

APPENDIX A: PROGRAMMATIC AND GENERAL DESIGN ASSUMPTIONS

The alternatives were defined under the following common set of requirements and assumptions.

General Assumptions

- The analyzed inventory of surplus plutonium is approximately 50 MT.
- Alternatives were designed to address the entire inventory. This does not mean necessarily that all material will ultimately channel through the same set of operations, but only that any alternatives had to provide a disposition path for all surplus material.
- Disposition of the plutonium will begin within approximately 10 years and be completed within approximately 25 years after the ROD. Authorization for initiation of the disposition mission coincides with the Record of Decision.
- Proliferation resistance equivalent to the spent fuel standard is the goal for the final form and/or location of the plutonium.
- All necessary operations to implement a disposition alternative, (e.g., transportation, licensing, safeguards and security, inspections, and packaging operations) from the inception of the program until disposition to the spent fuel standard must be included. Additionally, the impacts associated with ultimate disposition must be assessed.
- Adequate funding will be available, when required, to support the design and construction of the chosen disposition alternatives.

General Design Criteria - Licensing/Regulatory

- Facilities will comply with applicable Federal, state, and local laws and regulations, and DOE orders.
- All operations which are conducted in new facilities or in a privately-owned facility within the U.S. will be licensed by the NRC. Foreign fuel fabrication facilities will be licensed and regulated as per the cognizant nation's laws.
- Schedules presume legislation is available to support implementation of the alternatives. In all cases, some legislation will be required to enable a disposition alternative to be implemented.

General Design Criteria - Safeguards and Security

- While pending disposition to the spent fuel standard, the plutonium must meet *the Stored Weapons Standard*, as the term was coined by the NAS, and as specified in DOE orders and guides.
- All operations involving surplus plutonium will be performed under International Atomic Energy Agency (IAEA) safeguards, except those involved with classified parts, shapes, and information.

General Design Criteria - Waste Management

- A high-level waste repository will be available to accept spent fuel and immobilized forms.
- The Waste Isolation Pilot Project (WIPP) will be available to accept small amounts of TRU wastes generated in the plutonium processing operations.
- The impacts associated with geologic disposal, repository or deep borehole, must be assessed.
- Waste minimization and pollution control principles consistent with DOE policy will be applied in the design considerations of each technology.