



West Valley Spent Nuclear Fuel Shipment

Alice C. Williams

DOE-Environmental Management
Logistics and Waste Disposition Enhancements

January 21, 2004

INMM Spent Fuel Management Seminar XXI

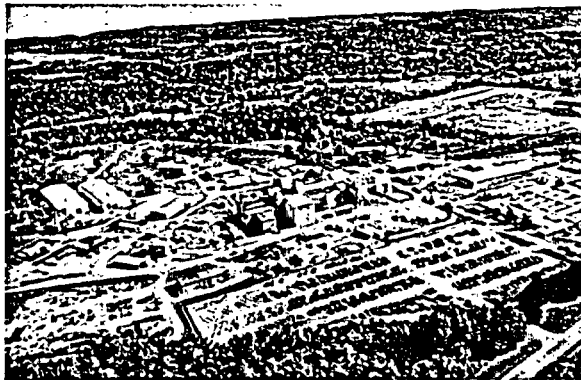
16357_1



West Valley Spent Nuclear Fuel Shipment

Background

- The West Valley Demonstration Project is an environmental cleanup project being conducted at a New York State-owned site
- In 1985, DOE took ownership of 125 spent commercial assemblies at the site to allow waste management activities to move forward
- Shipping/storage casks were designed and procured to move the fuel to the Idaho National Engineering and Environmental Laboratory (INEEL)



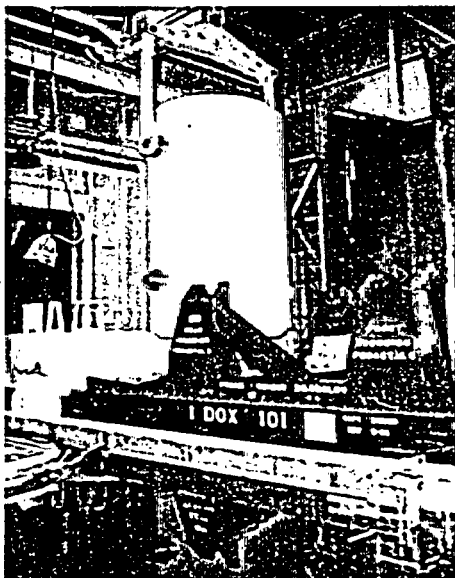
The WYDP is being conducted at a former commercial nuclear fuel reprocessing facility.

INMM Spent Fuel Management Seminar XXI

16357_2



West Valley Spent Nuclear Fuel Shipment



Preparations for shipment included preparing personnel for cask handling and loading operations.

INMM Spent Fuel Management Seminar XXI

Background (continued)

- A 1995 legal agreement between DOE and the State of Idaho allowed shipment of the spent fuel from the WVDP after 2000
- Preparations for a 2001 shipment began in 1999
- Initial briefings for potential corridor states and tribes occurred in 1999 through regional state organizations and existing DOE-Tribal interfaces

16357_3



West Valley Spent Nuclear Fuel Shipment

1999 - 2001 Preparations

- Potential corridor states and tribes, railroads, and the Federal Railroad Administration (FRA) reviewed and provided input on:
 - Rail route evaluation studies
 - Shipment plans: transportation, emergency preparedness, communications, and security
- Contracts were negotiated with the involved railroads
- Nuclear Regulatory Commission cask licenses for shipping were renewed



Work on the 1.8 mile rail spur at the WVDP was one of many preparations at both the WVDP and INEEL.

INMM Spent Fuel Management Seminar XXI

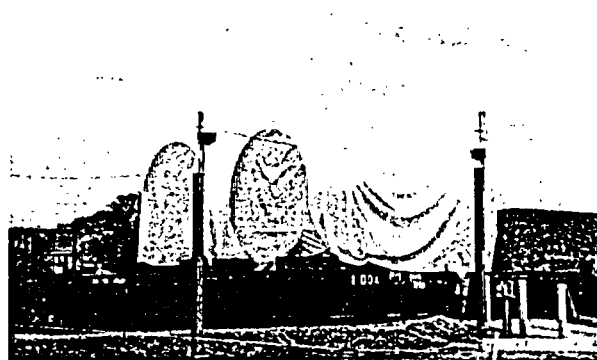
16357_4



West Valley Spent Nuclear Fuel Shipment

1999 - 2001 Preparations (cont.)

- Shipment information, except specific schedule, was shared with all interested parties
- The 11 corridor states and two tribes, four railroads, FRA, the WVDP, and the INEEL were ready by late summer 2001
- Shipment was postponed in late October 2001 due to other waste management commitments at the INEEL



Casks loaded and awaiting shipment at the WVDP.



