



Idaho Cleanup Project

FRR Rail Shipment to Idaho

***Presentation to the DOE Transportation
External coordination Working Group (TEC)***

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September 21, 2005

DOE - Idaho Operations Office FRR Rail Shipment

- *Overview of Shipment*
- *Operational Aspects*
- *Emergency Response Preparation*
- *Institutional Program*
- *Route Determination*
- *Lessons Learned*
- *Pictures*



Overview of Shipment

- *First shipment of Foreign Research Reactor (FRR) Spent Nuclear Fuel (SNF)*
- *Spent Fuel originated in So. Korea*
- *Transport by dedicated ship to Naval Weapons Station – Concord (NWSCo)*
- *Transport by dedicated rail from NWSCo to Idaho National Laboratory Site*
- *Conducted in July 1998*
- *3 NAC-LWT Casks placed in ISO containers*
- *2 locomotives; 4 rail cars; 2 cabooses*
- *No further FRR rail shipments have been made from the west coast*



Operational Aspects

- *Developed and issued an Operational Plan for the shipment*
 - *Identified roles and responsibilities of the personnel involved*
 - *Detailed instructions, plans, timelines*
 - *Interfaces with security plans, equipment, location of an activity and timing of events*
 - *Specified the sequence of operational activities*
 - *Addressed activities from the 11-mile buoy outside San Francisco Bay to the INL*
- *All personnel who rode or inspected the train attended briefings by the FRA and UPRR*



Emergency Response Preparation

- *Conducted Needs Assessments*
- *Provided training for 3,400 individuals in 36 counties, 4 states and 2 tribes*
- *Provided instrumentation for CA and NV counties along the route*
- *Each jurisdiction had their own Emergency Plan*
- *Training included coordination of emergency plans with neighboring jurisdictions*
- *Counties had the lead for incidents within their jurisdiction*
- *Radiological Control Technicians and Emergency Responders rode the train*
 - *Conducted routine radiation surveys of the ISO containers at each crew change point*
 - *Would provide first responder support as necessary*
- *DOE manned a “situation room” to monitor the shipment from departure to arrival*



Institutional Program

- *Based upon a philosophy of obtaining “informed consent” of the public through:*
 - *Identifying and assisting stakeholders, tribal nations and local communities*
 - *Public education and awareness*
 - *Open communication*
 - *Issue acknowledgement and resolution*
 - *Assistance based on on determining incremental risk-based needs*
 - *Training and support for responders, law enforcement and emergency management agencies*
- *“Informed Consent” validated through meetings along both the primary and alternate route*



Institutional Program – Process

- *Stakeholder Introductions*
 - *69 meetings in the four corridor states*
- *Assess Stakeholder Needs*
 - *Table top analysis*
 - *37 Needs Assessment meetings*
 - *FRR/SNF Briefings; Radiological & Transportation Basics Course; Principles of Risk Perception Course*
- *Develop Solutions*
- *Preparedness Support*
 - *Training; Public Education; Technical Assistance*
- *Media monitoring*
 - *Analysis indicated as more training occurred media reports became more positive*
- *Validate Readiness*



Route Determination

- *Followed Department of Transportation, Nuclear Regulatory Commission and Department of Energy requirements*
- *Developed transportation protocols with DOE-HQ*
- *Oak Ridge National Laboratory (ORNL) prepared a rail route study to identify and rank various rail route segments and route alternatives*
 - *12 potential rail routes from NWSCo to the INL Site*
 - *22 route segments were combined in various combinations to arrive at 12 alternatives*
 - *Based on distance, quality of track, population and public risk*
 - *Sensitivity analysis confirmed the chosen alternative*
- *Developed an alternate rail route should an unplanned event render the primary route, or sections thereof, unavailable*



Lesson Learned - Summary

- *Held a formal Shipment – Lessons Learned meeting with participants from state, local and Tribal Agency representatives. Report issued.*
- *Positive Results:*
 - *Excellent coordination and communication in the four corridor states, tribal nations and local communities*
 - *Stakeholders were prepared for and were appropriately informed of the safe and secure transport of the shipment*
 - *Informed consent was given during the validation process*
 - *Shipment schedule was adequately protected*
 - *Minimal impact from the shipment*
 - *Operational Plan was effective*
 - *Public Awareness training greatly turned perceptions to positive*



Lessons Learned - Summary

- *Areas For Improvement*
 - *DOE-HQ actions often did not support the implementation of the Institutional Plan*
 - *Decisions were sometimes made that did not consider impacts to potential future shipments*
 - *Unclear who had the lead in making decisions regarding the shipment (HQ or Field)*
 - *Stakeholder misconceptions due to title of program*
 - *Radiological inspections by multiple agencies took too long*
 - *Need better timing for advance railcar and locomotives inspections*
 - *Redundancy of timing of notifications*
 - *Problems with TRANSCOM*



FRR Railcars in Feather River Canyon, CA



FRR Rail Route

