3.0 Description and Comparison of Alternatives

This section describes the alternatives for storage, treatment, and disposal that are analyzed in this revised draft of the Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement (HSW EIS) as well as alternatives eliminated from detailed analysis. As required by the Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) of 1969 (40 CFR 1500-1508), a No Action Alternative is also included.

The waste streams and facilities that are considered in this EIS were identified and described in Sections 2.1 and 2.2. Section 3.1 describes the alternatives and the development and selection of alternative groups that are analyzed in detail. Section 3.2 identifies alternatives that were not analyzed in detail. The three waste volumes, Hanford Only, Lower Bound and Upper Bound are presented as alternative waste volume scenarios in Section 3.3. A comparison of the environmental impacts associated with each of the alternative groups is contained in Section 3.4. The major uncertainties in the EIS analysis are identified in Section 3.5. A summary of the estimated costs for the alternative groups is included in Section 3.6. The U.S. Department of Energy (DOE) preferred alternative is discussed in Section 3.7. Detailed descriptions of alternatives, assumptions, waste volumes, and waste stream flowsheets are provided in Appendixes B and C. The Section 2 and the Technical Information Document (TID) prepared by Fluor Hanford, Inc. (FH 2003) to support this EIS should be reviewed when additional information on a facility or waste stream is desired.

3.1 Alternatives Considered in Detail and Their Development

The CEQ regulations direct all federal agencies to use the NEPA process to identify and assess the reasonable alternatives to proposed actions that would avoid or minimize adverse effects of the proposed action on the quality of the human environment. Related CEQ guidance in 46 FR 18026 (Forty Most Asked Questions) states that "When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS." In considering the alternatives for this EIS it was quickly recognized that there is a very large number of combinations of the various waste streams, potential waste volumes and individual options for storage, treatment, and disposal. Therefore, the alternatives developed for this EIS were selected to represent the full spectrum of reasonable alternatives.

The individual alternatives for the proposed actions are shown in Figure 3.1. The alternatives are first subdivided into three types of action (storage, treatment, and disposal), then further subdivided into specific alternatives for each of the waste types (LLW, MLLW, TRU waste, ILAW, and melters) as appropriate. It should be noted that no storage or treatment alternatives are shown for ILAW and melters because those activities have been, or are being, evaluated in separate NEPA reviews (DOE and Ecology 1996; 68 FR 1052). Also, no disposal alternatives are shown for TRU waste because DOE previously decided to dispose of TRU waste at the Waste Isolation Pilot Plant (WIPP, DOE 1997a). WIPP alternatives and activities are also not within the scope of this EIS. Disposal alternatives for each of the waste

