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West Valley Demonstration Project Waste Management Environmental Impact Statement

Supplement Analysis

Revised Final

U.S. Department of Energy
West Valley Demonstration Project
West Valley, New York

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List of Acronyms and Abbreviations

CFMT	Concentrator Feed Makeup Tank
CFR	Code of Federal Regulations
CH-TRU	contact-handled transuranic
DOE	U.S. Department of Energy
EIS	environmental impact statement
HLW	high-level radioactive waste
LCF	latent cancer fatality
LLW	low-level radioactive waste
MFHT	Makeup Feed Hold Tank
MLLW	mixed low-level waste
mrem	millirem
NRC	Nuclear Regulatory Commission
NTS	Nevada Test Site
RH-TRU	remote-handled transuranic
RHWF	Remote-Handled Waste Facility
SA	supplement analysis
TRU	transuranic
WCS	Waste Control Specialists, LLC
WIPP	Waste Isolation Pilot Plant
WM	waste management
WVDP	West Valley Demonstration Project

West Valley Demonstration Project Waste Management Environmental Impact Statement – Supplement Analysis

1.0 Purpose and Need for Agency Action

The Department of Energy's (DOE) West Valley Demonstration Project (WVDP) prepared a final waste management environmental impact statement (WVDP WM EIS) that examined the potential environmental impacts associated with the proposed shipment of radioactive wastes that were either in storage or would be generated over a 10-year period (DOE 2003). Since the EIS was issued, new information has become available regarding the volume and type of low-level radioactive waste (LLW), and DOE now proposes to use additional disposal locations for LLW waste for which the transportation impacts were not analyzed in the WVDP WM EIS. DOE has prepared this Supplement Analysis (SA) to determine whether the new information should be considered a substantial change to the proposal or significant new circumstances or information relevant to environmental concerns (Title 10 Code of Federal Regulations [CFR] 1021.314) such that a supplement to the WVDP WM EIS would be needed.

2.0 Proposed Actions

DOE proposes to ship equipment and components from the Vitrification Facility, such as the glass melter, Concentrator Feed Makeup Tank (CFMT), and Makeup Feed Hold Tank (MFHT), as LLW to one of the DOE LLW disposal sites analyzed in the WVDP WM EIS that can accept Class C LLW (the Hanford Site[1] or Nevada Test Site [NTS]), or to one of two commercial disposal sites (at Barnwell, South Carolina, or at Andrews, Texas). Although LLW from the Vitrification Facility was included within the LLW inventory analyzed in the WVDP WM EIS, the specific impacts of transporting the glass melter, CFMT, MFHT, and other waste from the Vitrification Plant (for example, jumpers, pipes, tanks, and debris) were not individually identified. In addition, the impacts of transporting these components to commercial disposal sites in South Carolina or Texas were not analyzed in the EIS.

In addition, DOE anticipates that as WVDP operations proceed, the volume of Class A, B, and C LLW to be shipped offsite for disposal may increase above that which was analyzed in the WVDP WM EIS. Some of the additional waste would be mixed low-level waste (MLLW) that would be packaged and shipped in the same type of containers and in the same manner as LLW. The additional waste volume would result from additional decontamination and decommissioning activities at facilities such as the Process Building to be undertaken at the WVDP site.

The SA describes the potential human health (worker and public) impacts and transportation impacts associated with the shipment of the glass melter, CFMT, and MFHT. The SA also examines the potential impacts of shipping an additional volume of LLW (including MLLW) and compares those with the impacts described in the WVDP WM EIS. Further, the methods and

[1] In accordance with the settlement agreement between DOE and the State of Washington of January 6, 2006, regarding the case *Washington v. Bodman*, DOE will not ship LLW and mixed LLW from WVDP to Hanford until DOE has satisfied the requirements of the settlement agreement.

results of analysis for determining the potential environmental impacts of LLW transportation on public highways and rail systems are contained in a technical report that accompanies this SA (DOE 2005).

3.0 Waste Type Definitions

The following definitions are relevant to this SA:

- **LLW** is defined as radioactive material that (a) is not high-level waste (HLW), spent nuclear fuel, transuranic (TRU) waste, or by product material as defined in the Atomic Energy Act; and (b) the Nuclear Regulatory Commission (NRC) classifies as LLW.
    - ***Class A LLW*** is waste that is usually segregated from other waste classes at the disposal site. The physical form and characteristics of Class A LLW must meet the minimum requirements set forth in 10 CFR 61.56(a). If Class A waste also meets the stability requirements set forth in 61.56(b), it is not necessary to segregate the waste.
    - ***Class B LLW*** refers to waste that must meet more rigorous requirements on waste form to ensure stability after disposal. The physical form and characteristics of Class B waste must meet both the minimum and stability requirements set forth in 10 CFR 61.56.
    - ***Class C LLW*** refers to waste that not only must meet more rigorous requirements on waste form to ensure stability but also requires additional measures at the disposal facility to protect against inadvertent intrusion. The physical form and characteristics of Class C waste must meet both the minimum and stability requirements set forth in 10 CFR 61.56.
- **MLLW** contains hazardous components regulated under the Resource Conservation and Recovery Act and radioactive components regulated under the Atomic Energy Act.
- **TRU waste** is currently defined by NRC and DOE as waste containing more than 100 nanocuries of alpha-emitting isotopes, with half-lives greater than 20 years, per gram of waste. However, the West Valley Demonstration Project Act defined TRU waste as "material contaminated with radioactive elements that have an atomic number greater than 92, including neptunium, plutonium, americium, and curium, and that are in concentrations greater than 10 nanocuries per gram, or in such other concentrations as the [NRC] may prescribe to protect the public health and safety."
- **HLW** is defined in the West Valley Demonstration Project Act as the high-level waste that was produced by the reprocessing of spent nuclear fuel at the Center. The term includes both liquid wastes that are produced directly in reprocessing dry solid material derived from such liquid waste and such other material as the NRC designates as high level radioactive waste for purposes of protecting health and safety.

- **Waste Incidental to Reprocessing** refers to a process for identifying wastes that might be considered HLW due to their origin, but may be managed as LLW or TRU waste if the requirements pertaining to waste incidental to reprocessing are met.

- The **glass melter**, **CFMT**, and **MFHT** were located in the Vitrification Plant at the WVDP site. During the vitrification process, liquid HLW was retrieved from underground waste tanks, pumped to the Vitrification Facility, and concentrated in the CFMT where glass-forming chemicals were added. The condensed mixture was pumped from the CFMT to the MFHT and then to the glass melter. In the glass melter, the waste was superheated and poured into stainless steel canisters to cool.

4.0 Existing NEPA Analysis

The WVDP WM EIS analyzed the potential environmental impacts associated with three alternatives for the continued onsite waste management and shipment of LLW, TRU waste, and HLW to offsite disposal. With respect to LLW, under the *No Action Alternative, Continuation of Ongoing Waste Management Activities*, waste management would include continued storage of existing Class B and Class C LLW. Limited amounts of Class A LLW would be shipped to offsite disposal and the remainder would be stored onsite. Under this alternative, DOE would continue to ship Class A LLW to Hanford, NTS, or Envirocare – the commercial disposal site in Clive, Utah.

