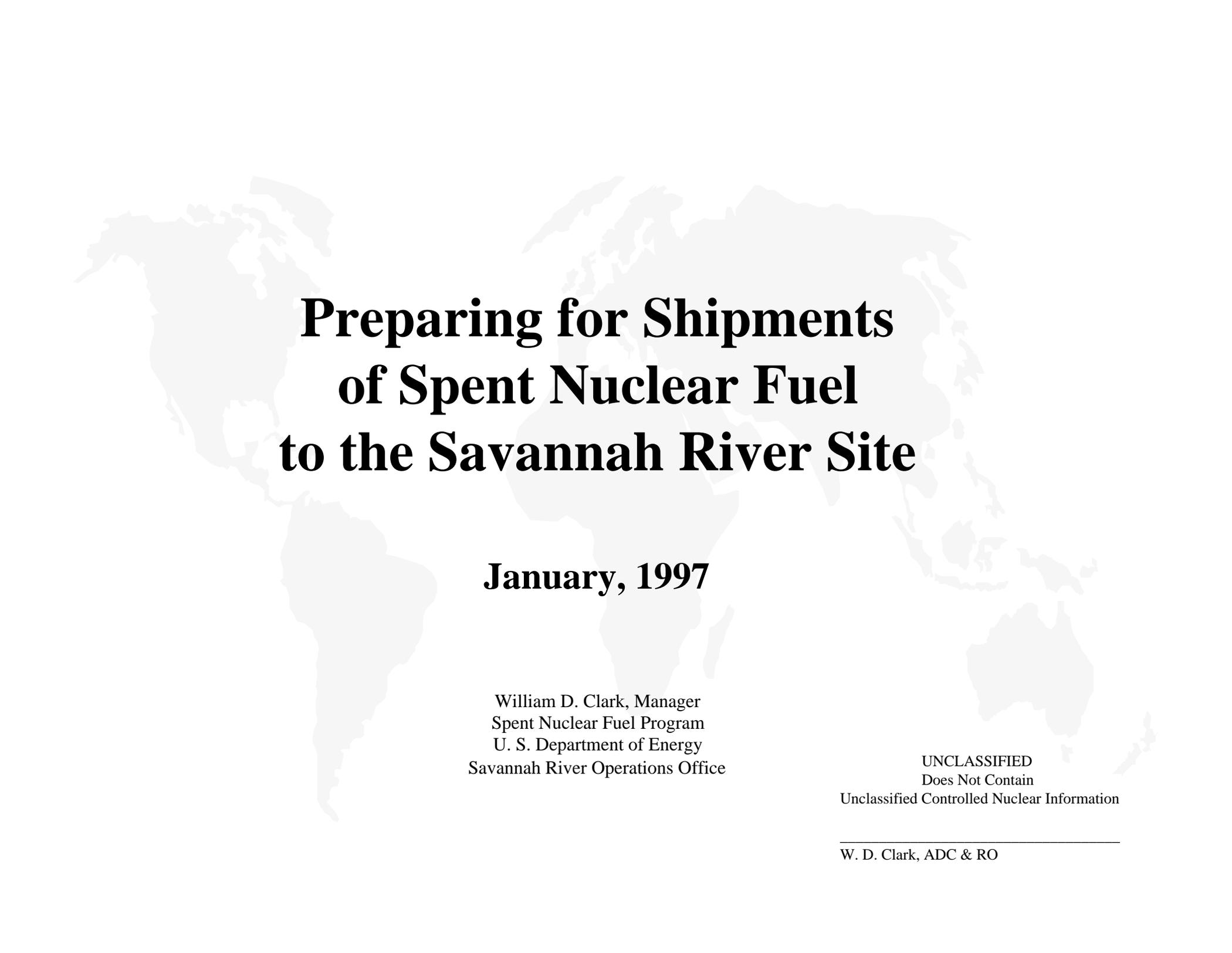
**Preparing for Shipments of Spent Nuclear Fuel  
to the Savannah River Site**