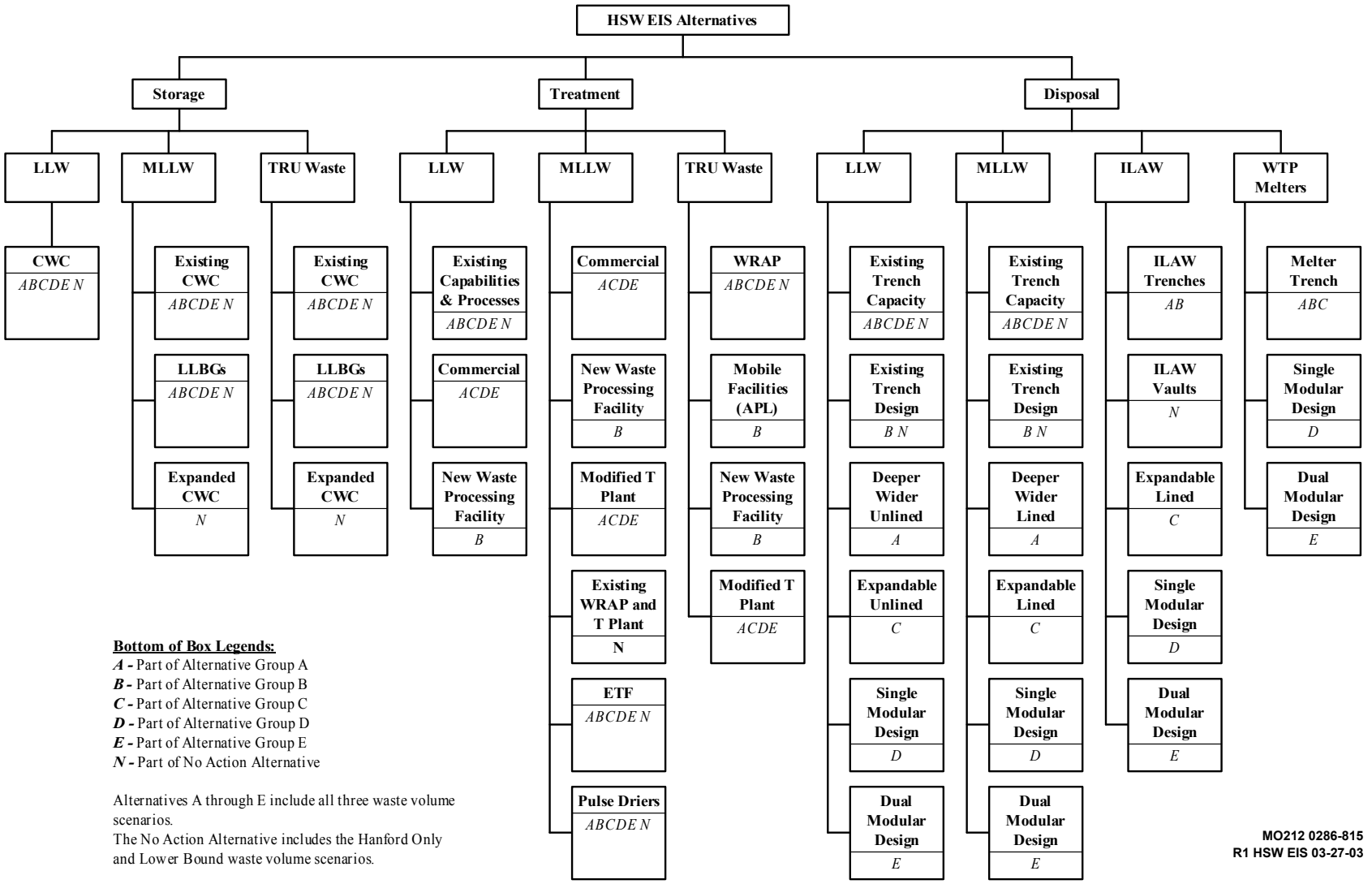

Figure 3.1. Options for HSW EIS Alternatives

types consider both independent disposal facilities for a single waste type as well as modular combined-use disposal facilities that would contain either two or four of the waste types.

It should be noted that Figure 3.1 has been simplified by considering actions where possible at the four waste type levels, rather than the 21 waste stream levels (see Figure 2.1 in Section 2). In the descriptions of the alternatives, specific actions for individual waste streams are also discussed. With the primary alternatives in Figure 3.1, alternative groups can be defined from the potential combinations of storage, treatment, and disposal alternatives for each of the waste types. However, these groupings for purposes of analysis are not intended to be restrictive in the final selection and implementation of the EIS alternatives. DOE may ultimately develop its final decisions based on a different combination of specific actions for individual waste streams.

For the analysis of potential actions, DOE has defined six representative alternatives groups from among the many possible combinations. It is necessary in the development of an alternative to specify options for each of the waste types and to include a full set of treatment, storage, and disposal activities. For the purposes of this EIS, each selected set of activities is called an alternative group, since it consists of a group of alternatives for various waste types and activities. The use of groups in the analysis is necessary because some facilities can process more than one waste type, and some impacts are only meaningful when assessed using a complete set of alternatives. The alternative groups have been identified as A, B, C, D, E, and No Action (N). Key characteristics of each of the groups are shown in the adjacent text box. Each of the alternative groups is discussed in greater detail in subsequent sections. The individual alternative actions that are used in each of the alternative groups can be noted by the corresponding letter in italics at the bottom of each box. Note that some individual alternatives are used in all alternative groups, whereas in other cases an alternative is only used in one alternative group. For Alternative Groups D and E, different potential disposal facility locations within the Hanford Central Plateau are under consideration and have been evaluated in Section 5. The specifics for the locations are discussed in their respective sections (3.1.5 and 3.1.6). The locations of the major facilities are shown in Figure 3.2.