Under Alternative A (*Offsite Shipment of HLW, LLW, Mixed LLW, and TRU Wastes to Disposal*) and Alternative B (*Offsite Shipment of LLW and Mixed LLW to Disposal, and Shipment of HLW and TRU Waste to Interim Storage*), DOE would ship Class A, B, and C LLW and MLLW to the same locations as under the No Action Alternative (that is, Class A LLW and MLLW to Hanford, NTS, or Envirocare and Class B and C LLW to Hanford or NTS).[2] The waste volumes evaluated in the EIS include those wastes that are either currently in storage or that would be generated over the next 10 years from ongoing operations and decontamination activities.[3] DOE identified Alternative A as the preferred alternative.

5.0 New Information

Vitrification Facility Components. Although LLW from the Vitrification Facility was included within the LLW inventory analyzed in the WVDP WM EIS, the impacts of transporting the glass

[2] The management of TRU waste and HLW varies between Alternatives A and B in the WVDP WM EIS. The new information DOE considered in this SA involves only LLW and MLLW. As stated above, the waste volumes and potential disposal locations analyzed for LLW and MLLW were the same for Alternatives A and B. The *Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement* (DOE 2004) assumed, for purposes of analysis, that that 11,297 cubic meters (398,954 cubic feet) of LLW and 26 cubic meters (918 cubic feet) of MLLW would come from WVDP. The Record of Decision issued for the Hanford EIS (69 Fed. Reg. 39449 (2004)) set near-term and long-term limits on how much LLW and MLLW could be sent to Hanford collectively from all sites, but did not set any limits on how much LLW or MLLW could be sent from individual sites.

[3] As stated in the WVDP WM EIS, the waste volumes analyzed in that document were based on current waste volume and future projections. These volumes were then escalated by about 10 percent to account for uncertainties is future waste projections, packaging efficiency, and the choice of shipping container. For purposes of analysis in this SA, the waste volumes analyzed in the WVDP WM EIS were again escalated to account for additional LLW that is or could be generated as a result of additional decontamination and decommissioning activities.

melter, CFMT, MFHT, and other waste from the Vitrification Plant (for example, jumpers, pipes, tanks, and debris) were not specifically identified. In addition, DOE has determined that this LLW from the Vitrification Facility could be transported to commercial disposal sites in South Carolina or Texas for disposal; transportation to these destinations was not analyzed in the WVDP WM EIS.

Increased LLW Volume. DOE believes that the volume of LLW generated as a result of ongoing WVDP operations could be higher than that analyzed in the WVDP WM EIS. The increased volume would occur as a result of additional decontamination activities at the Process Building that were not contemplated at the time the WVDP WM EIS was prepared. For that reason, DOE anticipates that the volume of Class A, B, and C LLW (including MLLW) that will need to be shipped offsite for disposal will increase by approximately 22 percent above that which was analyzed in the WVDP WM EIS.

Revisions to Transportation Routing. Since the final WVDP WM EIS was published, DOE has developed new truck routing to avoid the Las Vegas metropolitan area. This routing is slightly different than that used for the transportation analysis in the WVDP WM EIS. In addition, the rail network routing has changed since the WVDP WM EIS was issued.

Figure 1 shows the potential disposal sites for the glass melter, CFMT, MFHT, and other waste from the Vitrification Plant, and the increased volume of LLW.

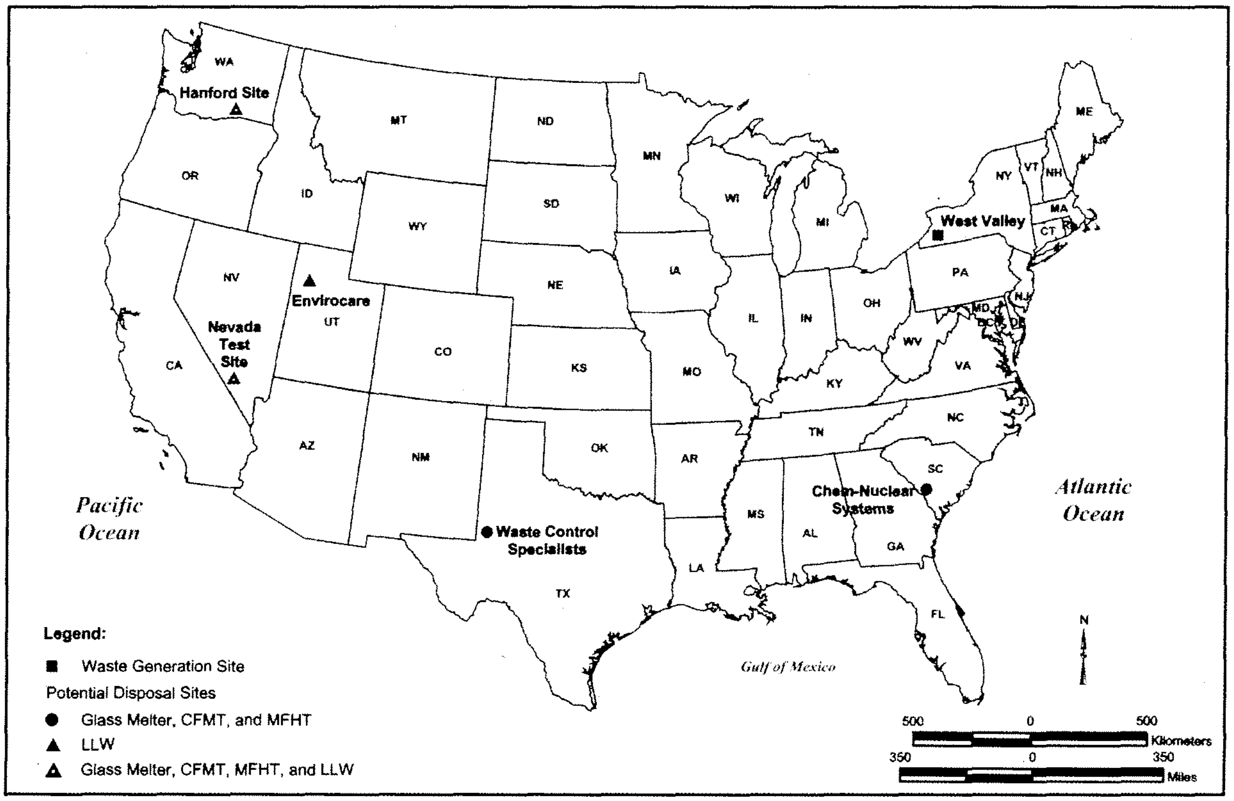

Figure 1. Potential Disposal Sites for the Glass Melter, CFMT, MFHT, and Increased Volumes of LLW

6.0 *Is a Supplemental EIS Needed?*

The discussion below provides information regarding the specific impacts of transporting the glass melter, CFMT, and MFHT to commercial disposal sites at Barnwell, South Carolina, and Andrews, Texas. The analysis shows such impacts would be quite small.

