has been provided to the public, committed DOE to restoring the existing contaminated groundwater plume outside the INTEC security fence to meet the current drinking water standard of 4 millirem per year.

A performance assessment would be developed for each facility or group of facilities under consideration for disposition, to determine which of the three disposition alternatives would be implemented. The performance assessment results would be used to identify the impact on the limited cumulative risk in the INTEC area resulting from residual contamination from all facilities. For facilities where a performance assessment is not necessary, residual waste left in place would also be used to identify impacts on the limited cumulative risk in the INTEC area. All residual waste volumes and characteristics would be identified and the accumulation of retained risk tracked to ensure protection adequate for potential receptors. Table 3-3 identifies the facility disposition alternatives analyzed in this EIS for existing facilities. Only one disposition alternative would be selected for each facility. Table 3-1 identifies the major facilities that may be constructed to implement the waste processing alternatives. The analysis of disposition impacts of existing facilities and the new facilities for waste processing alternatives is presented in Section 5.3.

3.5 Summary Level Comparison of Impacts

This section ***provides a summary level comparison of*** the potential environmental impacts of implementing each of the alternatives described in Sections 3.1 and 3.2**.** The comparison of impacts is presented to aid the decisionmakers and public in understanding the potential environmental consequences of proceeding with each of the alternatives under consideration.

The following discussion is based on the detailed information presented in Chapter 5, Environmental Consequences. The environmental impact analyses present a reasonable projection of the upper bound for potential environmental consequences. Discussion of the level of conservatism and degree of uncertainty in these analyses is presented in Chapter 5. ***Table 3-2*** summarizes some of the key attributes of the ***alternatives and options. Figure 3-13 compares the timelines for each of the alternatives and options with the legal requirements timeline. Tables 3-4 and 3-5*** summarize the potential impacts of ***each alternative*** for the various environmental disciplines (see Appendix C.10 for more details).

The Minimum INEEL Processing Alternative includes impacts associated with the treatment of mixed HLW calcine at the Hanford Site. These impacts are denoted by the "at Hanford" entries in Table 3-4. This alternative also includes impacts associated with transportation of the calcine from INTEC to Hanford and transportation of the treated waste forms (vitrified mixed HLW and mixed LLW fractions from calcine) from Hanford to INEEL. Under the Full Separations Option and the Vitrification with Calcine Separations Option of the Direct Vitrification Alternative, DOE could elect to treat the separated mixed HLW fraction from calcine either at INTEC or at the Hanford Site. Impacts associated with transportation of the separated mixed HLW fraction to the Hanford Site under these options are provided in Appendix C.5 and Section 5.2.9. The impacts associated with treatment of the separated mixed HLW fraction at Hanford would be similar to those presented for the Minimum INEEL Processing Alternative, which includes both separating and treating the calcine at Hanford.

Key differences between the impacts for the alternatives and options include:

- The type and quantity of product waste varies with the combination of pretreatment (calcination, radionuclide separations) and immobilization (vitrification, cement, ceramic) technologies that are used. The Separations Alternative, the Minimum INEEL Processing Alternative (which includes separations at the Hanford Site), ***and the Vitrification with Calcine Separations Option of the Direct Vitrification Alternative*** would produce the ***fewest*** HLW canisters. The Non-Separations Alternative ***and the Vitrification without Calcine Separations Option of the Direct Vitrification Alternative*** would significantly

increase the number of HLW canisters that are produced.

- Transportation related impacts would be greatest for the Non-Separations Alternative ***and the Vitrification without Calcine Separations Option of the Direct Vitrification Alternative*** due to the high number of HLW shipments to a repository. Transportation impacts would also be higher for the Transuranic Separations Option due to the greater distances associated with transport of the low-level waste Class C-type grout to an offsite disposal facility (assumed to be located in Barnwell, South Carolina).

- The Separations Alternative and Minimum INEEL Processing Alternative could include construction of a Low-Activity Waste Disposal Facility near INTEC. Those alternatives would result in slightly greater land use and ecological impacts due to the construction of this facility on undeveloped land.

- Radiological air emissions would be highest for the Continued Current Operations Alternative, Planning Basis Option, Hot Isostatic Pressed Waste Option, and Direct Cement Waste Option as a result of operation of the New Waste Calcining Facility beyond June 2000 and management of newly generated liquid waste and Tank Farm heel waste.

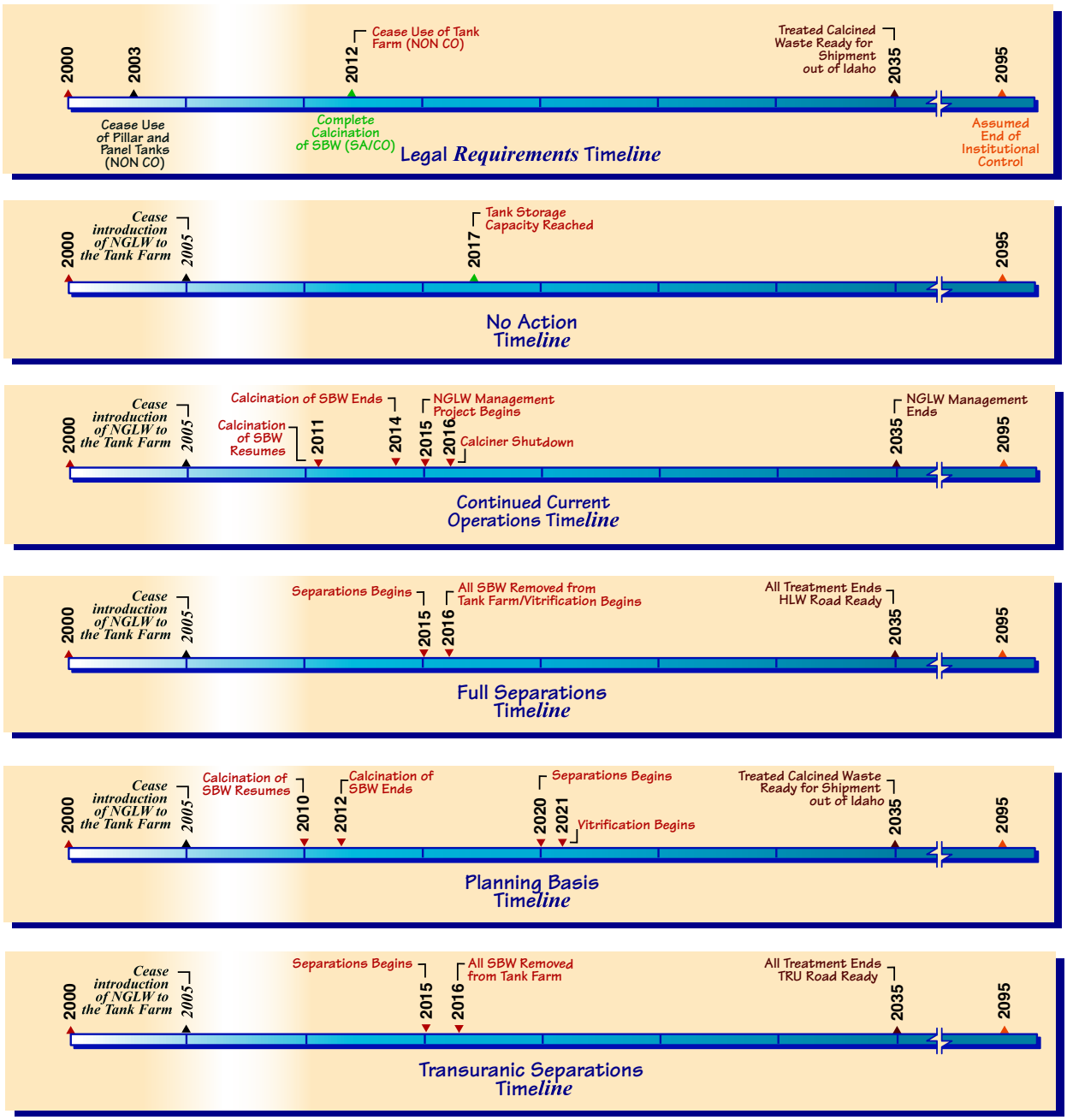
- Nonradiological air emissions would be highest for the Full Separations, Planning Basis, Hot Isostatic Pressed Waste Options ***and the Vitrification with Calcine Separations Option of the Direct Vitrification Alternative.*** These emissions would result from fossil fuel consumption to meet the energy requirements (steam) of the waste processing facilities.