Alternative Groups

A – Additional treatment in the modified T Plant and disposal in deeper and wider trenches.
B – Additional treatment in a new waste processing facility and disposal in existing trench designs.
C – Additional treatment in the modified T Plant and disposal in a single expandable trench for each waste type.
D – Additional treatment in the modified T Plant and disposal in a single expandable trench containing LLW, MLLW, and WTP wastes.
E – Additional treatment in the modified T Plant and disposal in two expandable trenches, one with LLW and MLLW, and the second with ILAW and WTP melters.

Within the EIS, DOE analyzes as many as three alternative waste volume scenarios. The "Hanford Only" waste volume represents waste forecast to be received from Hanford Site generators. The "Lower Bound" waste volume is the current best estimate of the amount DOE could receive from offsite (based on past receipts) combined with the best projection of what might be generated at Hanford. The "Upper Bound" waste volume provides the highest projected offsite waste volume that could be received, along with the best projection of what might be generated at Hanford.

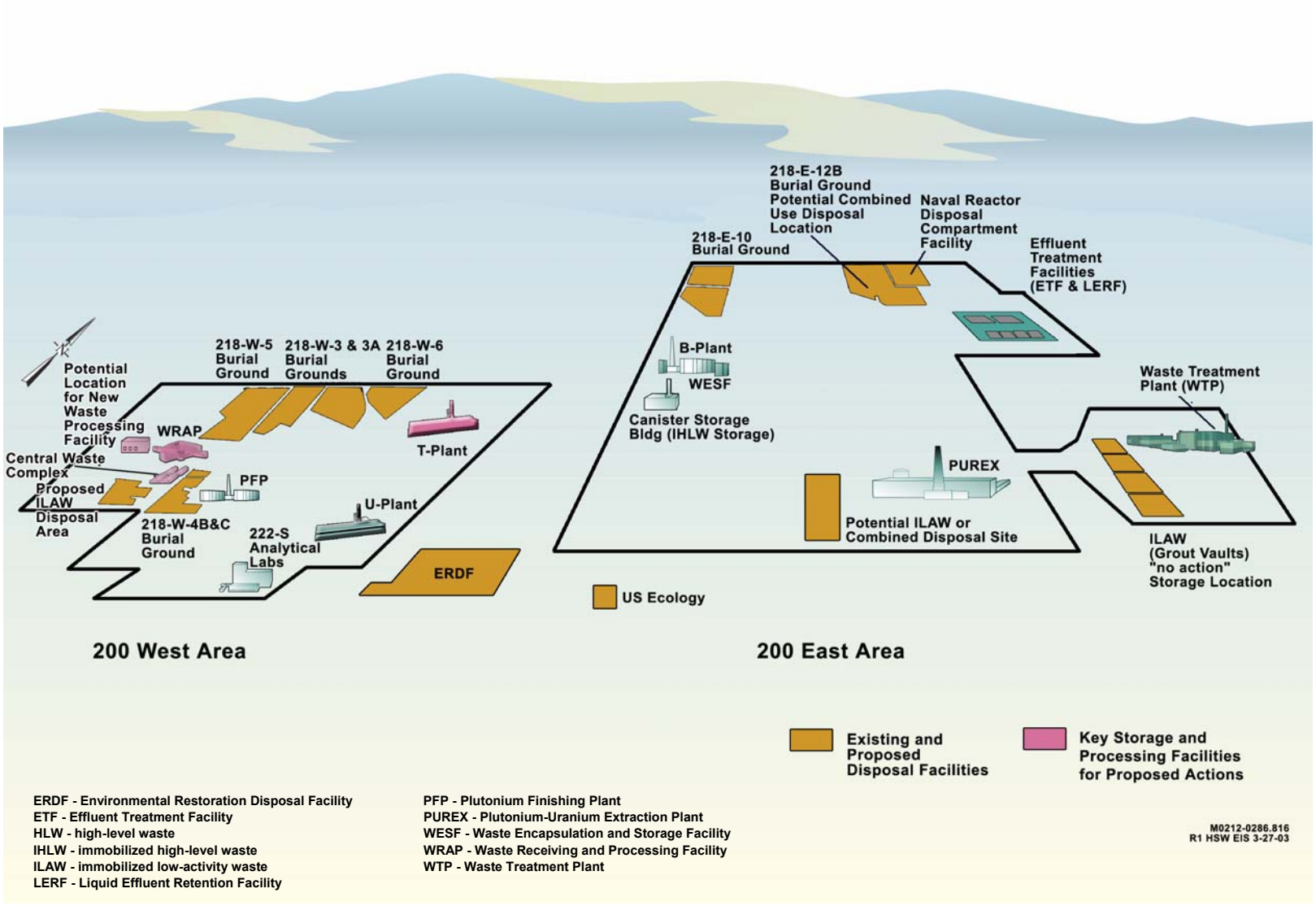

Figure 3.2. Locations of Existing and Potential Processing and Disposal Facilities on the Hanford Site

The Hanford Only waste volume excludes future offsite waste volumes entirely so the incremental impacts of receiving offsite waste could be determined. The three volumes by waste type are illustrated in Figure 3.3.

3.1.1 No Action Alternative

The No Action Alternative provides a baseline for comparison of the impacts from the proposed action and alternatives and is consistent with decisions reached under previous NEPA reviews. No Action thus reflects the current status quo and continued operation of existing facilities without conducting additional activities necessary to meet regulatory obligations. The No Action Alternative would only partially meet DOE's obligations under the Hanford TPA and applicable regulatory requirements. As such it represents an analytical construct to meet NEPA requirements rather than an expression of DOE's intended future actions.