This SA also analyzes the potential impacts of transporting an increased volume of LLW to Hanford, NTS, and Envirocare, and compares those impacts to the impacts described in the WVDP WM EIS. Potential human health impacts are also described. The potential impacts of loading and transporting a slightly larger volume of LLW than was analyzed in the WVDP WM EIS would also be very small.

6.1 Glass Melter, CFMT, and MFHT

During the 6-year operation of the glass melter at the WVDP, liquid HLW was retrieved from underground waste tanks, pumped to the Vitrification Facility, and concentrated in the CFMT where glass-forming chemicals were added. The condensed mixture was pumped from the CFMT to the MFHT and then to the glass melter. In the glass melter, the waste was superheated and poured into stainless steel canisters to cool.[4]

In September 2002 the glass melter was shut down, and in-cell dismantlement activities began in October 2003. Dismantlement activities involved the removal of highly contaminated equipment, such as the slurry feed preparation equipment (CFMT, MFHT, slurry samplers, and feed pump), the canister processing equipment (glass melter, turntable, weld station, and decontamination station), and the off-gas processing equipment (high-efficiency mist eliminators, preheaters, and high-efficiency particulate air filters). These components are all classified as Class C LLW (WMG 2004a [glass melter] and WMG 2004b [CFMT and MFHT]). Through process knowledge and calculations, DOE has determined that these wastes do not contain hazardous wastes and thus are not mixed waste to which the requirements of the Resource Conservation and Recovery Act would apply (WVNSCO 2004a [glass melter] and WVNSCO 2004b [CFMT and MFHT]).

In 2004, the glass melter, CFMT, and MFHT were removed from the Vitrification Facility and packaged in specially designed, shielded containers. The CFMT and MFHT containers were then filled with grout to provide additional shielding and to prevent internal movement of the components; the glass melter will be grouted prior to shipment. The loaded packages containing the melter, CFMT, and MFHT weigh between 100 and 175 tons each. They are currently staged onsite (behind the security fence, near the railroad and adjacent to the NRC-Licensed Disposal Area) awaiting shipment from WVDP. Because of their size, these components will be transported primarily by rail, with transportation by heavy-haul truck from the nearest rail head to the disposal site.

[4] During the vitrification process, 275 canisters were filled with the radioactive glass. These canisters are currently in storage at the WVDP, pending transfer to an offsite storage location or disposal in a geologic repository. The environmental impacts of the management, including onsite and offsite storage and transportation, of these 275 high-level radioactive waste canisters were described in the WVDP WM EIS.

Although the glass melter, CFMT, and MFHT were used in the reprocessing of HLW, DOE believes that these components are "waste incidental to reprocessing" that can be managed as LLW. DOE classifies radioactive waste in accordance with DOE Order 435.1, *Radioactive Waste Management*. In DOE's Order, "waste incidental to reprocessing" refers to a process for identifying wastes that might be considered HLW due to their origin, but may be managed as LLW or TRU waste if the requirements pertaining to waste incidental to reprocessing are met. For the glass melter, CFMT, and MFHT, DOE has established that these criteria can be met through analysis and plans to ship these components offsite for disposal as LLW.[5] Any other waste analyzed in the WVDP WM EIS that would be determined to be non-HLW using this same process would be shipped to the appropriate disposal location as analyzed in the WVDP WM EIS.

Impacts of Continued Onsite Storage. The glass melter, CFMT, and MFHT are currently in storage at the WVDP site. As noted above, these components are packaged in specially designed, shielded containers, and the CFMT and MFHT are grouted in concrete. The glass melter will be grouted prior to shipment. The shipping package was designed with openings (currently sealed) to allow placement of grout without opening the package so no repackaging will be required. For this reason, DOE does not expect that any atmospheric radioactive emissions could emanate from this waste. Similarly, it is unlikely that continued onsite storage could result in any waterborne releases during the time the waste is in storage pending shipment to disposal. Thus, no public human health effects in the United State or in Canada are anticipated as a result of the continued storage of the glass melter, CFMT, or MFHT.

Impacts of Loading the Glass Melter, CFMT, and MFHT. Radiation doses for workers performing periodic surveys and other activities in waste storage areas were included in the uninvolved worker radiation doses reported in the WVDP WM EIS. The radiation dose to workers who might be near the glass melter, CFMT, and MFHT during periodic surveys and other activities would be a small fraction of these radiation doses (see Table 1).

Table 1 shows the potential radiation doses to involved and noninvolved workers under Alternative A (all waste types), and the potential radiation doses to workers involved with the loading of the glass melter, CFMT, and MFHT on a rail car in preparation for shipping to a disposal site. For loading the glass melter, CFMT, and MFHT, the total collective radiation dose is estimated to be about 0.066 person-rem and the total individual dose is estimated to be 11 millirem (mrem). This radiation dose is well below the limit in 10 CFR Part 835 of 5 rem (5,000 mrem) per year and the WVDP administrative control level of 500 mrem per year, and would result in less than 1 (5.5×10^{-6}) latent cancer fatality, or a chance of about 1 in 180,000. The radiation dose from the glass melter, CFMT, and MFHT would be a very small percentage of the total dose to involved and noninvolved workers that was described in the WVDP WM EIS (DOE 2003, Table 4-7).

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[5] At this point, DOE intends to prepare draft waste incidental to reprocessing (WIR) determinations in accordance with DOE Order 435.1 for the components of the Vitrification Facility included in this SA, as those components have been in direct proximity to HLW in the vitrification process and require a WIRdetermination to be classified as LLW or another waste type. DOE intends to issue the draft WIR determination for publication in the *Federal Register* for a 45-day comment period. In the same timeframe, DOE will forward the draft WIR determination to the Nuclear Regulatory Commission for their review in accordance with their responsibilities under the West Valley Demonstration Project Act. At such time as their review is completed, DOE may issue a final WIR determination.

Tables 2 and 3 show the radiological consequences of accidents using 50-percent and 95-percent atmospheric conditions. The accidents evaluated involved dropping the melter, the CFMT, or the MFHT while loading them onto a rail car in preparation for shipping to a disposal site.

