COMPARISON OF IMPACTS

Key Resource Areas	*Mercury Storage in Existing Buildings*			*Mercury Storage in New Buildings*				
	Idaho National Laboratory – RWMC	***Hawthorne Army Depot***	***DOE Kansas City Plant***	***DOE Grand Junction Disposal Site***	***DOE Hanford 200-West Area Site***	***DOE Savannah River Site E Area***	***Waste Control Specialists, LLC***	***DOE Idaho National Laboratory – INTEC***
Land use and visual resources	No additional land use or visual resource impacts.			Land use of 3.1 hectares (7.5 acres) and visual impacts on landscape would be minimal compared with total available site area. (Note: For Grand Junction Disposal Site only: 1996 Memorandum of Understanding possible restriction on land use and current zoning – under evaluation.				
Geology and soils	None	Utility connections may require minor trenching.	None	Minor trenching for concrete footers and utility connections. Small inconsequential consumption of geologic resources. Soil disturbance and increased risk of soil erosion for up to 6 months during construction activities.				
Earthquake risk	Risk of slight damage to ordinary buildings.	Risk of considerable damage to ordinary buildings.	Negligible risk of damage.	Risk of slight damage to ordinary buildings.	Risk of slight-to-moderate damage to ordinary buildings.	Risk of slight-to-moderate damage to ordinary buildings.	Risk of slight damage to ordinary buildings.	
Water resources	Negligible water use for modifications and operations compared with availability. No impact on water resources from construction or normal operations; located above sole-source aquifer; negligible risk from flooding.	Negligible water use for modifications and operations compared with availability. No impact on water resources from construction or normal operations; negligible risk from flooding.	Negligible water use for modifications and operations compared with availability. No direct impact on water resources from construction or normal operations, but close proximity to surface-water bodies; existing system protects site from riverine flooding but must be manually operated.	Negligible water use for construction and operations compared with availability. No impact on water resources from construction or normal operations; negligible risk from flooding.				Negligible water use for construction and operations compared with availability. No impact on water resources from construction or normal operations; located above sole-source aquifer; minor risk from riverine flooding.
Air quality	Negligible increase in air emissions from modification of existing buildings. Emissions from operations would be limited to employee vehicles, trucks, periodic generator testing and venting of residual mercury vapors. Operational emissions would not exceed air quality standards. Transport of mercury would result in negligible emissions of criteria and toxic pollutants.			Short-term increase in air pollutant emissions from construction activities, including use of heavy equipment and trucks. Emissions from operations would be limited to employee vehicles, trucks, periodic generator testing and venting of residual mercury vapors. Operational emissions would not exceed air quality standards. Transport of mercury would result in negligible emissions of criteria and toxic pollutants.				
Site infrastructure	Negligible impact; existing site capacity would easily meet increased utility demands.			Moderate impact; electrical capacity would have to be increased. No public water supply. No rail access.		Negligible impact; existing site capacity would meet increased demands.		
Occupational and public health and safety								
Normal operations [a]	SL-I consequences and negligible risk to involved workers, noninvolved workers, and members of the public at all sites.			SL-I consequences and negligible risk to involved workers, noninvolved workers, and members of the public at all sites.				
Facility accidents [a]	Consequences range from SL-I to -II with an associated negligible-to-low risk to involved workers and noninvolved workers from both inside and outside spills. Consequences of SL-I with an associated negligible risk to public receptors from inside and outside spills.			Consequences range from SL-I to -II with an associated negligible-to-low risk to involved workers and noninvolved workers from both inside and outside spills. Consequences of SL-I with an associated negligible risk to public receptors from inside and outside spills.				

COMPARISON OF IMPACTS (CONTINUED)