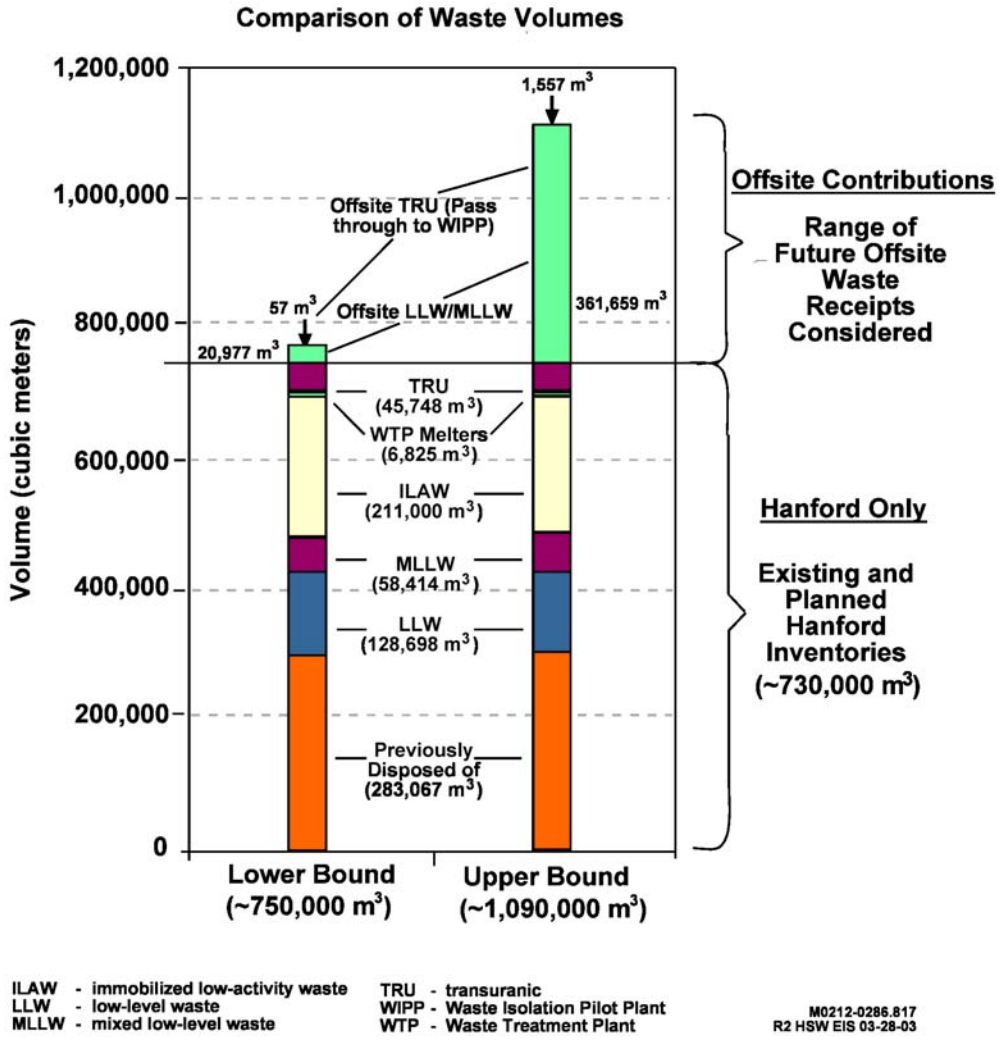

Figure 3.3. Range of Waste Volumes Considered in the HSW EIS

Because most activities considered in the HSW EIS are ongoing operations, or have been the subject of previous decisions made under other NEPA reviews, the No Action Alternative consists of implementing the previous NEPA decisions or of continuing current solid waste management practices, consistent with CEQ guidance. The No Action Alternative for LLW, MLLW, and TRU waste was described in the previous draft HSW EIS (DOE 2002a). The No Action Alternative for disposal of ILAW consists of the preferred alternative selected previously in the Record of Decision (ROD) for the Tank Waste Remediation System (TWRS) EIS (62 FR 8693). The No Action Alternative was evaluated using the Hanford Only waste volume and the Lower Bound waste volume. The ILAW volume reflects a different waste form (cullet in canisters) than that assumed for Alternative Groups A through E (monolithic vitrified waste in canisters).

3.1.1.1 Storage

In the No Action Alternative, additional CWC storage would be needed for waste that could not be treated or disposed of. Hanford's non-conforming LLW would continue to be stored in the CWC. Most MLLW would be stored at CWC due to limited treatment and disposal capacity. Likewise, melters from the WTP would be stored at CWC, as no disposal facility would be available for them. All TRU waste that cannot be processed at WRAP would be stored at CWC or T Plant Complex. The wastes requiring storage would include non-standard containers, RH TRU waste, and PCB-commingled TRU waste. K Basin sludge would remain in storage at the T Plant Complex. Additional storage space would be constructed at CWC as needed for LLW, MLLW, melters, and TRU waste.