Table 1. Radiation Doses for Involved and Noninvolved Workers Under Alternative A, Including the Glass Melter, CFMT, and MFHT

Worker Population	Activity	Time Period (years)	Collective Dose: Annual (person-rem/yr)	Collective Dose: Total (person-rem)	Latent Cancer Fatalities: Annual	Latent Cancer Fatalities: Total
Involved workers[a]	Alternative A activities	10	6.1	61	3.1×10^{-3}	0.031
Melter	Loading melter	N/A (one time)	0.018	0.018	9.0×10^{-6}	9.0×10^{-6}
CFMT	Loading CFMT	N/A (one time)	0.024	0.024	1.2×10^{-5}	1.2×10^{-5}
MFHT	Loading MFHT	N/A (one time)	0.024	0.024	1.2×10^{-5}	1.2×10^{-5}
Totals for loading melter, CFMT, and MFHT			0.066	0.066	3.3×10^{-5}	3.3×10^{-5}
Noninvolved workers[b]	Ongoing operations of WVDP[b]	10	15	150	7.5×10^{-3}	0.075
All workers - Total		10	21	210	0.011	0.11

Worker Population	Activity	Time Period (years)	Individual Dose: Annual (mrem/yr)	Individual Dose: Total (mrem)	Latent Cancer Fatalities: Annual	Latent Cancer Fatalities: Total
Involved workers[a]	Alternative A activities	10	260	2,600	1.3×10^{-4}	1.3×10^{-3}
Melter	Loading melter	N/A	3.0	3.0	1.5×10^{-6}	1.5×10^{-6}
CFMT	Loading CFMT	N/A	4.0	4.0	2.0×10^{-6}	2.0×10^{-6}
MFHT	Loading MFHT	N/A	4.0	4.0	2.0×10^{-6}	2.0×10^{-6}
Totals for loading melter, CFMT, and MFHT			11	11	5.5×10^{-6}	5.5×10^{-6}
Noninvolved workers[b]	Ongoing operations of WVDP[b]	10	59	590	3.0×10^{-5}	3.0×10^{-4}

Alternative A data are from WVDP WM EIS (DOE 2003, Table 4-7).

a. Involved workers would be those individuals that actively participate in Alternative A.

b. Noninvolved workers would be those individuals that would be onsite but would not actively participate in Alternative A.

Table 2. Radiological Consequences of Accidents Using 50-Percent Atmospheric Conditions

Accident	Frequency (per year)	Worker Radiation Dose (rem)	Worker Latent Cancer Fatality	Maximally Exposed Individual Radiation Dose (rem)	Maximally Exposed Individual Latent Cancer Fatality	Population[a] Radiation Dose (person-rem)	Population[a] Latent Cancer Fatality
Alt A – RHWF[b] fire	$10^{-4} - 10^{-6}$	0.13	6.5×10^{-5}	0.044	2.6×10^{-5}	140	0.084
Glass melter drop accident	$10^{-4} - 10^{-6}$	1.3×10^{-5}	6.5×10^{-9}	4.5×10^{-6}	2.7×10^{-9}	0.014	8.4×10^{-6}
CFMT[c] drop accident	$10^{-4} - 10^{-6}$	1.2×10^{-7}	6.0×10^{-11}	4.1×10^{-8}	2.5×10^{-11}	1.3×10^{-4}	7.8×10^{-8}
MFHT[d] drop accident	$10^{-4} - 10^{-6}$	2.0×10^{-7}	1.0×10^{-10}	6.9×10^{-8}	4.1×10^{-11}	2.1×10^{-4}	1.3×10^{-7}

a. Collective dose to the 1.5 million people living within 80 kilometers (50 miles) of the WVDP site.
b. RHWF = Remote-Handled Waste Facility. From WVDP WM EIS (DOE 2003, Table 4-9).
c. CFMT = Concentrator Feed Makeup Tank.
d. MFHT = Makeup Feed Hold Tank.

Table 3. Radiological Consequences of Accidents Using 95-Percent Atmospheric Conditions

Accident	Frequency (per year)	Worker Radiation Dose (rem)	Worker Latent Cancer Fatality	Maximally Exposed Individual Radiation Dose (rem)	Maximally Exposed Individual Latent Cancer Fatality	Population[a] Radiation Dose (person-rem)	Population[a] Latent Cancer Fatality
Alt A – RHWF[b] fire	$10^{-4} - 10^{-6}$	1.3	6.5×10^{-4}	0.47	2.8×10^{-4}	2,100	1.3
Glass melter drop accident	$10^{-4} - 10^{-6}$	1.3×10^{-4}	6.5×10^{-8}	4.9×10^{-5}	2.9×10^{-8}	2.2×10^{-1}	1.3×10^{-4}
CFMT[c] drop accident	$10^{-4} - 10^{-6}$	1.2×10^{-6}	6.0×10^{-10}	4.4×10^{-7}	2.6×10^{-10}	2.0×10^{-3}	1.2×10^{-6}
MFHT[d] drop accident	$10^{-4} - 10^{-6}$	2.0×10^{-6}	1.0×10^{-9}	7.4×10^{-7}	4.4×10^{-10}	3.3×10^{-3}	2.0×10^{-6}

a. Collective dose to the 1.5 million people living within 80 kilometers (50 miles) of the WVDP site.
b. RHWF = Remote-Handled Waste Facility. From WVDP WM EIS (DOE 2003, Table 4-10).
c. CFMT = Concentrator Feed Makeup Tank.
d. MFHT = Makeup Feed Hold Tank.

The frequency of these accidents was estimated to be in the range of 10^{-4} to 10^{-6}. For 50-percent atmospheric conditions, the drop accident involving the melter yielded the largest consequences. For a worker located onsite, this accident could result in a radiation dose of 1.3×10^{-5} rem. This accident could result in a radiation dose of 4.5×10^{-6} rem to the maximally exposed individual living near the WVDP site. For the population living within 80 kilometers (50 miles) of the site, this accident could result in a radiation dose of 0.014 person-rem; this is equivalent to a probability of a latent cancer fatality of 8.4×10^{-6}. Using 95-percent atmospheric conditions, this accident could result in a probability of a latent cancer fatality of 1.3×10^{-4} for the population living within 80 kilometers (50 miles) of the WVDP site. Tables 2 and 3 also present the consequences for the accident evaluated for Alternative A in the EIS that would have the highest consequences, a fire in the Remote-Handled Waste Facility. The consequences of the accidents involving the melter, the CFMT, or the MFHT would be much less than the consequences of the fire in the Remote-Handled Waste Facility.

Transportation of the Glass Melter, CFMT, and MFHT. The glass melter, CFMT, and MFHT would be shipped by rail to DOE sites in Washington (Hanford) or Nevada (NTS) or to commercial facilities in Barnwell, South Carolina (Chem-Nuclear Systems, L.L.C.) or Andrews, Texas (Waste Control Specialists, L.L.C. [WCS]).[6] The impacts of transporting these components to Barnwell or Andrews were not analyzed in the WVDP WM EIS, and therefore are analyzed in this SA.

Table 4 shows the impacts associated with the transportation of the glass melter, CFMT, and MFHT. Transportation of the waste to the commercial Chem-Nuclear and WCS disposal sites are included. The WVDP WM EIS states that less than 1 rail fatality (0.60 – 0.68) would be expected as a result of transportation of all waste types under Alternative A (DOE 2003, Table 4-12). The contribution of the glass melter, CFMT, and MFHT to those impacts is 4.9×10^{-4} to 6.3×10^{-4}.

