



**IAEA/ANL
Interregional Training Course**



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

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Lecture L.6.2

**Process for Return of Foreign Research Reactor
TRIGA Spent Nuclear Fuel
to the Department of Energy Idaho**

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**PROCESS FOR RETURN OF
FOREIGN RESEARCH REACTOR (FRR)
TRIGA SPENT NUCLEAR FUEL(SNF)
TO THE DEPARTMENT OF ENERGY IDAHO**

Presented by

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INTRODUCTION

- **Background**
- **Site Visits (preliminary contact)**
- **Spent Nuclear Fuel (SNF) Data Request (Appendix A) - detailed information**
- **Site Assessment - detailed SNF examination with team of technical personnel**
- **Contracting - formalize roles, responsibilities and requirements for all involved parties**
- **Transportation Services - utilize Savannah River Site (SRS) transportation services contract**
- **Shipment Scheduling - team with SRS to maximize effort**

BACKGROUND

- **Per the Final Environmental Impact Statement (FEIS), 19 countries identified with TRIGA SNF that may choose to participate in the program**

High income economy countries:

Austria	Finland	Germany	Italy
Japan	Taiwan, ROC	United Kingdom	

Other countries:

Bangladesh	Brazil	Indonesia	Malaysia
Mexico	Philippines	Romania	Slovenia
South Korea	Thailand	Turkey	Zaire

- **28 total reactor facilities**
- **Source of this criteria: Record of Decision for the FEIS on a Proposed Nuclear Weapon Nonproliferation Policy Concerning FRR SNF**

PRELIMINARY SITE VISITS

- **Initiate contacts with reactor operators and identify key personnel (e.g., government agencies, etc.) - not all cases**
- **Review SNF data available**
- **Review reactor site and infrastructure capabilities**
- **Review SNF storage facility and spent fuel condition**
- **Exchange information regarding DOE program and reactor site needs (scheduling)**

SNF DATA REQUEST

- **Questionnaire was sent in December, 1996**
- **Eventually completed Appendix A of the contract/agreement**
- **Provides detailed information used for:**
 - **revising safety documentation at eventual storage facility**
 - **ensuring satisfaction of transport cask license**
 - **determines any preshipment treatment or packaging requirements**
 - **identifies specific handling/shipping issues**
- **Helps define safeguards and security requirements**
- **Helps refine shipping schedule**
- **Several months before shipment**

DETAILED SITE ASSESSMENT

- **Team of SNF technical personnel from the INEL, cask vendor, and shipping agent**
- **Detailed fuel examination as necessary**
 - **Video examination to determine any failed/defective fuel**
 - **Water quality testing or review existing data**
 - **Determine if fuel needs to be canned/recanned**
- **Detailed facility and infrastructure assessment**
 - **Adequate crane capacity**
 - **Adequate room/space to maneuver loading equipment**
 - **Infrastructure adequacy for heavy loads**
- **Finalize Appendix A information as necessary**

CONTRACTING

- **Formalize roles and responsibilities for all involved entities**
- **Identify any special requirements which were identified in detailed site assessment**
- **Standard contract clauses**
- **Fees (if any)**

TRANSPORTATION SERVICES

- **SRS will be selecting a transportation services contractor in the near future**
- **INEL will utilize SRS contract**

SHIPMENT SCHEDULING

- **Review of the questionnaire will establish tentative shipping dates and special needs**
- **Upon satisfactory receipt of detailed SNF data, shipping dates will be established**
- **Maximize shipping effort to load ships may require minor schedule adjustment**
- **Team-up with SRS to maximize transportation systems (casks, ships, etc.)**

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