West Valley Spent Nuclear Fuel Shipment

2002 – 2003 Preparations

- In December 2002:
 - ┆ DOE Headquarters directed the WVDP and INEEL to plan for the shipment in 2003
 - ┆ Approach
 - Proceed with plan from 2001 and make only essential changes
 - Due to heightened national security, provide shipment-specific information on a need-to-know basis only



West Valley Spent Nuclear Fuel Shipment

2003 Shipment

- Preparations were completed by all parties by the end of June 2003
- Shipment
 - └ Departed WVDP July 13 at 12:01 .m.
 - └ Arrived at INEEL July 17 at 2:38 a.m.
(17 hours ahead of schedule)
- Shipment went smoothly from all aspects
 - └ Security
 - └ Transportation (equipment)
 - └ Inspections



INMM Spent Fuel Management Seminar XXI

16357_7



West Valley Spent Nuclear Fuel Shipment

Lessons Learned

- Input from organizations involved in the shipment indicated a number of recommendations for future shipments. These include:
 - └ Railroad Operations
 - └ Communications
 - └ Shipment Schedule
 - └ Emergency Preparedness Training
 - └ Inspections

INMM Spent Fuel Management Seminar XXI

16357_8



West Valley Spent Nuclear Fuel Shipment

Lessons Learned: Railroad Operations

- Contract vs. Tender
 - └ Railroad willingness to carry
 - └ Price Anderson Act
 - └ Availability of tender rates
 - └ Planning meetings
 - └ "Add-ons"

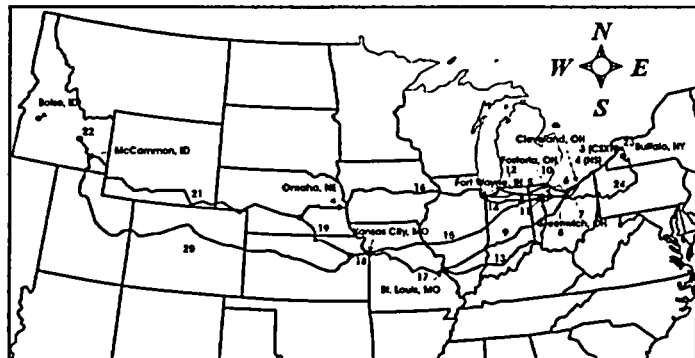
Recommendation: Develop an accepted contracting approach with rail carriers for multiple shipments.



West Valley Spent Nuclear Fuel Shipment

Lessons Learned: Railroad Operations (cont.)

- Route / Alternate Route
 - └ Clearly-defined route selection criteria (i.e., INTRALINE)
 - └ Selected route changes made only based on strong safety and technical justification
 - └ Route changes required during transit determined by rail carrier with input from DOE
 - └ Track inspections for all possible routes not realistic



Not to Scale

Recommendation: Use clearly-defined route selection criteria in conjunction with a computer model, such as INTRALINE or STRACKNET, to determine route.



West Valley Spent Nuclear Fuel Shipment

Lessons Learned: Communications

- Regional Coordination Meetings
 - └ Very helpful and successful
- Sensitive Information
 - └ "Need-to-Know"
 - └ Issues related to communicating sensitive information
- TRANSCOM
 - └ Generally worked well; specific issues identified

Recommendations: Clarify guidelines for distributing and controlling sensitive information and enhance TRANSCOM communications.



West Valley Spent Nuclear Fuel Shipment

Lessons Learned: Shipment Schedule

- Actual ship date fluctuated
- Coordination of en route radiological inspections challenging due to the shifting timeline while shipment was in transit

Recommendation: To the extent possible, adhere to established schedules both for departure and projected arrival times at inspection points.

Lessons Learned: Emergency Preparedness Training

- Differences in levels of preparedness and expectations for DOE funding

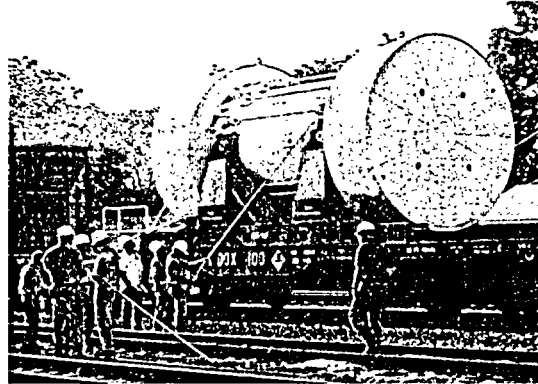
Recommendation: When possible, provide 24-month notification to allow states to use their existing planning process to complete training.



West Valley Spent Nuclear Fuel Shipment

Lessons Learned: Inspections

- Pre-Shipment Inspections
 - └ Railroad tracks
 - └ Mechanical
 - └ Radiological
 - Performed in advance by WVDP and OH
 - Results shared with corridor states
- En Route Inspections
 - └ Radiological inspections by non-FRA-certified personnel



Recommendation: Develop a protocol to reduce or eliminate en route radiological inspections.



West Valley Spent Nuclear Fuel Shipment

Recommendations

- Phased Approach
- Accepted contracting system with railroads
- Clarify guidelines for distribution of sensitive information / TRANSCOM enhancements
- Process for establishing and maintaining schedule
- National protocol for en route inspections
- Radiological training for first responders integrated into routine hazardous material training