The existing grout vaults would be modified for storage of ILAW until disposal vaults were constructed in accordance with the TWRS EIS ROD.

3.1.1.2 Treatment

No treatment capability would be available for non-conforming LLW, and for most MLLW. Treatment of solid MLLW would be limited to the existing commercial treatment contracts and the limited existing capacity of WRAP, the T Plant Complex, and other onsite facilities. Leachate from the MLLW trenches would be collected and sent by truck to the 200 East Area Effluent Treatment Facility (ETF) for treatment. After ETF closes, leachate would be treated using a pulse drier. Solids from that treatment would be sent to the MLLW trenches for disposal or to CWC for storage after the trenches are closed. Previously treated MLLW, potentially including MLLW received from offsite generators, would be directly disposed of in the two existing regulatory-compliant (lined) MLLW trenches as long as space is available.

Processing and certification of TRU waste would continue at WRAP and the T Plant Complex to prepare existing stored and newly generated CH TRU waste packaged in standard containers for shipment to WIPP. The EIS analysis assumed that DOE would continue to operate WRAP until 2032 to perform this function. After closure of WRAP, individual generators would be responsible for certifying and shipping their own waste.

Consistent with the TWRS EIS ROD, ILAW would be processed into cullet (granular glass particles similar to coarse sand), and placed into containers for onsite storage in modified grout vaults that were constructed in the 1980s.