- The Separations Alternative ***and the Vitrification with Calcine Separations Option of the Direct Vitrification Alternative*** would require greater construction activity. This would result in higher construction employment with corresponding health and safety impacts (lost workdays).

- Fossil fuel consumption would be highest for the Separations Alternative (Full Separations and Planning Basis Options), ***the Direct Vitrification Alternative (Vitrification with Calcine Separations Option),*** and options that use energy-intensive treatment technologies (Hot Isostatic Pressed Waste and Direct Cement Waste Options).

- Accident impacts (abnormal and design basis events) would be highest for the No Action and Continued Current Operations Alternatives. The bounding accident for those alternatives involves long-term storage of mixed HLW calcine in the bin sets. Beyond design basis event impacts would be greatest for an accident involving the vitrification processes under the Full Separations Option, the Planning Basis Option, ***and the Vitrification with Calcine Separations Option of the Direct Vitrification Alternative.***

The compliance status of the alternatives is addressed in Section 6.3 of the EIS.

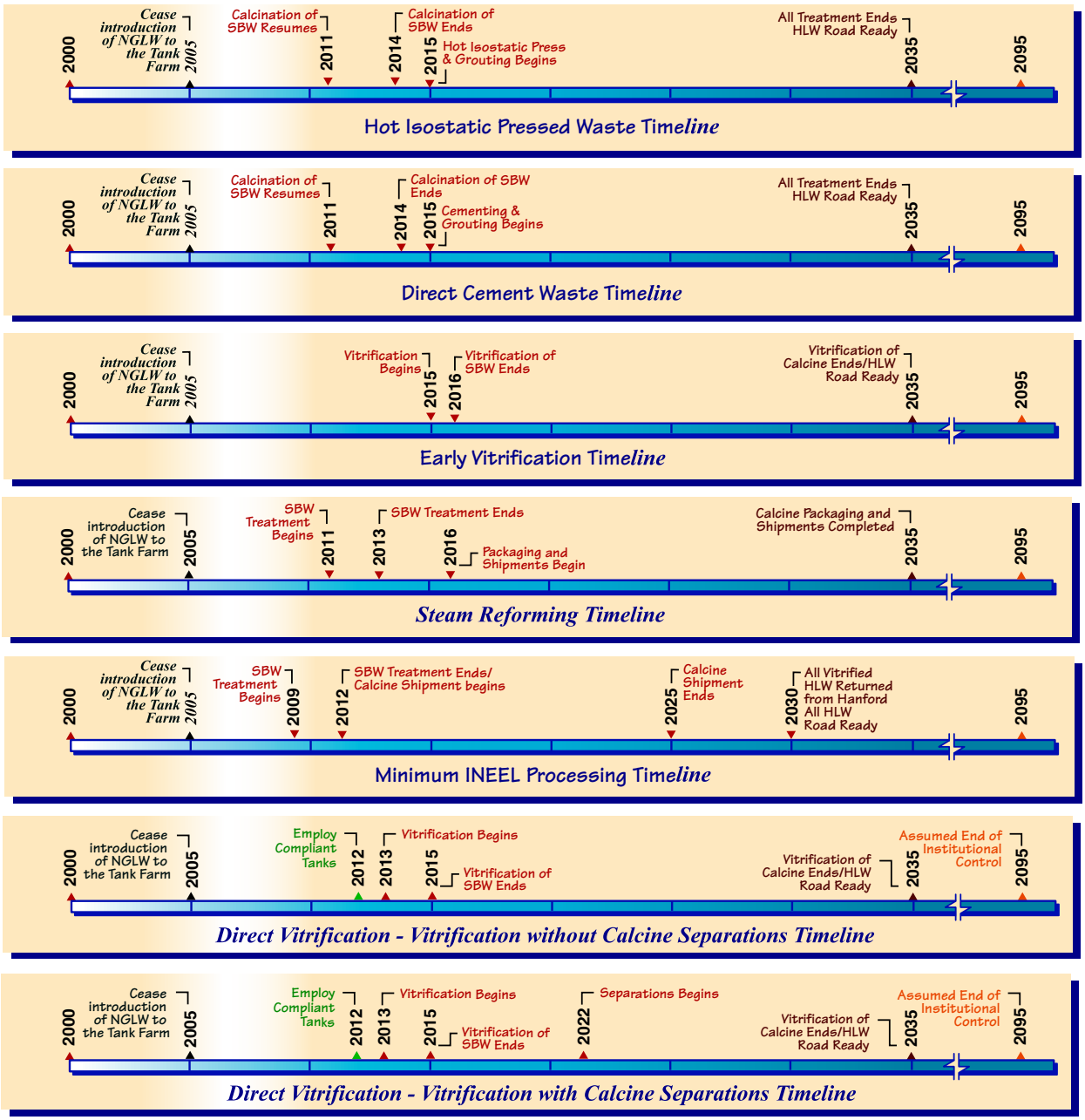


NOTE: In the event any required NEPA analysis results in the selection after October 16, 1995, of an action which conflicts with any action identified in this Agreement, DOE or the Navy may request a modification of this Agreement to confirm the action in the Agreement to that selected action. Approval of such modification shall not be unreasonably withheld.

LEGEND

SA/CO	Settlement Agreement/ Consent Order	NGLW	Newly generated liquid waste
SBW	Mixed transuranic waste/ sodium-bearing waste	NON CO	Notice of Noncompliance Consent Order
TRU	Transuranic waste		

FIGURE 3-13. (1 of 2)
Timelines



NOTE: In the event any required NEPA analysis results in the selection after October 16, 1995, of an action which conflicts with any action identified in this Agreement, DOE or the Navy may request a modification of this Agreement to confirm the action in the Agreement to that selected action. Approval of such modification shall not be unreasonably withheld.

