Table 2-8. Comparison of the potential environmental impacts of the alternatives for vault solids.[a]

Factors	Continuing Storage	Processing to Metal	Processing to Oxide	Blending Down to Low Enriched Uranium	Processing and Storage for Vitrification (DWPF)	Vitrification (F-Canyon)	Improving Storage
Health effects of Normal Operations							
Radiological health effects (10-year totals):							
Population latent cancer fatalities	0.00011	0.07	0.015	NA[b]	0.07	0.12	0.00024
Worker latent cancer fatalities	0.056	0.16	0.16	NA	0.11	0.14	0.16
Health effects from facility accidents[c] (projected latent cancer fatalities)	0.31	4.1	4.5	NA	4.5	4.1	0.62
Health effects from transportation (projected latent cancer fatalities)							
Incident-free (involved worker)	0.00528	0.00742	0.00614	NA	0.00798	0.00915	0.00604
Accidents (offsite population)[d]	2.0	2.0	2.0	NA	2.0	2.0	2.0
Air resources							
Nonradiological - Nitrogen oxide incremental concentration at SRS boundary (highest annual, micrograms per cubic meter)	0.0095	0.28	0.061	NA	0.13	0.1	0.031
Water resources							
Lead (micrograms per liter) in Upper Three Runs Creek	3.1	3	6.1	NA	6.1	3	7.4
Utilities (10-year totals)							
Electricity usage (megawatt-hour)	147,220	134,048	96,085	NA	212,735	237,589	76,879
Waste management (10-year totals)							
High-level liquid waste (million liters)	0	8.2	0.03	NA	8.2	14	0
Equivalent DWPF canisters	0	60	1	NA	60	110	0
Saltstone generation (cubic meters)	0	22,000	89	NA	22,000	39,000	0
Transuranic waste generation (cubic meters)	810	520	1,300	NA	900	690	1,000
Hazardous/mixed waste generation (cubic meters)	970	480	1,400	NA	1,100	840	960
Low-level radioactive waste generation (cubic meters)	19,000	18,000	20,000	NA	19,000	16,000	23,000

a.   Includes transportation of associated radioactive waste.

b. NA = Not applicable.
c. Assumes highly unlikely occurrence of maximum consequence accident.
d. Maximum reasonably foreseeable latent cancer fatalities from medium probability accident based on the shipment of transuranic waste.