3.1.1.3 Disposal

LLW would be prepared for disposal to meet the *Hanford Site Solid Waste Acceptance Criteria* (HSSWAC, FH 2002). Cat 1 wastes would be placed directly into the LLBGs. Cat 3 and GTC3 wastes would either be disposed of in high-integrity containers (HICs) or in-trench grouted. DOE would continue the practice of building LLW disposal trenches in the LLBGs using the current trench design (unlined) as additional disposal capacity is needed. DOE would backfill the trenches with soil as their capacity is reached, but the trenches would not be capped.

Disposal of MLLW would occur only in the two existing MLLW trenches. The MLLW trenches would be capped in accordance with regulations after they are filled. An additional 66 new vaults would be constructed for ILAW disposal in the 200 East Area within 3.1 km (1.9 mi) of the existing vaults southwest of PUREX. The new vaults would contain a leachate collection system and would have an array of monitoring wells. All ILAW would be transferred to the new vaults, which would be equipped with a crane to place the containers into specific locations that would be recorded into a registry that includes container serial number, date, and position. An interim barrier containing a surface liner and an interim cover of sand and gravel totaling about 3.3 m (11 ft) thick would be placed over the containers. A regulatory-compliant barrier would be applied at closure.

3.1.2 Alternative Group A

Alternative Group A includes actions for management of LLW, MLLW, and TRU waste as described in Alternative 1 of the first draft HSW EIS (DOE 2002a). An alternative for disposal of ILAW has been added to this group. The storage, treatment, and disposal alternatives included in Group A are described in the following sections.

3.1.2.1 Storage

Most LLW would not be stored, but would be sent directly to the LLBGs. However, some waste would be received and placed into temporary storage in CWC until it could go to WRAP for inspection. After passing inspection it would be sent on to the LLBGs. Non-conforming LLW that cannot go to disposal would be stored in CWC until it could be sent to a treatment facility. No long-term storage of LLW is expected in Alternative Group A.

Historically, MLLW has been stored in CWC and would continue to be stored there until treatment is available. In Alternative Group A, all MLLW would be treated, so no long-term storage would be needed.

TRU waste is currently stored in CWC and in the LLBGs. In Alternative Group A, all of the waste would be sent to onsite processing facilities and then to WIPP, thus eliminating any long-term onsite storage requirement.

WTP waste including the ILAW and melters would be sent directly to their respective disposal facilities. Storage of these wastes is not evaluated in this EIS.

3.1.2.2 Treatment

LLW needs to meet the HSSWAC before it can be disposed at Hanford. Most LLW does not require treatment to meet the HSSWAC. Treatment of LLW for volume reduction is not generally economically beneficial and is therefore not proposed as part of the HSW EIS alternatives. Cat 1 wastes would be placed directly into the LLBG following verification. Cat 3 and GTC3 wastes would continue to be either emplaced in HICs or in-trench grouted. For purposes of analysis, it was assumed nonconforming LLW that could not be treated onsite would be treated in a commercial treatment facility and returned to Hanford for disposal.

At Hanford, most MLLW arrives treated and ready for disposal without further treatment. Other waste streams require treatment in accordance with regulatory requirements to allow the wastes to meet the HSSWAC for onsite disposal. Six MLLW streams are evaluated in this HSW EIS, each of which involves specific treatment standards. DOE would continue to use limited existing treatment capabilities at the T Plant Complex and WRAP; however, most MLLW generated at Hanford would require development of new treatment capacity.

Treatment standards for CH Inorganic Solids and Debris specify treatment by macroencapsulation as demonstrated by an existing commercial contract. DOE would continue to use commercial facilities to treat most of Hanford's CH MLLW, with minimal onsite treatment in the modified T Plant Complex. CH Organic Solids and Debris require thermal treatment if such capability is available. Availability of thermal treatment technologies has been limited; however, in this Alternative Group it is assumed that the commercial facilities would become available to treat these wastes. Most Elemental Lead, which would likely be treated by macroencapsulation, and Elemental Mercury wastes, possibly treated by thermal desorption, would be sent to commercial treatment facilities. The Mixed Waste Trench Leachate would be treated in ETF, and pulse driers would be used after ETF closes. Treatment would be the same as in the No Action Alternative; however, the volume would be much higher with additional disposal trenches.