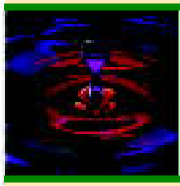
LEGEND

SA/CO	Settlement Agreement/ Consent Order	NGLW	Newly generated liquid waste
SBW	Mixed transuranic waste/ sodium-bearing waste	NON CO	Notice of Noncompliance Consent Order

FIGURE 3-13. (2 of 2)
Timelines

Land Use

					State of Idaho's Preferred Alternative
	DOE's Preferred Alternative				
No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
No land disturbed outside of INTEC boundary. No change in existing land use.	No land disturbed outside of INTEC boundary. No effects on local or regional land use or land use plans.	Minimal impact due to conversion of 22 acres of undeveloped land adjacent to INTEC to industrial use (new Low-Activity Waste Disposal Facility). No effects on local or regional land use or land use plans.	No land disturbed outside of INTEC boundary. No effects on local or regional land use or land use plans.	At INEEL - Minimal impact due to conversion of 22 acres of undeveloped land adjacent to INTEC to industrial use (new Low-Activity Waste Disposal Facility). No effects on local or regional land use or land use plans. At Hanford - Small impact due to conversion of 52 acres of undeveloped land within 200-East Area to industrial use (Canister Storage Buildings and Calcine Dissolution Facility).	*No land disturbed outside of INTEC boundary.* *No change in existing land use.*



Water Resources

A temporary increase in sediment loads in stormwater runoff would be expected as a result of limited construction activity. Impact to nearby surface waters would be negligible. There would be no routine discharge of hazardous or radioactive liquid effluents that would result in offsite radiation doses.	A temporary increase in sediment loads in stormwater runoff would be expected as a result of limited construction activity. Impact to nearby surface waters would be negligible. There would be no routine discharge of hazardous or radioactive liquid effluents that would result in offsite radiation doses.	A temporary increase in sediment loads in stormwater runoff would be expected as a result of limited construction activity. Impact to nearby surface waters would be negligible. There would be no routine discharge of hazardous or radioactive liquid effluents that would result in offsite radiation doses.	A temporary increase in sediment loads in stormwater runoff would be expected as a result of limited construction activity. Impact to nearby surface waters would be negligible. There would be no routine discharge of hazardous or radioactive liquid effluents that would result in offsite radiation doses.	At INEEL - A temporary increase in sediment loads in stormwater runoff would be expected as a result of construction activity. Impact to nearby surface waters would be negligible. There would be no routine discharge of hazardous or radioactive liquid effluents that would result in offsite radiation doses. At Hanford- Liquid effluent sent to Effluent Treatment Facility. No discharge to surface waters.	*A temporary increase in sediment loads in storm water runoff would be expected as a result of limited construction activity. Impact to nearby surface waters would be negligible.* *There would be no routine discharge of hazardous or radioactive liquid effluents that would result in offsite radiation doses.*

TABLE 3-*4*. (1 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Socioeconomics

DOE's Preferred Alternative

State of Idaho's Preferred Alternative

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
A total of 40 construction phase (20 direct and 20 indirect) jobs would be retained in the peak year (2005). A total of *220* operations phase jobs (*73* direct and *140* indirect) would be retained in peak year (2007). No impacts on community services or public finances in the region of influence.	A total of 180 construction phase (90 direct and 90 indirect) jobs would be retained in the peak year (2008). A total of *830* operations phase jobs (280 direct and *550* indirect) would be retained in peak year (2015). No significant new job growth expected in INEEL workforce because jobs would be filled by reassigned and retrained workers. No impacts on community services or public finances in the region of influence.	FS 1,700 construction phase jobs (850 direct and *830* indirect) retained in the peak year (2013). PB *1,700* construction phase jobs (870 direct and *840* indirect) retained in the peak year (2013). TS *1,300* construction phase jobs (680 direct and *650* indirect) retained in the peak year (2012). FS Total of *1,300* operations phase jobs (440 direct and *870* indirect) retained in peak year (2018). PB Total of *1,400* operations phase jobs (480 direct and *950* indirect) retained in peak year (2020). TS Total of *950* operations phase jobs (320 direct and *630* indirect) retained in peak year (2015). No significant new job growth expected in INEEL workforce under any option because jobs would be filled by reassigned and retrained workers. No impacts on community services or public finances in the region of influence.	HIP *710* construction phase jobs (360 direct and *350* indirect) retained in the peak year (2008). DC *790* construction phase jobs (400 direct and *390* indirect) retained in the peak year (2008). EV *650* construction phase jobs (330 direct and *320* indirect) retained in the peak year (2008). *SR 1,100 construction phase jobs (550 direct and 530 indirect) retained in peak year (2010).* HIP Total of *1,400* operations phase jobs (460 direct and *910* indirect) retained in peak year (2015). DC Total of *1,600* operations phase jobs (530 direct and *1,000* indirect) retained in peak year (2015). EV Total of *980* operations phase jobs (330 direct and *650* indirect) retained in peak year (2015). *SR Total of 520 operations phase jobs (170 direct and 340 indirect) retained in peak year (2012).* No significant new job growth expected in INEEL workforce under any option because jobs would be filled by reassigned and retrained workers. No impacts on community services or public finances in the region of influence.	At INEEL - *390* construction phase jobs (200 direct and *190* indirect) retained in the peak year (2008). At Hanford - *570* construction phase jobs (290 direct and *280* indirect) retained in the peak year (2024). At INEEL - Total of *980* operations phase jobs (330 direct and *650* indirect) retained in peak year *(2018)*. No significant new job growth expected in INEEL workforce because jobs would be filled by reassigned and retrained workers. No impacts on community services or public finances in the region of influence. At Hanford - Total of *2,200* operations phase jobs (740 direct and *1,500* indirect) would be created, resulting in a 10 percent increase in Hanford Site employment and less than 1 percent increase in employment in the region of influence.	*VWOCS 690 construction phase jobs (350 direct and 340 indirect) retained in the peak year (2011).* *VWCS 1,300 construction phase jobs (670 direct and 650 indirect) retained in the peak year (2019).* *VWOCS Total of 910 operations phase jobs (310 direct and 600 indirect) retained in peak year (2015).* *VWCS Total of 1,300 operations phase jobs (440 direct and 880 indirect) retained in peak year (2023).* *No significant new job growth expected in INEEL workforce under either option because jobs would be filled by reassigned and retrained workers. No impacts on community services or public finances in the region of influence.*

LEGEND

FS	Full Separations Option
PB	Planning Basis Option
TS	Transuranic Separations Option
HIP	Hot Isostatic Pressed Waste Option
DC	Direct Cement Waste Option
EV	Early Vitrification Option
SR	Steam Reforming Option
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option

TABLE 3-4. (2 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Cultural Resources

State of Idaho's Preferred Alternative

DOE's Preferred Alternative

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
No impacts to cultural resources would be expected.	*Some minor visual degradation of the cultural setting of the INEEL and adjacent lands would occur from process air emissions through 2016.*	Some minor visual degradation of the cultural setting of the INEEL and adjacent lands would occur from process air emissions through 2035. If cultural resources or human remains are uncovered during construction phase of projects, a stop-work order would be issued and the INEEL Cultural Resources Management Office, State Historic Preservation Officer, and Native American tribes would immediately be notified. Specific mitigation measures would be determined in consultation with these groups.	Some minor visual degradation of the cultural setting of the INEEL and adjacent lands would occur from process air emissions through 2035. If cultural resources or human remains are uncovered during construction phase of projects, a stop-work order would be issued and the INEEL Cultural Resources Management Office, State Historic Preservation Officer, and Native American tribes would immediately be notified. Specific mitigation measures would be determined in consultation with these groups.	At INEEL - Some minor visual degradation of the cultural setting of the INEEL and adjacent lands would occur from process air emissions through 2035. If cultural resources or human remains are uncovered during construction phase of projects, a stop-work order would be issued and the INEEL Cultural Resources Management Office, State Historic Preservation Officer and Native American tribes would immediately be notified. Specific mitigation measures would be determined in consultation with these groups. At Hanford - Several new facilities would be built within the 200-East Area of the Hanford Site. In accordance with the Hanford Cultural Resources Management Plan, DOE would identify and evaluate cultural resources associated with the project locations and mitigate possible damage to those cultural resources.	*Some minor visual degradation of the cultural setting of the INEEL and adjacent lands would occur from process air emissions through 2035.* *If cultural resources or human remains are uncovered during construction phase of projects, a stop-work order would be issued and the INEEL Cultural Resource Management Office, State Historic Preservation Officer, and Native American tribes would immediately be notified.* *Specific mitigation measures would be determined in consultation with these groups.*