**William D. Clark**

**U.S. Department of Energy  
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International Atomic Energy Agency  
Vienna, Austria

Argonne National Laboratory  
Illinois, USA



# **Preparing for Shipments of Spent Nuclear Fuel to the Savannah River Site**

**January, 1997**

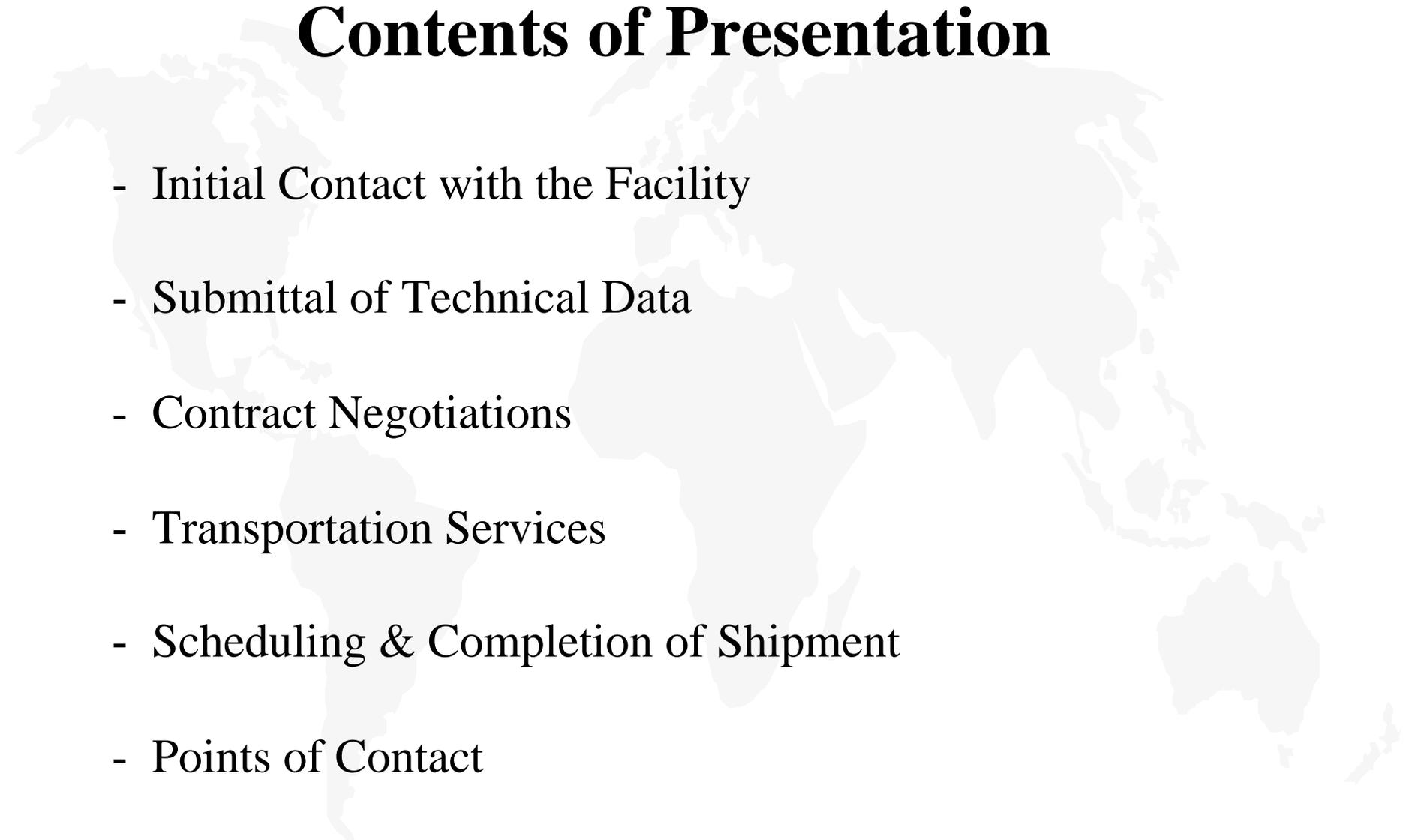
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U. S. Department of Energy  
Savannah River Operations Office

