



Private Fuel Storage

Midwest Spent Fuel Shipping

The Council of State Governments
Midwestern Radioactive Materials Transportation Committee



John Parkyn
Chairman of the Board & CEO
Private Fuel Storage LLC
December 8, 2010

Need for Interim Off-Site Dry Storage

- ▶ Clear intent of Nuclear Waste Policy Act of 1982, if the opening date for repository in 1998 was missed
 - ▶ It was missed and currently is not firmly scheduled
- ▶ Cost of multi-location storage much greater to ratepayer and taxpayer
- ▶ Public impatience with industry growing
- ▶ Fuel Storage Security concerns growing
- ▶ No decommissioning mode for closed plants to generate confidence in future plant construction

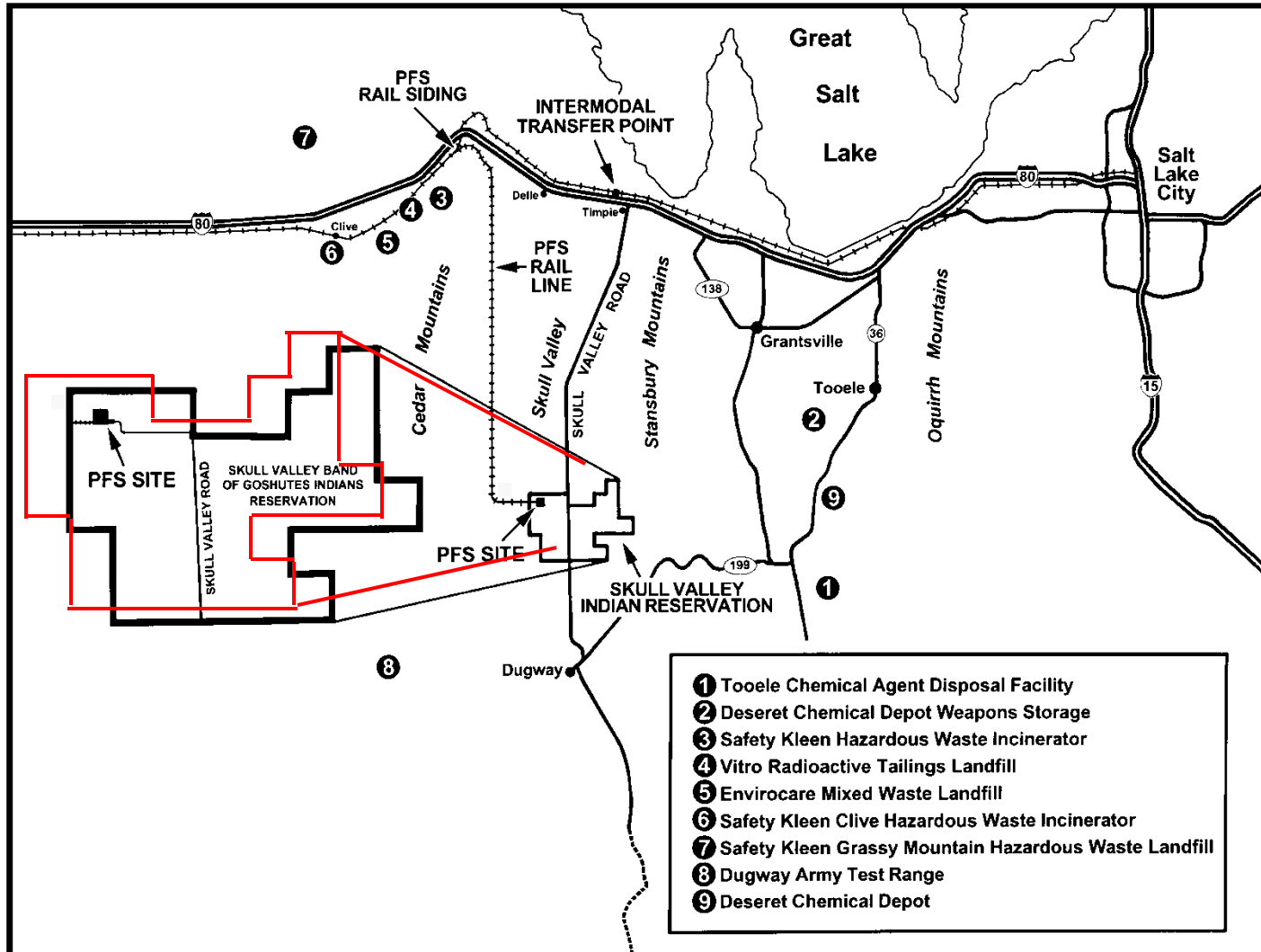
History of Private Fuel Storage (PFS)