TABLE 3-4. (3 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Aesthetic/Scenic Resources

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
					State of Idaho's Preferred Alternative
					DOE's Preferred Alternative
The existing INEEL visual setting would not change, nor would scenic resources be affected.	There would be negligible change in the INEEL visual setting. Scenic resources would be minimally affected.	Options under this alternative would have the highest potential for visibility degradation due to emissions of fine particulate matter and nitrogen dioxide. The Planning Basis Option presents the highest potential for impact (although its projected impacts are minimal), followed by the Full Separations and Transuranic Separations Option. Engineered air pollution control systems would likely be employed to limit impacts.	There would be negligible change in the visual setting. Scenic resources would be minimally affected.	At INEEL - There would be negligible change in the visual setting. Scenic resources would be minimally affected. At Hanford - Under certain conditions, plumes would be visible at site boundaries. Visual impacts would be minor.	*VWOCS There would be negligible change in the visual setting. Scenic resources would be minimally affected.* *VWCS Impacts would be similar to the Separations Alternative. There is potential for visibility degredation due to emissions of fine particulate matter, nitrogen dioxide, and sulfur dioxide. Engineered pollution control systems would likely be employed to limit impacts.*

Geology/Soils

Minimal impacts to geologic resources and soils from limited construction.	Minimal impacts to geologic resources and soils from limited construction.	Small potential impacts on geologic resources and soils from construction activities. DOE would employ standard soil conservation measures to limit soil loss and stabilize disturbed areas.	Small potential impacts on geologic resources and soils from construction activities. DOE would employ standard soil conservation measures to limit soil loss and stabilize disturbed areas.	At INEEL - Small potential impacts from soil erosion as a result of construction activities. DOE would employ standard soil conservation measures to limit soil loss and stabilize disturbed areas. At Hanford - Small potential for erosion as a result of construction activities.	*Small potential impacts on geologic resources and soils from construction activities.* *DOE would employ standard soil conservation measures to limit soil loss and stabilize disturbed areas.*

TABLE 3-4. (4 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Air Resources

State of Idaho's Preferred Alternative

DOE's Preferred Alternative

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
Radiation doses from emissions would be 6.0×10^{-4} millirem per year to offsite MEI; no criteria pollutant would exceed significance threshold. Maximum offsite impact of carcinogenic toxic pollutant emissions would be approximately *1.2* percent of the applicable standard.	Radiation dose from emissions would be 1.7×10^{-3} millirem per year to offsite MEI under this alternative. One criteria pollutant (SO_2) would exceed significance threshold. Maximum offsite impact of carcinogenic toxic pollutant emissions would be approximately *1.9* percent of the applicable standard.	FS Radiation dose from emissions would be 1.2×10^{-4} millirem per year to offsite MEI; two criteria pollutants (SO_2 and NO_x) would exceed significance thresholds. PB Radiation dose from emissions would be 1.8×10^{-3} millirem per year to offsite MEI; two criteria pollutants (SO_2 and NO_x) would exceed significance thresholds. TS Radiation dose from emissions would be 6.0×10^{-5} millirem per year to offsite MEI; *two* criteria *pollutants* (*SO_2 and NO_x*) *would* exceed significance thresholds. Maximum offsite impact of carcinogenic toxic pollutant emissions would be *4.5* to *10* percent of the applicable standard under the Separations Alternative.	HIP Radiation dose from emissions would be 1.8×10^{-3} millirem per year to offsite MEI, two criteria pollutants (SO_2 and NO_x) would exceed significance thresholds. DC Radiation dose from emissions would be 1.7×10^{-3} millirem per year to offsite MEI, one criteria pollutant (SO_2) would exceed significance threshold. EV Radiation dose from emissions would be 8.9×10^{-4} millirem per year to offsite MEI; *no* criteria pollutant would exceed significance threshold. *SR Radiation dose from emissions would be 6.2×10^{-4} millirem per year to offsite MEI; no criteria pollutant would exceed significance threshold.* Maximum offsite impact of carcinogenic toxic pollutant emissions would be *0.71* to *2.9* percent of the applicable standard under the Non-Separations Alternative.	At INEEL - Radiation dose from emissions would be 9.5×10^{-4} millirem per year to offsite MEI; no criteria pollutant would exceed significance threshold. Maximum offsite impact of carcinogenic toxic pollutant emissions would be *0.95* percent of applicable standard. At Hanford - Radiation dose from emissions would be low (1.7×10^{-5} millirem per year to offsite MEI); one criteria pollutant (CO) would exceed significance threshold.	*VWOCS Radiation dose from emissions would be 6.5×10^{-4} millirem per year to offsite MEI; no criteria pollutant would exceed significance threshold.* *VWCS Radiation dose from emissions would be 6.8×10^{-4} millirem per year to offsite MEI; two criteria pollutants (SO_2 and NO_x) would exceed significance thresholds.* *Maximum offsite impact of carcinogenic toxic pollutant emissions would be 1.7 to 9.5 percent of the applicable standard under the Direct Vitrification Alternative.*

LEGEND

FS	Full Separations Option
PB	Planning Basis Option
TS	Transuranic Separations Option
HIP	Hot Isostatic Pressed Waste Option
DC	Direct Cement Waste Option
EV	Early Vitrification Option
SR	Steam Reforming Option
MEI	Maximally exposed individual
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option

TABLE 3-4. (5 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Ecological Resources

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
					State of Idaho's Preferred Alternative
			DOE's Preferred Alternative		
No impacts to state or Federally-listed species or designated critical habitats are expected. Jurisdictional wetlands would not be affected. Potential exposure of plants and animals to hazardous and radiological contaminants from emissions would be small. Biotic populations and communities would not be affected.	No impacts to state or Federally-listed species or designated critical habitats are expected. Jurisdictional wetlands would not be affected. Potential exposure of plants and animals to hazardous and radiological contaminants from emissions would be small. Biotic populations and communities would not be affected.	No impacts to state or Federally-listed species or designated critical habitats are expected. Jurisdictional wetlands would not be affected. Construction of a Low-Activity Waste Disposal Facility would disturb 22 acres of undeveloped land adjacent to INTEC, but the site provides only marginal wildlife habitat. Therefore, impacts would be minimal. Potential exposure of plants and animals to hazardous and radiological contaminants from emissions would be small. Biotic populations and communities would not be affected.	No impacts to state or Federally-listed species or designated critical habitats are expected. Jurisdictional wetlands would not be affected. Potential exposure of plants and animals to hazardous and radiological contaminants from emissions would be small. Biotic populations and communities would not be affected.	At INEEL - No impacts to state or Federally-listed species or designated critical habitats are expected. Jurisdictional wetlands would not be affected. Construction of a Low-Activity Waste Disposal Facility would disturb 22 acres of undeveloped land adjacent to INTEC, but the site provides only marginal wildlife habitat. Therefore, impacts would be minimal. Potential exposure of plants and animals to hazardous and radiological contaminants from emissions would be small. Biotic populations and communities would not be significantly affected. At Hanford - New facilities could require the conversion of 52 acres of shrub-steppe habitat to industrial use. Impacts to biodiversity would be small and local in scope. There would be no impacts to wetlands or special status species.	*No impacts to state or Federally-listed species or designated critical habitats are expected.* *Jurisdictional wetlands would not be affected.* *Potential exposure of plants and animals to hazardous and radiological contaminants from emissions would be small. Biotic populations and communities would not be affected.*