Table 4. Rail Transportation Impacts of Shipping the Glass Melter, CFMT, and MFHT

Waste Type	Destination	Incident-Free Public (LCFs)	Incident-Free Worker (LCFs)	Radiological Accident Risk (LCFs)	Pollution Health Effects (Fatalities)	Traffic Fatalities	Total Fatalities
Glass Melter	Hanford Site[a]	5.0×10^{-6}	4.1×10^{-6}	2.8×10^{-7}	3.6×10^{-5}	1.5×10^{-4}	1.9×10^{-4}
	NTS	6.8×10^{-6}	5.7×10^{-6}	2.6×10^{-7}	3.5×10^{-5}	1.5×10^{-4}	2.0×10^{-4}
	Chem-Nuclear	3.3×10^{-6}	3.2×10^{-6}	1.3×10^{-7}	2.3×10^{-5}	1.3×10^{-4}	1.6×10^{-4}
	WCS	4.7×10^{-6}	3.7×10^{-6}	2.1×10^{-7}	3.4×10^{-5}	1.7×10^{-4}	2.1×10^{-4}
CFMT	Hanford Site[a]	6.6×10^{-6}	5.5×10^{-6}	5.7×10^{-9}	3.6×10^{-5}	1.5×10^{-4}	2.0×10^{-4}
	NTS	9.1×10^{-6}	6.9×10^{-6}	5.2×10^{-9}	3.5×10^{-5}	1.5×10^{-4}	2.0×10^{-4}
	Chem-Nuclear	4.3×10^{-6}	4.2×10^{-6}	2.6×10^{-9}	2.3×10^{-5}	1.3×10^{-4}	1.6×10^{-4}
	WCS	6.2×10^{-6}	5.0×10^{-6}	4.3×10^{-9}	3.4×10^{-5}	1.7×10^{-4}	2.1×10^{-4}
MFHT	Hanford Site[a]	6.6×10^{-6}	5.5×10^{-6}	6.2×10^{-9}	3.6×10^{-5}	1.5×10^{-4}	2.0×10^{-4}
	NTS	9.1×10^{-6}	7.2×10^{-6}	5.6×10^{-9}	3.5×10^{-5}	1.5×10^{-4}	2.0×10^{-4}
	Chem-Nuclear	4.3×10^{-6}	4.2×10^{-6}	2.8×10^{-9}	2.3×10^{-5}	1.3×10^{-4}	1.6×10^{-4}
	WCS	6.2×10^{-6}	5.0×10^{-6}	4.7×10^{-9}	3.4×10^{-5}	1.7×10^{-4}	2.1×10^{-4}
							Total Rail Fatalities: 4.9×10^{-4} to 6.3×10^{-4}

Acronyms: LCFs = latent cancer fatalities; CH-TRU = contact-handled transuranic waste; RH-TRU = remote-handled transuranic waste; MLLW = mixed low-level waste; HLW = high-level radioactive waste; NTS = Nevada Test Site; WIPP = Waste Isolation Pilot Plant; CFMT = Concentrator Feed Makeup Tank; MFHT = Makeup Feed Hold Tank. The range of total fatalities is based on the minimum and maximum total fatalities for each waste type.

a. In accordance with the settlement agreement between DOE and the State of Washington of January 6, 2006, regarding the case *Washington v. Bodman*, DOE will not ship LLW and mixed LLW from WVDP to Hanford until DOE has satisfied the requirements of the settlement agreement.

Offsite Impacts. The glass melter, CFMT, and MFHT would be shipped to either Hanford, NTS, Chem-Nuclear, or WCS. Impacts of disposal of LLW were addressed in the WVDP WM EIS (Section 4.4.4). If all three of these components were sent to one of these sites, the probability that a worker or the maximally exposed individual member of the public would incur a latent cancer fatality would be a very small percentage of that described in the WVDP WM EIS for all LLW disposal (ranging from 3.2×10^{-2} to 3.6×10^{-2} for a worker and between 5.1×10^{-5} and 2.1×10^{-15} for the maximally exposed individual member of the public).

[6] The glass melter, CFMT, and MFHT would also need to meet the disposal facility's Waste Acceptance Criteria and the requirements of DOE Order 435.1 prior to shipment. However, no additional waste handling or packaging would be required.

Additional Disposal Sites. The potential impacts of the disposal of the glass melter, CFMT, and MFHT at either of these commercial facilities is not analyzed, and is assumed to be in accordance with a state-issued facility license as well as the site's disposal practices. Chem-Nuclear Systems, L.L.C., a wholly-owned subsidiary of Duratek, Inc., operates a commercial LLW disposal facility located on 235 acres in Barnwell County, South Carolina, approximately 5 miles northwest of Barnwell, South Carolina. Chem-Nuclear is authorized by the State of South Carolina to accept Class A, B, and C LLW. At the Chem-Nuclear Systems site, LLW containers are placed in concrete vaults located in engineered earthen trenches (disposal cells) excavated up to 30 feet below grade. Each trench includes a drainage collection system sloping toward a French drain that leads to a sump. Standpipes allow monitoring of rainwater should it enter the trench. A sand layer covers the bottom of the trench. Technicians at the disposal site place the waste containers in concrete vaults. When a vault is full, its concrete lid is put in place; additional vaults may be placed on top until the vaults are stacked up to three high. Vaults provide long-term structural stability for the completed trench. Backfill around and over the filled concrete vaults consists of sand and soil. Finally, an engineered cap consisting of multiple layers of sand, clay, high-density polyethylene, and topsoil covers the trench area. Shallow rooted grasses planted on top of the cap control erosion. This cap serves as a barrier to help isolate the trench from rainwater infiltration.

WCS is a Texas-based firm that operates a hazardous and radioactive waste management facility in Andrews County, Texas. At that facility, WCS manages (treats, stores, and repackages) Class C radioactive wastes and has applied for a license to operate a LLW disposal cell at that location. The existing waste management facility is approximately 10 kilometers (6 miles) east of Eunice, New Mexico, and 48 kilometers (30 miles) west of Andrews, Texas, at the border with Lea County, New Mexico (WCS 2005). Most of the WCS property is in Andrews County, though approximately 518 hectares (1,280 acres, or 2 square miles) of property is in Lea County. Overall, the facility property occupies 6,216 hectares (15,360 acres, or 24 square miles).

At WCS, the Vitrification Facility equipment and components waste would be disposed of in a separate Federal Waste Facility that would be constructed. Surface drainage controls would direct water away from disposal units. Waste disposal depth would be approximately 10 meters (35 feet); containerized waste would be placed a minimum of 5 meters (16.4 feet) below final grade. Initially, federal waste disposal capacity cannot exceed 3 million cubic yards (2.3 million cubic meters); lifetime federal waste disposal cannot exceed 6 million cubic yards (4.6 million cubic meters). Containerized Class A, B, and C waste would be placed within a reinforced concrete containment. Disposal units within the facility would be incrementally excavated and utilized as waste was received and would be capped with a final cover system as a progressive closure during operations. The cover design would minimize the infiltration of waster into the waste cell.

6.2 Increased LLW Volumes

As shown in Table 5, DOE analyzed 19,200 cubic meters (685,515 cubic feet) of LLW and 221 cubic meters (7,889 cubic feet) of MLLW in the WVDP WM EIS (DOE 2003). This waste volume would require 1,966 truck or 608 rail shipments for LLW and 14 truck or 7 rail shipments for MLLW.