- ▶ Applied for NRC License in 1997
- ▶ NRC Safety Hearings in 2000
- ▶ Final Environmental Impact Statement & Final Safety Evaluation Report
- ▶ Recommended License in December 2001
- ▶ ASLB recommends License: May 24, 2005
- ▶ NRC issues #SNM-2513 on February 21, 2006
- ▶ Lease conditionally approved
 - ▶ Withheld on political grounds

Scope of PFS Project

- ▶ Private, interim storage facility for spent nuclear fuel
- ▶ Open to all utilities
- ▶ 40,000 MTU (4,000 canisters) capacity under current license
- ▶ 200+ canisters per year capability
 - ▶ Upgradable to approximately 1,000
- ▶ 8 utilities own PFS, LLC
- ▶ Located on the Goshute Reservation (West desert area in Utah)

Storage Facility Location



▶ 50 miles SW of Salt Lake City

▶ Near other permitted waste facilities

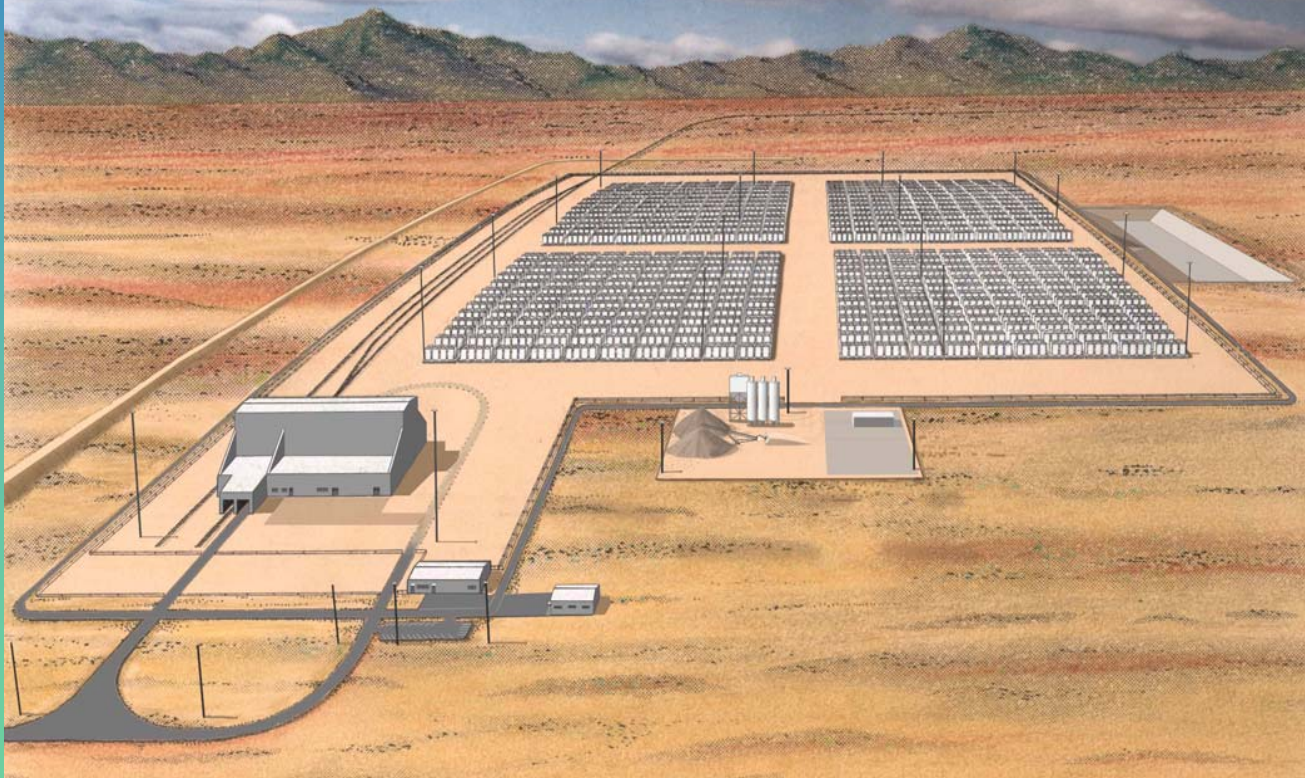
Proposed Site



Proposed Storage Facility

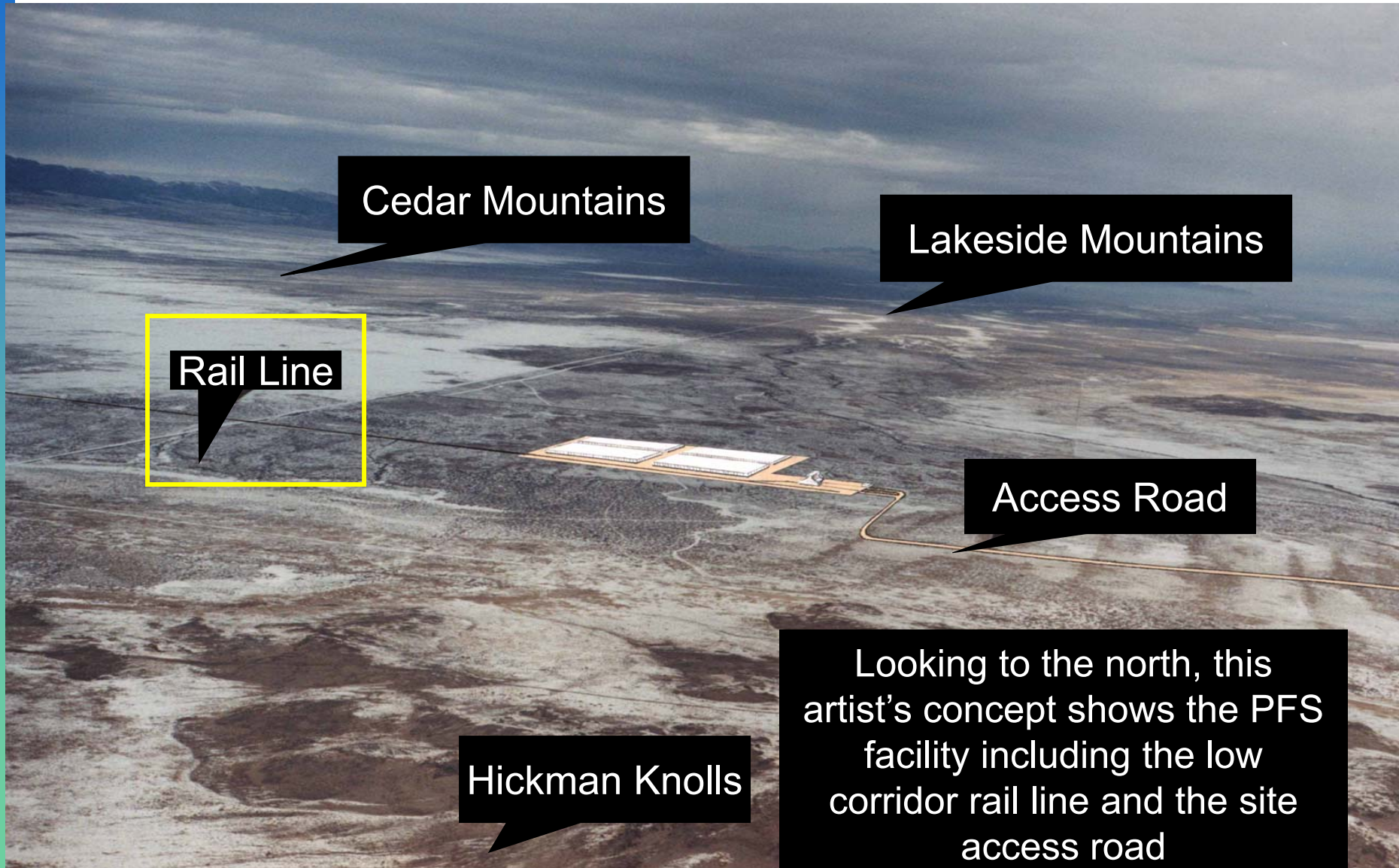
License: February 21, 2006

Construction: 30 months



- ▶ 100-acre storage area for 4,000 casks within 820-acre controlled area

Aerial View of Proposed Site



Cedar Mountains

Lakeside Mountains

Rail Line

Access Road

Hickman Knolls

Looking to the north, this artist's concept shows the PFS facility including the low corridor rail line and the site access road

Looking West

GRASSY MOUNTAINS

CEDAR MOUNTAINS

RAIL SIDINGS

UNION PACIFIC