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W. D. Clark, ADC & RO

# Contents of Presentation



- Initial Contact with the Facility
- Submittal of Technical Data
- Contract Negotiations
- Transportation Services
- Scheduling & Completion of Shipment
- Points of Contact

# Initial Contact with the Facility

- The Savannah River Site is preparing a questionnaire to collect data on inventories of spent nuclear fuel, fuel condition, cask handling capabilities, and shipment timing preferences.
- Responses are requested by the end of February, 1997.
- Based on those responses, the U.S. Department of Energy will schedule a visit to the facility nine months to a year before the first shipment is planned.
- Appropriate governmental contacts will be made prior to any visits.

# Submittal of Technical Data

- The Savannah River Site requires that technical data on the spent nuclear fuel to be returned be submitted for review prior to the start of a shipment.
- This information is requested in the form of an Appendix A to the contract with the reactor operator.
- The Appendix A is required to be submitted approximately six to nine months prior to the scheduled shipment.
- Technical personnel from the Savannah River Site will work with the reactor operator to resolve any issues prior to the Appendix A being finalized.

## **Submittal of Technical Data (cont.)**

- The primary information requested includes the pre-irradiation fuel characteristics, the irradiation history of the fuel, and fabrication drawings of the fuel.
- Additional requirements that must be met prior to shipment such as water samples and radiological surveys of shipping casks are detailed in the Appendix B to the contract.

# Contract Negotiations

- The U.S. Department of Energy - Savannah River Operations Office will prepare a draft contract for review by the reactor operator approximately one year before the first scheduled shipment.
- Once comments are returned and resolved, the final contract will be prepared and sent by express mail for signature.
- The contract is valid for the life of the program (e.g., 13 years).
- Negotiations can take place with the reactor operator, a government agency, or with a representative in the United States.

# Major Components of the Contract

- Definitions
- Customer's Requirements
- Operational Aspects of the Shipments
  - Prior to Departure
  - In route
- Further Assurances
- Transport Packages
- Payments & Fees (if any)
- Excused Non-Performance
- Contract Terms
- Generic Contract Clauses

# Transportation Services

- The U. S. Department of Energy will provide a transportation services contractor for each shipment from an other than high income country as described in the EIS.
- This contractor will provide support for all aspects of making a shipment including onsite technical support, cask rental services, loading operations support, export/import permits, security planning, scheduling, and coordination with other casks included in a shipment.
- The U. S. Department of Energy will reimburse the contractor for costs incurred to make the shipment.