Table 5. Waste Volumes, Containers, and Shipments for Alternative A (Preferred)

Waste Type	Totals		
	Volume (cubic feet)[a]	Containers	Alternative A Shipments
LLW			
Class A, boxes	351,586	4,341	311 (truck) 156 (rail)
Class A, drums	83,014	12,058	144 (truck) 72 (rail)
Class B, high-integrity containers	38,500	428	428 (truck) 107 (rail)
Class B, drums	194	29	1 (truck) 1 (rail)
Class C, high-integrity containers	12,618	141	141 (truck) 36 (rail)
Class C, 55-gallon drums	6,198	901	91 (truck) 23 (rail)
Class C, 71-gallon drums[b]	193,405	20,377	850 (truck) 213 (rail)
Total LLW	685,515	38,275	1,966 (truck) 608 (rail)
MLLW			
Class A, drums	7,889	1,146	14 (truck) 7 (rail)

a. To convert cubic feet to cubic meters, multiply by 0.028.
b. Includes 500 71-gallon drums of sodium-bearing waste.

Source: WVDP WM EIS (DOE 2003, Table 2-3).

Transportation Impacts. Table 6 shows the volume, number of containers, and shipments for the increased volumes of LLW over the volumes, number of containers, and shipments analyzed in the WVDP WM EIS. Class A LLW would increase by approximately 18 percent, Class B LLW would increase by approximately 62 percent, and Class C LLW would increase by approximately 3 percent.[7] MLLW would increase by approximately 275 percent. Overall, LLW (including MLLW) would increase by approximately 22 percent.

Table 7 shows the potential impacts of shipping all waste types under Alternative A (Table 7 is derived from Table 4-12 in the WVDP WM EIS [DOE 2003]). Table 8 shows the potential increases in transportation impacts as a result of the increase in LLW volumes. The transportation impacts for the increased LLW volumes were derived using updated truck and rail routing, as described in Section 5.0. Table 8 shows the potential transportation impacts from LLW and MLLW alone, and the cumulative impacts of the transportation of all waste types from the WVDP site to disposal locations.

[7] Some of the Class C LLW analyzed in the WVDP WM EIS is waste that is contained in 71-gallon grouted drums and stored in the Radwaste Treatment System Drum Cell (5,415 cubic meters [193,405 cubic feet]). This waste was produced by the Cement Solidification System, and no additional waste of this type will be generated at WVDP. Further, the WVDP WM EIS assumed that 500 71-gallon drums were sodium-bearing Class C LLW (DOE 2003, Appendix D, Section D.4). No additional sodium-bearing waste will be generated at WVDP. For this reason, the Class C LLW in 71-gallon drums will not increase.

Table 6. Total Increased LLW Waste Volumes, Containers, and Shipments

Waste Type	Totals		
	Volume (cubic feet)[a]	**Containers**	**Shipments**
LLW			
Class A, boxes	421,903	5,209	373 (Truck) 187 (Rail)
Class A, drums	99,617	14,469	173 (Truck) 87 (Rail)
Class B, high-integrity containers	77,000	856	856 (Truck) 214 (Rail)
Class B, drums	389	57	1 (Truck) 1 (Rail)
Class C, high-integrity containers	18,927	211	211 (Truck) 53 (Rail)
Class C, 55-gallon drums	9,298	1,351	136 (Truck) 34 (Rail)
Class C, 71-gallon drums	193,405	20,377	850 (Truck) 213 (Rail)
Total LLW	**820,539**	**42,530**	**2,600 (Truck)** **789 (Rail)**
MLLW			
Class A, drums	23,666	3,438	42 (Truck) 22 (Rail)

a. To convert cubic feet to cubic meters, multiply by 0.028.

For Alternative A analyzed in the WVDP WM EIS, the total truck fatalities ranged from 0.79 to 0.82 and the total rail fatalities ranged from 0.60 to 0.68. If the volume of LLW is escalated by approximately 22 percent, the total truck fatalities would range from 1.0 - 1.1 and the total rail fatalities would range from 0.75 to 0.89. The potential environmental impacts of the transportation of an increased volume of LLW would be small, and not substantially higher than that anticipated for the volume of waste analyzed in the WVDP WM EIS.

Table 9 compares the potential truck and rail fatalities under Alternative A with those from increases in LLW volumes.

Human Health Impacts. As described in the WVDP WM EIS (Section 4.4.1), workers could be exposed to small quantities of radioactive material as a result of loading of LLW for transportation. Table 10 shows the estimated radiation doses for involved and noninvolved workers as a result of loading approximately 22 percent more LLW than was analyzed in the WVDP WM EIS. Doses to workers would be very small and no latent cancer fatalities (0.039 for involved workers and 0.075 for noninvolved workers) would be expected to occur as a result of those doses.

Table 7. Transportation Impacts Under Alternative A (Analyzed in WVDP WM EIS)

Waste Type	Destination	Incident-Free Public (LCFs)	Incident-Free Worker (LCFs)	Radiological Accident Risk (LCFs)	Pollution Health Effects (Fatalities)	Traffic Fatalities	Total Fatalities
Truck							
Class A LLW	Envirocare	0.025	0.031	1.4×10^{-4}	5.7×10^{-3}	0.030	0.092
	Hanford Site[a]	0.030	0.037	1.5×10^{-4}	6.3×10^{-3}	0.038	0.11
	NTS	0.031	0.036	1.7×10^{-4}	7.6×10^{-3}	0.036	0.11
Class B LLW	Hanford Site[a]	1.4×10^{-3}	0.028	0.065	5.9×10^{-3}	0.035	0.13
	NTS	1.6×10^{-3}	0.029	0.062	7.1×10^{-3}	0.034	0.13
Class C LLW	Hanford Site[a]	0.087	0.20	5.5×10^{-7}	0.018	0.11	0.41
	NTS	0.089	0.19	6.5×10^{-7}	0.022	0.10	0.41
MLLW	Envirocare	7.7×10^{-4}	9.5×10^{-4}	1.0×10^{-5}	1.8×10^{-4}	9.2×10^{-4}	2.8×10^{-3}
	Hanford Site[a]	9.2×10^{-4}	1.1×10^{-3}	1.1×10^{-5}	1.9×10^{-4}	1.2×10^{-3}	3.4×10^{-3}
	NTS	9.5×10^{-4}	1.1×10^{-3}	1.3×10^{-5}	2.3×10^{-4}	1.1×10^{-3}	3.4×10^{-3}
Subtotal LLW Truck Fatalities: 0.63 – 0.66							
CH-TRU	WIPP	8.3×10^{-3}	0.010	7.5×10^{-4}	2.3×10^{-3}	0.012	0.033
RH-TRU	WIPP	6.5×10^{-3}	0.013	7.5×10^{-9}	2.2×10^{-3}	0.011	0.033
HLW	Repository	0.020	0.044	9.8×10^{-7}	5.8×10^{-3}	0.024	0.094
Total Truck Fatalities: 0.79 – 0.82							
Rail							
Class A LLW	Envirocare	0.044	0.033	5.3×10^{-4}	8.0×10^{-3}	0.026	0.11
	Hanford Site[a]	0.045	0.035	5.8×10^{-4}	8.2×10^{-3}	0.034	0.12
	NTS	0.046	0.044	5.3×10^{-4}	8.1×10^{-3}	0.033	0.13
Class B LLW	Hanford Site[a]	0.042	0.033	3.4×10^{-6}	3.9×10^{-3}	0.016	0.095
	NTS	0.043	0.045	3.1×10^{-6}	3.8×10^{-3}	0.017	0.11
Class C LLW	Hanford Site[a]	0.13	0.10	1.2×10^{-6}	0.012	0.049	0.29
	NTS	0.13	0.14	1.1×10^{-6}	0.012	0.053	0.34
MLLW	Envirocare	1.3×10^{-3}	1.0×10^{-3}	4.1×10^{-5}	2.4×10^{-4}	8.1×10^{-4}	3.4×10^{-3}
	Hanford Site[a]	1.4×10^{-3}	1.1×10^{-3}	4.5×10^{-5}	2.5×10^{-4}	1.0×10^{-3}	3.8×10^{-3}
	NTS	1.4×10^{-3}	1.3×10^{-3}	4.1×10^{-5}	2.5×10^{-4}	1.0×10^{-3}	4.0×10^{-3}
Subtotal LLW Rail Fatalities: 0.50 – 0.58							
CH-TRU	WIPP	8.3×10^{-3}	8.1×10^{-3}	2.0×10^{-4}	3.4×10^{-3}	0.018	0.038
RH-TRU	WIPP	6.6×10^{-3}	6.4×10^{-3}	2.4×10^{-8}	8.0×10^{-4}	4.2×10^{-3}	0.018
HLW	Repository	7.6×10^{-3}	0.014	3.0×10^{-7}	4.2×10^{-3}	0.019	0.045
Total Rail Fatalities: 0.60 – 0.68							