MAINLINE RAILROAD

RAIL LINE

INTERSTATE 80

To PFS Storage Facility

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.

Railcar Articulated Ends



Loaded Railcar



Risk Mitigation Benefits for the Public

- ▶ Provides needed storage option
- ▶ Not dependent on DOE funding or Yucca Mountain
- ▶ Lead to new standards for storage and transportation
 - ▶ Improved storage cask technologies
 - ▶ Upgraded national rail standards
 - ▶ New rail car design (55 mph)
 - ▶ Enhanced security standards

Cooperation with the Industry & Regulators

- ▶ All scheduling to accommodate operating unit priorities
- ▶ Full NRC regulatory oversight and early involvement
- ▶ Review conducted by Homeland Security, voluntary compliance with suggestions
- ▶ Predictable costs for future compliance with changes in regulations

Current Status

- ▶ U.S. Court of Appeals for the District of Columbia has declined to cancel license
- ▶ Goshute Band has filed against Bureau of Indian Affairs and Land Management for using political influence as a decision basis for not granting final lease approval
- ▶ Federal Court ruled for Goshutes & PFS in July
- ▶ Administration decided not to appeal

Steps for Completion and Operation

- ▶ Resolution of Bureau of Indian Affairs lease decision
- ▶ 24 - 36 month construction startup and testing period
