U.S. Nuclear Waste Technical Review Board

Transportation Planning Activities & Lessons Learned
Salt Lake City, Utah

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Chairman of the Board
Private Fuel Storage, L.L.C.
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PFS History

- Started in 1995, 8 Utility Members, Applied for NRC License in 1997
- NRC Safety Hearings in 2000
- NRC Environmental & Final Safety Hearings in April - June 2002
- Final Environmental Impact Statement & Final Safety Evaluation Report Recommended License, December 2001
Major Benefits

- Less Expensive than On-site Storage by an Individual Utility
- Enhances Security of Spent Fuel
Aerial View

Looking to the north, this artist’s concept shows the PFSF facility, including the Low Corridor Rail Line and the site access road.
Looking to the west, I-80 can be seen as it disappears around the north end of the Cedar Mountains. An artist’s concept shows how the PFSF rail siding might appear adjacent to the Union Pacific tracks, and also the route of the Low Corridor Rail Line.
Transportation Strategic Concepts

- Technical Review Committees to Select Best Canister Vendors
- Extensive Review of Handling Requirements of Source and Destination

...continued
Transportation Strategic Concepts

- Review of Truck vs. Rail Only Option
- Decision to Select Rail Only
  - Reduces interactions with public highway vehicles
  - Enhances security of shipments
  - Reduces by a factor of 20 to 60 the number of shipments
Rail Shipment Enhancement

- Meeting With Railroads to Discuss Their Needs to Cover Shipping
- Discussion with American Association of Railroads to Draft Transportation Standards
Basis for Safety Standards

- Cask Licensed and Reviewed by NRC
- Rail Lines Maintain Rail Rights-of-Way to Standards Set by Federal Railroad Administration

These two inputs determine overall safety.
Basis for Safety Enhancement

- Equipment (rolling stock) a Priority of PFS
  - Set a new level of precision
  - Use the quality control process developed by railroads
  - Develop a conservative standard to ensure each rail line hauling spent fuel achieves a high level of safety
Standard

- Each Bearing Transmits Conditions of Vibration and Temperature While in Route
- Electro Magnetic Braking To Shorten Stopping Distance
- Shelved Couplers to Protect Against Rough Track Decoupling
- 20+ Parameters Transmitted Live Time to Satellite
- Full Test of Prototype
- Continuing Surveillance of Each Cask Car in Service
- Single Use Trains
Route Selection

- Once Equipment Upgraded - Route Selection Process Next Issue
- PFS Determines Best Route From Each Customer to Storage Site
- Consult With Railroads on Initial Round of Review for Their Route Preference
- Review and Modify With Federal Agencies and Stake Holders
Total Concept

- Safe Equipment Operating on Optimized Route
2004

- ASLB Hearing on F16 Crash – August
- ASLB Decision Expected During December 2004 - January 2005
Construction

- Rail Car Testing of Prototype to Be Completed
- Fabrication of Rolling Stock and Handling Equipment Parallels Site Construction and Startup
Operations

- Scheduled for 2005
- 200 Canisters Per Year Capability
- 40,000 MTU (4,000 Canisters) Capacity Under Current License
- Open to All Utilities and All Canister Vendors
Questions??