TABLE 3-4. (6 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Transportation

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
					State of Idaho's Preferred Alternative
					DOE's Preferred Alternative
No offsite transportation would occur.	Incident-free impacts to public from truck shipments[a]: 0.013 LCF. Accident LCF risk for the public from truck transport: $5.7x10^{-4}$.	Incident-free impacts to public from truck shipments: 0.23 LCF (Transuranic Separations Option is highest impact option). Accident LCF risk for the public from truck transport: *0.10* (Transuranic Separations Option is highest impact option).	Incident-free impacts to public from truck shipments: *1.4* LCFs (Direct Cement Waste Option is highest impact option). Accident LCF risk for the public from truck transport: *0.039* (*Steam Reforming* Option is highest impact option).	Incident-free impacts to public from truck shipments: *1.1* LCFs. Accident LCF risk for the public from truck transport: 0.018.	*VWOCS - Incident-free impacts to public from truck shipments: 0.99 LCF.* *Accident LCF risk for the public from truck transport: $1.5x10^{-6}$.* *VWCS - Incident-free impacts to public from truck shipments: 0.12 LCF.* *Accident LCF risk for the public from truck transport: $7.9x10^{-5}$.*

LEGEND

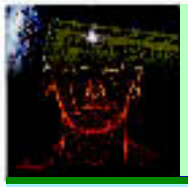
VWOCS Vitrification without Calcine Separations Option

VWCS Vitrification with Calcine Separations Option

LCF Latent cancer fatality

[a] Latent cancer fatalities for transportation by truck selected as the representative parameter for comparison of alternatives

TABLE 3-4. (7 of 14)
Summary comparison of impacts on resources from waste processing alternatives.



Health & Safety

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
					State of Idaho's Preferred Alternative
					DOE's Preferred Alternative
The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this alternative would be $7.0x10^{-4}$.	The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this alternative would be $6.0x10^{-4}$.	FS The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $7.0x10^{-5}$. PB The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $2.0x10^{-4}$. TS The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $3.8x10^{-5}$.	HIP The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $6.5x10^{-4}$. DC The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $6.5x10^{-4}$. EV The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $1.0x10^{-3}$. ***SR The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $7.0x10^{-4}$.***	At INEEL - The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $7.0x10^{-4}$. At Hanford - The estimated number of latent cancer fatalities in the population within 50 miles of *200-East and 200-West Areas* related to waste processing under this alternative would be $1.1x10^{-6}$.	***VWOCS The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $7.5x10^{-4}$.*** ***VWCS The estimated number of latent cancer fatalities in the population within 50 miles of INTEC related to waste processing under this option would be $7.5x10^{-4}$.***

LEGEND

FS	Full Separations Option
PB	Planning Basis Option
TS	Transuranic Separations Option
HIP	Hot Isostatic Pressed Waste Option
DC	Direct Cement Waste Option
EV	Early Vitrification Option
SR	Steam Reforming Option
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option

TABLE 3-4. (8 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Health & Safety

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
					State of Idaho's Preferred Alternative
					DOE's Preferred Alternative
The estimated number of latent cancer fatalities in involved workers related to waste processing under this alternative would be *0.14*.	The estimated number of latent cancer fatalities in involved workers related to waste processing under this alternative would be *0.16*.	FS The estimated number of latent cancer fatalities in involved workers related to waste processing under this option would be *0.31*. PB The estimated number of latent cancer fatalities in involved workers related to waste processing under this option would be *0.39*. TS The estimated number of latent cancer fatalities in involved workers related to waste processing under this option would be *0.27*.	HIP The estimated number of latent cancer fatalities in involved workers related to waste processing under this option would be *0.31*. DC The estimated number of latent cancer fatalities in involved workers related to waste processing under this option would be *0.43*. EV The estimated number of latent cancer fatalities in involved workers related to waste processing under this option would be *0.29*. *SR The estimated number of latent cancer fatalities in involved workers related to waste processing under this option would be 0.25.*	At INEEL - The estimated number of latent cancer fatalities in involved workers related to waste processing under this alternative would be *0.27*. At Hanford - The estimated number of latent cancer fatalities in involved workers related to waste processing under this alternative would be 0.14.	*VWOCS The estimated number of latent cancer fatalities in involved workers related to waste processing under this option would be 0.20.* *VWCS The estimated number of latent cancer fatalities in involved workers related to waste processing under this option would be 0.26.*
Total lost workdays during construction: *30*. Total recordable cases during construction: *3.9*.	Total lost workdays during construction: *110*. Total recordable cases during construction: 14.	FS Total lost workdays during construction: *$1.5x10^3$*. Total recordable cases during construction: *190*. PB Total lost workdays during construction: *$1.5x10^3$*. Total recordable cases during construction: *200*. TS Total lost workdays during construction: *$1.1x10^3$*. Total recordable cases during construction: *150*.	HIP Total lost workdays during construction: *520*. Total recordable cases during construction: *67*. DC Total lost workdays during construction: *620*. Total recordable cases during construction: *81*. EV Total lost workdays during construction: *530*. Total recordable cases during construction: *69*. *SR Total lost workdays during construction: 770. Total recordable cases during construction: 100.*	At INEEL - Total lost workdays during construction: *620*. Total recordable cases during construction: *81*. At Hanford - Total lost workdays during construction not reported. Total recordable cases during construction: *230*.	*VWOCS Total lost workdays during construction: 710. Total recordable cases during construction: 93.* *VWCS Total lost workdays during construction: $1.3x10^3$. Total recordable cases during construction: 170.*

LEGEND

FS	Full Separations Option
PB	Planning Basis Option
TS	Transuranic Separations Option
HIP	Hot Isostatic Pressed Waste Option
DC	Direct Cement Waste Option
EV	Early Vitrification Option
SR	Steam Reforming Option
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option

TABLE 3-4. (9 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Health & Safety

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	Direct Vitrification Alternative (State of Idaho's Preferred Alternative)
Total lost workdays during operations: *850.* Total recordable cases during operations: *110.*	Total lost workdays during operations: *$1.1x10^3$.* Total recordable cases during operations: *150.*	FS Total lost workdays during operations: *$3.0x10^3$.* Total recordable cases during operations: *400.* PB Total lost workdays during operations: *$3.7x10^3$.* Total recordable cases during operations: *480.* TS Total lost workdays during operations: *$2.3x10^3$.* Total recordable cases during operations: *300.*	HIP Total lost workdays during operations: *$2.5x10^3$.* Total recordable cases during operations: *320.* DC Total lost workdays during operations: *$2.9x10^3$.* Total recordable cases during operations: *370.* EV Total lost workdays during operations: *$2.5x10^3$.* Total recordable cases during operations: *330.* *SR Total lost workdays during operations: $1.4x10^3$. Total recordable cases during operations: 180.*	At INEEL - Total lost workdays during operations: *$2.0x10^3$.* Total recordable cases during operations: *270.* At Hanford - Total lost workdays during operations not reported. Total recordable cases during operations: 27.	*VWOCS Total lost workdays during operations: $1.9x10^3$. Total recordable cases during operations: 250.* *VWCS Total lost workdays during operations: $2.5x10^3$. Total recordable cases during operations: 330.*