- ▶ Agreement with NRC & DOT on authorized shipping routes
- ▶ Shipment of fuel

Why Not Just “Leave it Where it is?”

- ▶ Politics as usual
- ▶ Public does not support
- ▶ Safety concerns
- ▶ Security concerns
- ▶ Threat to shareholder investment
- ▶ Excessive additional cost
 - ▶ General Accounting Office study underway to quantify

The Issue

- ▶ Spent nuclear fuel at 72 sites in 31 states
- ▶ Mostly on water ways, no way to limit public proximity for security control
- ▶ Move to remote site, little population no public access
- ▶ Transport by rail

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

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

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

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
- ▶ Utilize route recommendation of Council of State Governments
- ▶ Review and modify with NRC, DOT and stake holders (state & local governments)

Construction

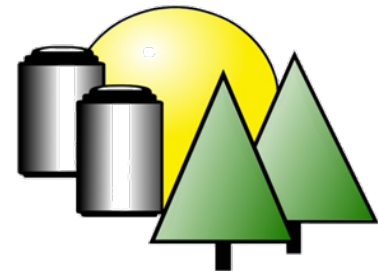
- ▶ Rail car testing of prototype to be completed
- ▶ Fabrication of rolling stock and handling equipment parallels site construction and startup

Goal

- ▶ Need for control of material means collection at central location
- ▶ Transportation to reduce cumulative risk
- ▶ National decision to expand emissions-free energy source
- ▶ World-wide impact

Questions?

Thank you!



Private Fuel Storage