Key Resource Areas	Mercury Storage in Existing Buildings			Mercury Storage in New Buildings				
	Idaho National Laboratory – RWMC	*Hawthorne Army Depot*	*DOE Kansas City Plant*	*DOE Grand Junction Disposal Site*	*DOE Hanford 200-West Area Site*	*DOE Savannah River Site E Area*	*Waste Control Specialists, LLC*	*DOE Idaho National Laboratory – INTEC*
Transportation								
Annual truck accident fatalities [b]	9.2×10^{-4}	1.1×10^{-3}	7.8×10^{-4}	8.7×10^{-4}	1.2×10^{-3}	9.4×10^{-4}	1.0×10^{-3}	9.2×10^{-4}
Truck accident – human health [a]	For spillages of mercury onto the ground, consequences could be SL-II with a low risk under Truck Scenario 2 and a negligible risk under Truck Scenario 1. Consequences of these scenarios could also be SL-III, but with a negligible risk. For transportation accidents with fires, acute-inhalation consequences could be at SL-I with a negligible risk under both truck scenarios. The corresponding consequences following deposition on the ground could be SL-I with a negligible risk. For direct spillages of mercury into water, the consequences could be SL-I or -II with a negligible-to-low risk (but with a large degree of uncertainty).			For spillages of mercury onto the ground, consequences could be SL-II with a low risk under Truck Scenario 2 and a negligible risk under Truck Scenario 1. Consequences of these scenarios could also be SL-III, but with a negligible risk. For transportation accidents with fires, acute-inhalation consequences could be at SL-I with a negligible risk under both truck scenarios. The corresponding consequences following deposition on the ground could be SL-I with a negligible risk. For direct spillages of mercury into water, the consequences could be SL-I or -II with a negligible-to-low risk (but with a large degree of uncertainty).				
Annual rail accident fatalities [b]	1.5×10^{-4}	1.6×10^{-4}	1.0×10^{-4}	1.3×10^{-4}	1.9×10^{-4}	1.2×10^{-4}	1.6×10^{-4}	1.5×10^{-4}
Rail accident – human health [a]	For spillages of mercury onto the ground, consequences could be SL-II with a negligible risk. Consequences could also be SL-III, but with a negligible risk. For transportation accidents with fires, acute-inhalation consequences could be at SL-I with a negligible risk. The corresponding consequences following deposition on the ground could be SL-I with a negligible risk. For direct spillages of mercury into water, the consequences could be SL-I or -II with a negligible-to-low risk (but with a large degree of uncertainty).			For spillages of mercury onto the ground, consequences could be SL-II with a negligible risk. Consequences could also be SL-III, but with a negligible risk. For transportation accidents with fires, acute-inhalation consequences could be at SL-I with a negligible risk. The corresponding consequences following deposition on the ground could be SL-I with a negligible risk. For direct spillages of mercury into water, the consequences could be SL-I or -II with a negligible-to-low risk (but with a large degree of uncertainty).				
Ecological impacts [a]	For truck or railcar spills with a pallet fire, consequences could range from SL-I to -IV for both dry and wet deposition pathways, with wet deposition potentially having somewhat greater consequences. The associated risk to ecological receptors would range from negligible to high except in the case of wet deposition with rail transport, for which the risk would be negligible to all receptors. The highest ecological risk would be to sediment-dwelling biota and soil invertebrates in the case of truck transportation accidents with fires and dry deposition. In contrast, risk to the red-tailed hawk would be negligible in all transportation scenarios.			For truck or railcar spills with a pallet fire, consequences could range from SL-I to -IV for both dry and wet deposition pathways, with wet deposition potentially having somewhat greater consequences. The associated risk to ecological receptors would range from negligible to high except in the case of wet deposition with rail transport, for which the risk would be negligible to all receptors. The highest ecological risk would be to sediment-dwelling biota and soil invertebrates in the case of truck transportation accidents with fires and dry deposition. In contrast, risk to the red-tailed hawk would be negligible in all transportation scenarios.				
Environmental justice	None	None	A transportation accident at or near the facility could disproportionately impact low-income and/or minority individuals.	None	None	A transportation accident at or near the facility could disproportionately impact minority individuals.	No disproportionate impacts on low income and/or minority individuals	None

Key: DOE = U.S. Department of Energy; INTEC = Idaho Nuclear Technology and Engineering Center; RWMC = Radioactive Waste Management Complex; SL = severity level.

[a] Consequences are presented by SLs, with SL-I representing negligible-to-very-low consequences and SL-IV representing the most severe consequences. SLs are defined in Appendix D, Section D.1.1.2.

[b] Annual fatalities for truck or rail transportation are due to mechanical impacts only and represent the predicted annual average occurrence of an accident involving a fatality over the 40-year analysis period of this environmental impact statement.

= Yellow shading indicates resource areas with increased potential for impacts compared with other alternatives.

= Mercury Storage in Existing Buildings

= Mercury Storage in New Buildings