Environmental Justice

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	Direct Vitrification Alternative (State of Idaho's Preferred Alternative)
No significant impacts to human health were identified, thus no disproportionately high and adverse impacts to minority populations or low-income populations would be expected.	No significant impacts to human health were identified, thus no disproportionately high and adverse impacts to minority populations or low-income populations would be expected.	No significant impacts to human health were identified, thus no disproportionately high and adverse impacts to minority populations or low-income populations would be expected.	No significant impacts to human health were identified, thus no disproportionately high and adverse impacts to minority populations or low-income populations would be expected.	No significant impacts to human health were identified, thus no disproportionately high and adverse impacts to minority populations or low-income populations would be expected.	*No significant impacts to human health were identified, thus no disproportionally high and adverse impacts to minority populations or low-income populations would be expected.*

LEGEND

FS	Full Separations Option	EV	Early Vitrification Option
PB	Planning Basis Option	SR	Steam Reforming Option
TS	Transuranic Separations Option	VWOCS	Vitrification without Calcine Separations Option
HIP	Hot Isostatic Pressed Waste Option	VWCS	Vitrification with Calcine Separations Option
DC	Direct Cement Waste Option		

TABLE 3-4. (10 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Utilities/Energy

State of Idaho's Preferred Alternative

DOE's Preferred Alternative

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
Operational electrical usage would increase by *14* percent relative to baseline usage. Estimated increase in annual fossil fuel use would be about 0.64 million gallons. Process water use would increase by about 3.5 percent. Sewage treatment demand would increase by approximately 2.5 percent. Existing INTEC capacity would be adequate to support increased resource demand.	Operational electrical usage would increase by 20 percent relative to baseline usage. Estimated increase in annual fossil fuel use would be about 1.9 million gallons. Process water use would increase by about 16 percent. Sewage treatment demand would increase by approximately *4.9* percent. Existing INTEC capacity would be adequate to support increased resource demand.	FS Operational electrical usage would increase by 45 percent relative to baseline usage. Estimated increase in annual fossil fuel use would be about 4.5 million gallons. Process water use would increase by about *1.3* percent. Sewage treatment demand would increase by approximately *7.3* percent. PB Operational electrical usage would increase by 57 percent relative to baseline usage. Estimated annual increase in fossil fuel use would be about 6.3 million gallons. Process water use would increase by about 17 percent. Sewage treatment demand would increase by approximately 11 percent. TS Operational electrical usage would increase by 33 percent relative to baseline usage. Estimated annual increase in fossil fuel use would be about 2.2 million gallons. Process water use would increase by about 13 percent. Sewage treatment demand would increase by approximately *5.1* percent. Existing INTEC capacity would be adequate to support increased resource demand.	HIP Operational electrical usage would increase by 38 percent relative to baseline usage. Estimated increase in annual fossil fuel use would be about 2.8 million gallons. Process water use would increase by about 22 percent. Sewage treatment demand would increase by approximately *6.9* percent. DC Operational electrical usage would increase by 32 percent relative to baseline usage. Estimated increase in annual fossil fuel use would be about 2.5 million gallons. Process water use would increase by about 16 percent. Sewage treatment demand would increase by approximately *8.7* percent. EV Operational electrical increase by 44 percent relative to baseline usage. Estimated increase in annual fossil fuel use would be about 1.1 million gallons. Process water use would increase by about *1.6* percent. Sewage treatment demand would increase by approximately *5.3* percent. *SR Operational electrical increase by 27 percent relative to baseline usage. Estimated increase in annual fossil fuel use would be about 0.40 million gallons. Process water use would increase by about 1.5 percent. Sewage treatment demand would increase by approximately 3.6 percent.* Existing INTEC capacity would be adequate to support increased resource demand.	At INEEL - Operational electrical usage would increase by 28 percent relative to baseline usage. Estimated increase in annual fossil fuel use would be about 0.49 million gallons. Process water use would increase by about *1.6* percent. Sewage treatment demand would increase by approximately *5.1* percent. Existing INTEC capacity would be adequate to support increased resource demand. At Hanford - Operational electrical usage would increase substantially but would fall short of electrical usage experienced in the 1980's. Approximately 1.3 million gallons per year of fuel oil would be required during operations, which would not affect supplies locally or regionally.	*VWOCS Operational electrical usage would increase by 44 percent relative to baseline usage. Estimated increase in annual fossil fuel use would be about 1.3 million gallons. Process water use would increase by approximately 1.6 percent. Sewage treatment demand would increase by approximately 5.3 percent.* *VWCS Operational electrical usage would increase by 59 percent relative to baseline usage. Estimated increase in annual fossil fuel use would be approximately 5.0 million gallons. Process water use would increase by approximately 2.8 percent. Sewage treatment demand would increase by approximately 8.0 percent.* *Existing INTEC capacity would be adequate to support increased resource demand.*

LEGEND

FS	Full Separations Option
PB	Planning Basis Option
TS	Transuranic Separations Option
HIP	Hot Isostatic Pressed Waste Option
DC	Direct Cement Waste Option
EV	Early Vitrification Option
SR	Steam Reforming Option
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option

TABLE 3-4. (11 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Waste & Materials

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	*Direct Vitrification Alternative*
					State of Idaho's Preferred Alternative
					DOE's Preferred Alternative
Approximately 15,000 cubic meters of industrial waste, 1,500 cubic meters of mixed LLW, and 190 cubic meters of LLW generated through year 2035. (includes construction and operations phases)	Approximately 26,000 cubic meters of industrial waste, 3,400 cubic meters of mixed LLW, and 9,500 cubic meters of LLW generated through year 2035. (includes construction and operations phases)	FS Approximately 110,000 cubic meters (maximum) of industrial waste, 7,000 cubic meters of mixed LLW, and 1,500 cubic meters of LLW generated through year 2035. PB Approximately 110,000 cubic meters (maximum) of industrial waste, 9,000 cubic meters of mixed LLW, and 10,000 cubic meters of LLW generated through year 2035. TS Approximately 82,000 cubic meters (maximum) of industrial waste, 6,400 cubic meters of mixed LLW, and 1,200 cubic meters of LLW generated through year 2035. (includes construction and operations phases)	HIP Approximately 69,000 cubic meters (maximum) of industrial waste, 7,500 cubic meters of mixed LLW, and 10,000 cubic meters of LLW generated through year 2035. DC Approximately 80,000 cubic meters (maximum) of industrial waste, 9,700 cubic meters of mixed LLW, and 10,000 cubic meters of LLW generated through year 2035. EV Approximately 65,000 cubic meters of industrial waste, 7,100 cubic meters of mixed LLW, and 1,100 cubic meters of LLW generated through year 2035. ***SR Approximately 49,000 cubic meters of industrial waste, 5,200 cubic meters of mixed LLW, and 560 cubic meters of LLW generated through year 2035.*** (includes construction and operations phases)	At INEEL - Approximately 61,000 cubic meters of industrial waste, 6,800 cubic meters of mixed LLW, and 810 cubic meters of LLW generated through the year 2035. At Hanford - Approximately 26,000 cubic meters of industrial waste, 0 cubic meters of mixed LLW, and 1,500 cubic meters of LLW generated through year 2030. (includes construction and operations phases)	***VWOCS Approximately 53,000 cubic meters of industrial waste, 7,100 cubic meters of mixed LLW, and 2,300 cubic meters of LLW generated through the year 2035.*** ***VWCS Approximately 85,000 cubic meters of industrial waste, 8,600 cubic meters of mixed LLW, and 3,000 cubic meters of LLW generated through the year 2035.*** ***(includes construction and operations phases)***

LEGEND

FS	Full Separations Option
LLW	Low-Level Waste
PB	Planning Basis Option
TS	Transuranic Separations Option
HIP	Hot Isostatic Pressed Waste Option
DC	Direct Cement Waste Option
EV	Early Vitrification Option
SR	Steam Reforming Option
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option