Source: Derived from WVDP WM EIS Table 4-12.

Acronyms: LCFs = latent cancer fatalities; CH-TRU = contact-handled transuranic waste; RH-TRU = remote-handled transuranic waste; MLLW = mixed low-level waste; HLW = high-level radioactive waste; NTS = Nevada Test Site; WIPP = Waste Isolation Pilot Plant. The range of total fatalities is based on the minimum and maximum total fatalities for each waste type.

a. In accordance with the settlement agreement between DOE and the State of Washington of January 6, 2006, regarding the case *Washington v. Bodman*, DOE will not ship LLW and mixed LLW from WVDP to Hanford until DOE has satisfied the requirements of the settlement agreement.

Table 8. Transportation Impacts Under Alternative A with Increased LLW Volumes

Waste Type	Destination	Incident-Free Public (LCFs)	Incident-Free Worker (LCFs)	Radiological Accident Risk (LCFs)	Pollution Health Effects (Fatalities)	Traffic Fatalities	Total Fatalities
Truck							
Class A LLW	Envirocare	3.0×10^{-2}	3.7×10^{-2}	1.6×10^{-4}	$6.9 \times 10^{-}$	3.6×10^{-2}	1.1×10^{-1}
	Hanford Site[a]	3.6×10^{-2}	4.4×10^{-2}	1.7×10^{-4}	7.5×10^{-3}	4.5×10^{-2}	1.3×10^{-1}
	NTS	3.5×10^{-2}	4.4×10^{-2}	1.6×10^{-4}	7.0×10^{-3}	4.2×10^{-2}	1.3×10^{-1}
Class B LLW	Hanford Site[a]	5.6×10^{-2}	1.3×10^{-1}	8.3×10^{-7}	1.2×10^{-2}	7.1×10^{-2}	2.7×10^{-1}
	NTS	5.4×10^{-2}	1.3×10^{-1}	7.8×10^{-7}	1.1×10^{-2}	6.6×10^{-2}	2.6×10^{-1}
Class C LLW	Hanford Site[a]	1.0×10^{-1}	2.3×10^{-1}	5.4×10^{-7}	2.1×10^{-2}	1.3×10^{-1}	4.8×10^{-1}
	NTS	9.8×10^{-2}	2.3×10^{-1}	5.0×10^{-7}	2.0×10^{-2}	1.2×10^{-1}	4.7×10^{-1}
MLLW	Envirocare	2.3×10^{-3}	2.9×10^{-3}	3.1×10^{-5}	5.3×10^{-4}	2.8×10^{-3}	8.5×10^{-3}
	Hanford Site[a]	2.8×10^{-3}	3.4×10^{-3}	3.4×10^{-5}	5.8×10^{-4}	3.5×10^{-3}	1.0×10^{-2}
	NTS	2.7×10^{-3}	3.4×10^{-3}	3.2×10^{-5}	5.4×10^{-4}	3.2×10^{-3}	9.9×10^{-3}
Subtotal LLW Truck Fatalities: 0.85 to 0.90							
CH-TRU	WIPP	8.3×10^{-3}	1.0×10^{-2}	7.5×10^{-4}	2.3×10^{-3}	1.2×10^{-2}	3.3×10^{-2}
RH-TRU	WIPP	6.5×10^{-3}	1.3×10^{-2}	7.5×10^{-9}	2.2×10^{-3}	1.1×10^{-2}	3.3×10^{-2}
HLW	Repository	2.0×10^{-2}	4.4×10^{-2}	9.7×10^{-7}	5.8×10^{-3}	2.4×10^{-2}	9.4×10^{-2}
Total Truck Fatalities: 1.0 to 1.1							
Rail							
Class A LLW	Envirocare	5.0×10^{-2}	3.9×10^{-2}	6.3×10^{-4}	9.6×10^{-3}	3.1×10^{-2}	1.3×10^{-1}
	Hanford Site[a]	5.1×10^{-2}	4.2×10^{-2}	7.0×10^{-4}	9.9×10^{-3}	4.0×10^{-2}	1.4×10^{-1}
	NTS	5.4×10^{-2}	5.8×10^{-2}	6.4×10^{-4}	9.7×10^{-3}	4.0×10^{-2}	1.6×10^{-1}
Class B LLW	Hanford Site[a]	7.9×10^{-2}	6.6×10^{-2}	3.5×10^{-6}	7.7×10^{-3}	3.2×10^{-2}	1.8×10^{-1}
	NTS	8.4×10^{-2}	9.9×10^{-2}	3.2×10^{-6}	7.6×10^{-3}	3.4×10^{-2}	2.2×10^{-1}
Class C LLW	Hanford Site[a]	1.4×10^{-1}	1.2×10^{-1}	1.2×10^{-6}	1.4×10^{-2}	5.7×10^{-2}	3.3×10^{-1}
	NTS	1.5×10^{-1}	1.8×10^{-1}	1.1×10^{-6}	1.4×10^{-2}	6.2×10^{-2}	4.1×10^{-1}
MLLW	Envirocare	4.0×10^{-3}	3.1×10^{-3}	1.3×10^{-4}	7.7×10^{-4}	2.5×10^{-3}	1.0×10^{-2}
	Hanford Site[a]	4.1×10^{-3}	3.4×10^{-3}	1.4×10^{-4}	7.9×10^{-4}	3.2×10^{-3}	1.2×10^{-2}
	NTS	4.3×10^{-3}	4.6×10^{-3}	1.3×10^{-4}	7.8×10^{-4}	3.2×10^{-3}	1.3×10^{-2}
Subtotal LLW Rail Fatalities: 0.65 to 0.79							
CH-TRU	WIPP	8.3×10^{-3}	8.1×10^{-3}	2.0×10^{-4}	3.4×10^{-3}	1.8×10^{-2}	3.8×10^{-2}
RH-TRU	WIPP	6.6×10^{-3}	6.4×10^{-3}	2.4×10^{-8}	8.0×10^{-4}	4.2×10^{-3}	1.8×10^{-2}
HLW	Repository	7.7×10^{-3}	1.4×10^{-2}	3.0×10^{-7}	4.2×10^{-3}	2.0×10^{-2}	4.6×10^{-2}
Total Rail Fatalities: 0.75 to 0.89							