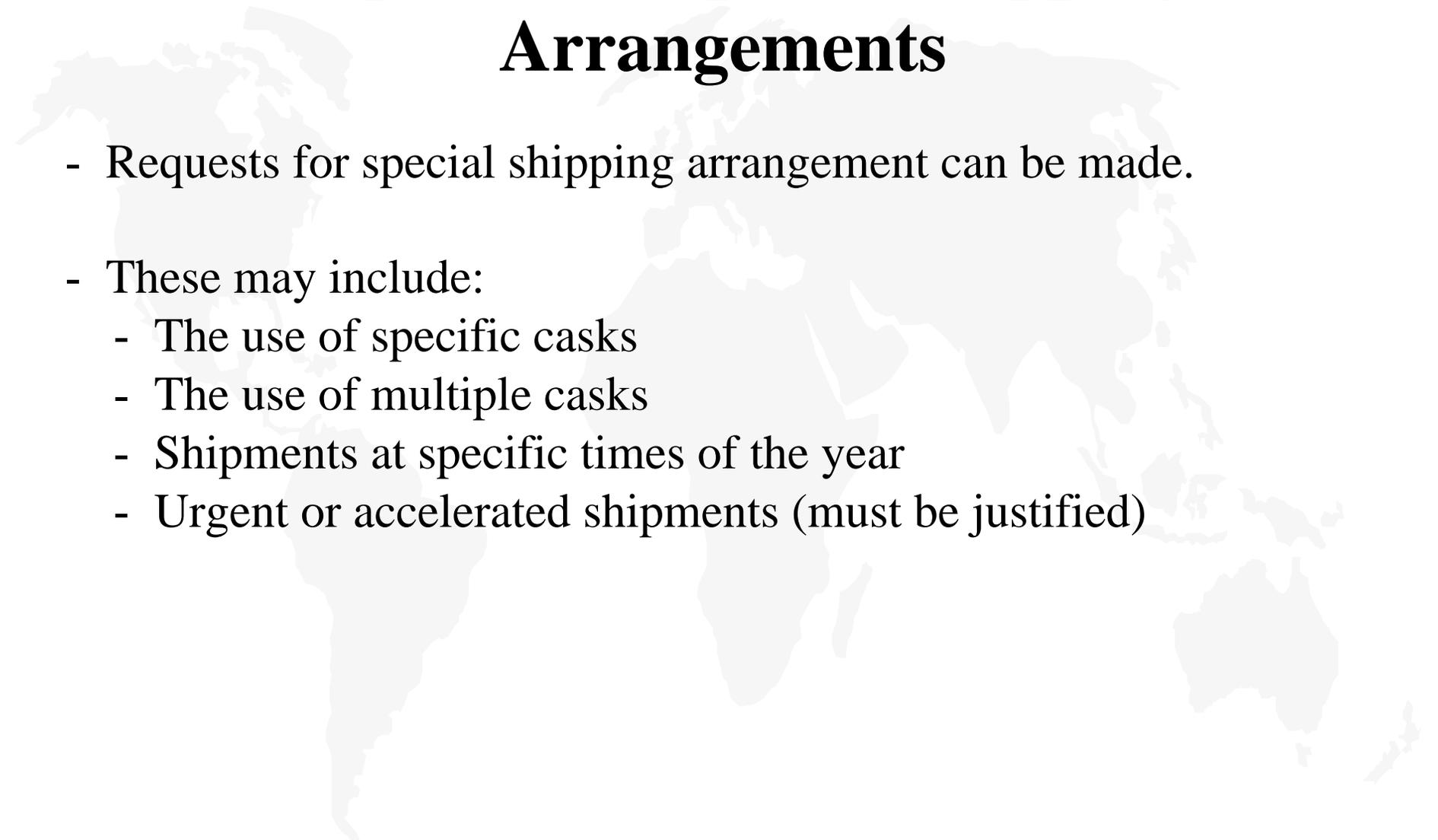
# Transportation Services (cont.)

- DOE will prepare a task order for the contractor to perform all services required to return the spent nuclear fuel from a foreign country to the United States.
- The contractor will interface directly with the reactor operator to provide required services, equipment, and technical expertise.
- Initial contact between the transportation services contractor and the reactor operator will occur approximately 6 months prior to the scheduled shipment.
- If canning of failed fuel or other unique requirements are involved, initial contact may be made earlier.

# Scheduling & Completion of Shipments

- Once the technical data (Appendix A) has been approved, an official shipping date will be set.
- Shipments are grouped by regions and occur every 2-3 months.
- Oversight of loading operations by the U.S. Department of Energy or its designated representative is required.
- Casks, upon receipt at the Savannah River Site, will be unloaded in a pre-determined order at a rate of approximately four per month.

# Requests for Special Shipping Arrangements



- Requests for special shipping arrangement can be made.
- These may include:
  - The use of specific casks
  - The use of multiple casks
  - Shipments at specific times of the year
  - Urgent or accelerated shipments (must be justified)

# Points of Contact

Shipment Planning & Scheduling, Technical Data, Contracts,  
Transportation Services

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