TABLE 3-4. (12 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Accident Analysis

State of Idaho's Preferred Alternative

DOE's Preferred Alternative

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	Direct Vitrification Alternative
Bounding[b] Abnormal Event (long-term onsite storage of calcine) - Degraded bin set fails in seismic event after 500 years[c]: MEI Dose = 8.3×10^{4} millirem, Noninvolved Worker Dose = 5.7×10^{6} millirem, Offsite Population Impacts = 270 LCFs.	Bounding Abnormal Event (long-term onsite storage of calcine) - Degraded bin set fails in seismic event after 500 years[c]: MEI Dose = 8.3×10^{4} millirem, Noninvolved Worker Dose = 5.7×10^{6} millirem, Offsite Population Impacts = 270 LCFs.	Bounding Abnormal Event (calcine retrieval and onsite transport) - Equipment failure results in release during transfer operation: MEI Dose = 40 millirem, Noninvolved Worker Dose = 2.7×10^{3} millirem, Offsite Population Impacts = 0.23 LCF.	Bounding Abnormal Event (calcine retrieval and onsite transport) - Equipment failure results in release during transfer operation: MEI Dose = 40 millirem, Noninvolved Worker Dose = 2.7×10^{3} millirem, Offsite Population Impacts = 0.23 LCF.	Bounding Abnormal Event (calcine retrieval and onsite transport) - Equipment failure results in release during transfer operation: MEI Dose = 40 millirem, Noninvolved Worker Dose = 2.7×10^{3} millirem, Offsite Population Impacts = 0.23 LCF.	Bounding Abnormal Event (calcine retrieval and onsite transport) - Equipment failure results in release during transfer operation: MEI Dose = 40 millirem, Noninvolved Worker Dose = 2.7×10^{3} millirem, Offsite population Impacts = 0.23 LCF.
Bounding Design Basis Event (onsite storage of calcine) - Flood Induced Failure of Bin Set: MEI Dose = 880 millirem, Noninvolved Worker Dose = 5.9×10^{4} millirem, Offsite Population Impacts = 29 LCFs.	Bounding Design Basis Event (onsite storage of calcine) - Flood Induced Failure of Bin Set: MEI Dose = 880 millirem, Noninvolved Worker Dose = 5.9×10^{4} millirem, Offsite Population Impacts = 29 LCFs.	Bounding Design Basis Event (short-term onsite storage of calcine) - Flood Induced Failure of Bin Set: MEI Dose = 880 millirem, Noninvolved Worker Dose = 5.9×10^{4} millirem, Offsite Population Impacts = 29 LCFs.	Bounding Design Basis Event (short-term onsite storage of calcine) - Flood Induced Failure of Bin Set: MEI Dose = 880 millirem, Noninvolved Worker Dose = 5.9×10^{4} millirem, Offsite Population Impacts = 29 LCFs.	Bounding Design Basis Event (short-term onsite storage of calcine) - Flood Induced Failure of Bin Set: MEI Dose = 880 millirem, Noninvolved Worker Dose = 5.9×10^{4} millirem, Offsite Population Impacts = 29 LCFs.	Bounding Design Basis Event (short-term onsite storage of calcine) - Flood Induced Failure of Bin Set: MEI Dose = 880 millirem, Noninvolved Worker Dose = 5.9×10^{4} millirem, Offsite Population Impacts = 29 LCFs.

LEGEND

MEI Maximally exposed individual

LCF Latent cancer fatality

[b] The term "bounding" means the accident with highest consequence for each frequency range (Abnormal Event, Design Basis Event, and Beyond Design Basis Event).

[c] The abnormal event assumes one bin set fails. Although no failure mechanism for the simultaneous failure of two bin sets has been identified, the source terms and consequences were based on two bin sets for conservatism.

TABLE 3-4. (13 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Accident Analysis

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	Direct Vitrification Alternative
		DOE's Preferred Alternative			State of Idaho's Preferred Alternative
Bounding Beyond Design Basis Event (onsite storage of calcine) - An external event causes a failure of a bin set structure: MEI Dose = 1.4×10^4 millirem, Noninvolved Worker Dose = 9.3×10^5 millirem, Offsite Population Impacts = 61 LCFs.	Bounding Beyond Design Basis Event (onsite storage of calcine) - An external event causes a failure of a bin set structure: MEI Dose = 1.4×10^4 millirem, Noninvolved Worker Dose = 9.3×10^5 millirem, Offsite Population Impacts = 61 LCFs.	FS, PB Bounding Beyond Design Basis Event (borosilicate vitrification of separated HLW) - An external event results in a release from the vitrification facility: MEI Dose = 1.7×10^4 millirem, Noninvolved Worker Dose = 1.2×10^6 millirem, Offsite Population Impacts = 76 LCFs. TS Bounding Beyond Design Basis Event (short-term onsite storage of calcine) - An external event causes a failure of a bin set structure: MEI Dose = 1.4×10^4 millirem, Noninvolved Worker Dose = 9.3×10^5 millirem, Offsite Population Impacts = 61 LCFs.	Bounding Beyond Design Basis Event (onsite storage of calcine) - An external event causes a failure of a bin set structure: MEI Dose = 1.4×10^4 millirem, Noninvolved Worker Dose = 9.3×10^5 millirem, Offsite Population Impacts = 61 LCFs.	Bounding Beyond Design Basis Event (onsite storage of calcine) - An external event causes a failure of a bin set structure: MEI Dose = 1.4×10^4 millirem, Noninvolved Worker Dose = 9.3×10^5 millirem, Offsite Population Impacts = 61 LCFs.	VWOCS Bounding Beyond Design Basis Event (short-term onsite storage of calcine) - An external event causes a failure of a bin set structure: MEI Dose = 1.4×10^4 millirem, Noninvolved Worker Dose = 9.3×10^5 millirem, Offsite Population Impacts = 61 LCFs. VWCS Bounding Beyond Design Basis Event (borosilicate vitrification of separated HLW) - An external event results in a release from the vitrification facility: MEI Dose = 1.7×10^4 millirem, Noninvolved Worker Dose = 1.2×10^6 millirem, Offsite Population Impacts = 76 LCFs.

LEGEND

FS	Full Separations Option
PB	Planning Basis Option
TS	Transuranic Separations Option
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option
MEI	Maximally exposed individual
LCF	Latent cancer fatality

TABLE 3-4. (14 of 14)
Summary comparison of impacts on resources from waste processing alternatives.