Acronyms: LCFs = latent cancer fatalities; CH-TRU = contact-handled transuranic waste; RH-TRU = remote-handled transuranic waste; MLLW = mixed low-level waste; HLW = high-level radioactive waste; NTS = Nevada Test Site; WIPP = Waste Isolation Pilot Plant. The range of total fatalities is based on the minimum and maximum total fatalities for each waste type.

a. In accordance with the settlement agreement between DOE and the State of Washington of January 6, 2006, regarding the case *Washington v. Bodman*, DOE will not ship LLW and mixed LLW from WVDP to Hanford until DOE has satisfied the requirements of the settlement agreement.

Table 9. Potential Truck and Rail Fatalities with Increased LLW Volumes

	Total Truck Fatalities	Total Rail Fatalities
Alternative A	0.79 – 0.82	0.60 – 0.68
Alternative A, plus approximately 22 % increase in LLW volume	1.0 - 1.1	0.75 - 0.89

Source: Tables 7 and 8.

Table 10. Radiation Doses for Involved and Noninvolved Workers Under Alternative A, with Increased LLW Volumes

Worker Population	Activity	Time Period (years)	Collective Dose: Annual (person-rem/yr)	Collective Dose: Total (person-rem)	Latent Cancer Fatalities: Annual	Latent Cancer Fatalities: Total
Involved workers[a]	Alternative A activities (22% increase in LLW)	10	7.7	77	3.9×10^{-3}	0.039
Noninvolved workers[b]	Ongoing operations of WVDP[b]	10	15	150	7.5×10^{-3}	0.075
All workers	Total	10	23	230	0.011	0.11

Worker Population	Activity	Time Period (years)	Individual Dose: Annual (mrem/yr)	Individual Dose: Total (mrem)	Latent Cancer Fatalities: Annual	Latent Cancer Fatalities: Total
Involved workers[a]	Alternative A activities (22% increase in LLW)	10	320	3200	1.6×10^{-4}	1.6×10^{-3}
Noninvolved workers[b]	Ongoing operations of WVDP[b]	10	59	590	3.0×10^{-5}	3.0×10^{-4}

a. Involved workers would be those individuals that actively participate in Alternative A. These workers include those handling LLW, MLLW, TRU, and HLW.

b. Noninvolved workers would be those individuals that would be onsite but would not actively participate in Alternative A.

As stated in the WVDP WM EIS (Section 4.4.1), radiation doses to the public would be similar to the radiation doses for ongoing operations at the WVDP. As shown in Table 6, the largest increase in LLW to be shipped offsite for disposal would be for MLLW, which would approximately triple in volume. Even if radiation doses to the public were tripled as a result of the increase in the MLLW volume (a highly conservative assumption because the volume of Class A, Class B, and Class C LLW, TRU waste, and HLW would not triple), the probability of a latent cancer fatality to the maximally exposed individual or the population around the WVDP site would still be very small (tripled, the probability of a latent cancer fatality from all pathways would be 1.1 x 10^{-6} for the maximally exposed individual or 4.5 x 10^{-3} for the population around the WVDP site [WVDP WM EIS, Table 4-8]). Dose estimates for the affected Canadian population were not included but would also be very small because of the distance of this population from the WVDP site and the prevailing southwesterly wind direction.

7.0 Conclusion

The potential impacts of loading and transporting the glass melter, CFMT, and MFHT to one of three possible disposal sites are a very small fraction of the total impacts of transporting waste under Alternative A as described in the WVDP WM EIS. There would be negligible impacts to involved and noninvolved workers and to the general public, including the Canadian population.

The potential impacts of loading and transporting an approximately 22-percent increase in the volume of LLW analyzed in the WVDP WM EIS would also be very small. There would be negligible impacts to involved and noninvolved workers and to the general public, including the Canadian population.

8.0 Determination

Based on the analyses discussed in this SA, DOE has determined that the proposed actions described in Section 2.0 are not a substantial change to the proposal analyzed in the WVDP WM EIS that is relevant to environmental concerns. Further, there are no significant new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts. Therefore, a supplement to the WVDP WM EIS is not needed within the meaning of 40 CFR 1502.9 and 10 CFR 1021.314.

Approved in Cincinnati, OH on this 7TH day of JUNE, 2006.

W.J. Taylor

William J. Taylor
Acting Manager, Ohio Field Office

9.0 References

DOE Order 435.1, *Radioactive Waste Management*, July 9, 1999.

DOE (U.S. Department of Energy), 2003. *West Valley Demonstration Project Waste Management Environmental Impact Statement*, final, DOE/EIS-0337F, prepared by U.S. Department of Energy, West Valley Area Office, West Valley, New York, December 2003.

DOE (U.S. Department of Energy), 2005. *West Valley Demonstration Project Environmental Impact Statement Supplement Analysis Technical Report*, DOE/EIS-0337-SA-01, prepared by U.S. Department of Energy, West Valley Area Office, West Valley, New York, December 2005.

WCS (Waste Control Specialists), 2005. *Application For License to Authorize Near-Surface Land Disposal of Low-Level Radioactive Waste*, administratively complete on February 18, 2005; accessible at http://64.224.191.188/wcs/.

WMG (Waste Management Group, Inc.), 2004a. *Approval Request No. 4005-1, WMG Report 4005-RE-024, Revision 1, West Valley Nuclear Services Company Melter Characterization Results dated March 2004*, Peekskill, New York, March 24, 2004.

WMG (Waste Management Group, Inc.), 2004b. *Approval Request No. 4005-8, Final "Characterization and Classification of West Valley CFMHT and MFHT" Calc. No. 4005-CA-041, Rev 2,* Peekskill, New York, September 1, 2004.

WVNSCO (West Valley Nuclear Services Company), 2004a. *RCRA Characterization for the West Valley Nuclear Services Company (WVNSCO) Vitrification Melter*, Memorandum to L. E. Rowell (Memorandum No. LA:2004:0008), West Valley, New York, April 15, 2004.

WVNSCO (West Valley Nuclear Services Company), 2004b. *Revised Resource Conservation and Recovery Action (RCRA) Technical Basis Document (TBD) for WVDP000000007*, Memorandum to File WV-DEPO (Memorandum No. CF:2004:0036), West Valley, New York, September 7, 2004.