Air Resources

State of Idaho's Preferred Alternative

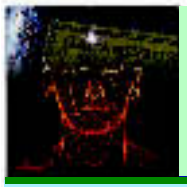
DOE's Preferred Alternative

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	Direct Vitrification Alternative
No impacts from No Action Alternative are anticipated.	RADIATION EFFECTS Radiation doses from emissions would be 1.1×10^{-10} millirem per year to offsite MEI and 4.0×10^{-9} person-rem per year to the offsite population. HAZARDOUS/CARCINOGENIC Maximum impacts of offsite carcinogenic toxic pollutant emissions are estimated to be 0.65 percent of the applicable standard.	RADIATION EFFECTS FS Radiation dose from emissions would be 3.3×10^{-10} millirem per year to offsite MEI and 1.2×10^{-8} person-rem per year to the offsite population. PB Radiation dose from emissions would be 3.9×10^{-10} millirem per year to offsite MEI and 1.4×10^{-8} person-rem per year to the offsite population. TS Radiation dose from emissions would be 4.7×10^{-10} millirem per year to offsite MEI and 1.3×10^{-8} person-rem per year to the offsite population. HAZARDOUS/CARCINOGENIC Maximum impacts of offsite carcinogenic toxic pollutant emissions are estimated to be 1.8 to 2.6 percent of the applicable standard.	RADIATION EFFECTS HIP Radiation dose from emissions would be 1.8×10^{-10} millirem per year to offsite MEI and 5.7×10^{-9} person-rem per year to the offsite population. DC Radiation dose from emissions would be 1.3×10^{-10} millirem per year to offsite MEI and 4.5×10^{-9} person-rem per year to the offsite population. EV Radiation dose from emissions would be 1.4×10^{-10} millirem per year to offsite MEI and 4.6×10^{-9} person-rem per year to the offsite population. SR Radiation dose from emissions would be 2.4×10^{-10} millirem per year to offsite MEI and 8.8×10^{-9} person-rem per year to the offsite population. HAZARDOUS/CARCINOGENIC Maximum impacts of offsite carcinogenic toxic pollutant emissions are estimated to be 0.72 to 2.1 percent of the applicable standard.	RADIATION EFFECTS At INEEL - radiation dose from emissions would be 5.6×10^{-10} millirem per year to offsite MEI and 1.6×10^{-8} person-rem per year to the offsite population. HAZARDOUS/CARCINOGENIC Maximum impacts of offsite carcinogenic toxic pollutant emissions are estimated to be 2.0 percent of the applicable standard.	RADIATION EFFECTS VWOCS Radiation dose to the offsite MEI would be 2.1×10^{-10} millirem per year. Collective population dose to the general public would be 7.0×10^{-9} person-rem per year. VWCS Radiation dose to the offsite MEI would be 3.0×10^{-10} millirem per year. Collective population dose to the general public would be 9.9×10^{-9} person-rem per year. HAZARDOUS/CARCINOGENIC Maximum impacts of offsite carcinogenic toxic pollutant emissions are estimated to be 1.6 to 2.2 percent of the applicable standard.

LEGEND

FS	Full Separations Option
PB	Planning Basis Option
TS	Transuranic Separations Option
HIP	Hot Isostatic Pressed Waste Option
DC	Direct Cement Waste Option
EV	Early Vitrification Option
SR	Steam Reforming Option
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option

TABLE 3-5. (1 of 4)
Summary comparison of impacts on resources from facility disposition.



Health & Safety

State of Idaho's **Preferred Alternative**

DOE's Preferred Alternative

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	Direct Vitrification Alternative
No impacts from No Action Alternative are anticipated.	DOSE EFFECTS Estimated radiation dose to involved workers will result in 0.017 LCF and 43 person-rem. INDUSTRIAL EFFECTS Total lost workdays: 70. Total recordable cases: 9.2.	DOSE EFFECTS Estimated radiation dose to involved workers will result in: FS 0.11 LCF and 270 person-rem. PB 0.11 LCF and 270 person-rem. TS 0.077 LCF and 190 person-rem. INDUSTRIAL EFFECTS Total lost workdays and recordable cases: FS 570 and 74, respectively. PB 570 and 74, respectively. TS 420 and 54, respectively.	DOSE EFFECTS Estimated radiation dose to involved workers will result in: HIP 0.12 LCF and 290 person-rem. DC 0.084 LCF and 210 person-rem. EV 0.068 LCF and 170 person-rem. SR 0.033 LCF and 83 person-rem. INDUSTRIAL EFFECTS Total lost workdays and recordable cases: HIP 610 and 79, respectively. DC 410 and 54, respectively. EV 510 and 67, respectively. SR 140 and 19, respectively.	DOSE EFFECTS At INEEL - Estimated radiation dose to involved workers will result in 0.055 LCF and 140 person-rem. INDUSTRIAL EFFECTS At INEEL - Total lost workdays: 350. Total recordable cases: 45.	DOSE EFFECTS Estimated radiation dose to involved workers will result in: VWOCS 0.071 LCF and 180 person-rem. VWCS 0.12 LCF and 290 person-rem. INDUSTRIAL EFFECTS VWOCS Total lost workdays: 520. Total recordable cases: 68. VWCS Total lost workdays: 610. Total recordable cases: 79.

LEGEND

FS	Full Separations Option
PB	Planning Basis Option
TS	Transuranic Separations Option
HIP	Hot Isostatic Pressed Waste Option
DC	Direct Cement Waste Option
EV	Early Vitrification Option
SR	Steam Reforming Option
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option

TABLE 3-5. (2 of 4)
Summary comparison of impacts on resources from facility disposition.

Waste & Materials

No Action Alternative	Continued Current Operations Alternative	Separations Alternative	Non-Separations Alternative	Minimum INEEL Processing Alternative	Direct Vitrification Alternative
		DOE's Preferred Alternative			*State of Idaho's Preferred Alternative*
No impacts from No Action Alternative are anticipated.	Approximately 4,800 cubic meters of industrial waste, 11 cubic meters of mixed low-level waste, and 5,600 cubic meters of low-level waste are generated.	FS Approximately 70,000 cubic meters of industrial waste, 900 cubic meters of mixed low-level waste, and 68,000 cubic meters of low-level waste are generated. PB Approximately 72,000 cubic meters of industrial waste, 480 cubic meters of mixed low-level waste, and 73,000 cubic meters of low-level waste are generated. TS Approximately 44,000 cubic meters of industrial waste, 710 cubic meters of mixed low-level waste, and 44,000 cubic meters of low-level waste are generated.	HIP Approximately 68,000 cubic meters of industrial waste, 340 cubic meters of mixed low-level waste, and 50,000 cubic meters of low-level waste are generated. DC Approximately 95,000 cubic meters of industrial waste, 350 cubic meters of mixed low-level waste, and 49,000 cubic meters of low-level waste are generated. EV Approximately 80,000 cubic meters of industrial waste, 480 cubic meters of mixed low-level waste, and 41,000 cubic meters of low-level waste are generated. SR Approximately 18,000 cubic meters of industrial water, 69 cubic meters of mixed low-level waste, and 15,000 cubic meters of low-level waste are generated.	At INEEL - Approximately 28,000 cubic meters of industrial waste, 140 cubic meters of mixed low-level waste, and 15,000 cubic meters of low-level waste are generated.	VWOCS Approximately 81,000 cubic meters of industrial waste, 530 cubic meters of mixed low-level waste, and 41,000 cubic meters of low-level waste are generated. VWCS Approximately 77,000 cubic meters of industrial waste, 900 cubic meters of mixed low-level waste, and 80,000 cubic meters of low-level waste are generated.

LEGEND

FS	Full Separations Option
PB	Planning Basis Option
TS	Transuranic Separations Option
HIP	Hot Isostatic Pressed Waste Option
DC	Direct Cement Waste Option
EV	Early Vitrification Option
SR	Steam Reforming Option
VWOCS	Vitrification without Calcine Separations Option
VWCS	Vitrification with Calcine Separations Option

TABLE 3-5. (3 of 4)
Summary comparison of impacts on resources from facility disposition.

Accident Analysis

No Action Alternative	Preferred Alternative: Clean Closure	Preferred Alternative: Performance-Based Closure	Preferred Alternative: Closure to Landfill Stadards
There are no anticipated accidents.	Approximately 1,100 injuries/illnesses and 2.4 fatalities are calculated.	Approximately 280 injuries/illnesses and 0.64 fatalities are calculated.	Approximately 210 injuries/illnesses and 0.48 fatalities are calculated.

TABLE 3-5. (4 of 4)
Summary comparison of impacts on resources from facility disposition.