The RH and non-standard Packages of MLLW and TRU waste require new treatment and processing capabilities. In Alternative Group A, operations such as size-reduction and repackaging technologies and RH macroencapsulation capacity would be incorporated into the Modified T Plant to process these waste streams.

In Alternative Group A, the CH TRU wastes from trenches, wastes currently stored in CWC, and newly generated TRU wastes in standard packages would be processed in WRAP. DOE would continue to operate WRAP until 2032 to perform this function. After closure of WRAP, individual Hanford generators would be responsible for certifying and shipping their own waste. The RH and non-standard wastes from trenches and caissons, wastes currently stored in CWC, newly generated wastes, polychlorinated biphenyl (PCB) wastes, and K Basin sludge, would be processed in a modified T Plant using a variety of technologies to package and certify the wastes for WIPP.

3.1.2.3 Disposal

Alternative Group A would utilize the existing LLW trenches in the LLBG until they have been filled, and then additional disposal trenches would be constructed in the 200 West Area using a deeper, wider trench design to increase the efficiency of the disposal operations and to maintain the current focus of LLW disposal operations in the 200 West Area in accordance with the previous performance assessments for LLW disposal. Unlined deeper wider trenches would be used after about 2005.

MLLW disposal alternatives would use the existing MLLW trenches until they have been filled and then develop deeper, wider lined trenches in the 200 East Area. Leachate from the 200 East Area disposal facilities would then be sent by truck to the ETF for treatment, and pulse driers would be used thereafter.

TRU waste would be shipped to WIPP.

The ILAW canisters would be placed into a dedicated disposal facility near PUREX in multiple lined trenches.

The large WTP melters would be taken to a dedicated lined trench near PUREX for disposal.

All of the MLLW trenches would be capped when the trenches are filled. Other LLW trenches, ILAW, and melter trenches would be closed at the end of their mission and the disposal facilities would be capped in accordance with applicable regulatory requirements with the modified RCRA Subtitle C barrier.

3.1.3 Alternative Group B

Alternative Group B includes activities that maximize onsite treatment of MLLW and non-conforming LLW, and which involve construction of new facilities to treat LLW, MLLW, and TRU waste. Disposal of LLW and MLLW would take place in less efficient trench configurations of existing design. Disposal of WTP melters and ILAW would use the same trench configurations as in Alternative Group A, but would occur in different locations. This combination of alternatives is expected to result in the maximum short- and long-term environmental impacts because it includes more onsite activities and new construction. Alternatives included in Alternative Group B are described as follows.

3.1.3.1 Storage

The storage alternatives for LLW, MLLW, and TRU waste are the same in Alternative Group B as in Alternative Group A.

3.1.3.2 Treatment

LLW treatment alternatives are the same as in Group A, except for the non-conforming wastes. Those wastes would be sent to an onsite New Waste Processing Facility rather than to a commercial treatment facility.

MLLW treatment would first complete the existing commercial contracts and then utilize the New Waste Processing Facility rather than using additional offsite commercial facility contracts and the modified T Plant as in Alternative Group A.

TRU waste would be prepared for shipment to WIPP. The New Waste Processing Facility would be used for RH and non-standard wastes, and other wastes that would go to the modified T Plant as in Alternative Group A. WRAP would continue operations as the main processing facility for CH TRU wastes, and TRU waste processing capacity would be increased by the use of mobile treatment capabilities.

3.1.3.3 Disposal

As in Alternative A, the existing LLW trenches and existing MLLW trenches would first be utilized. Then additional facilities based on the current design for LLW trenches would be built in the 200 West Area. Additional MLLW trenches of the current design would be built in the 200 East Area. Leachate from the 200 East Area disposal facilities would then be sent by truck to the ETF for treatment, and pulse driers would be used thereafter.

The WTP melters would be disposed of in a single expandable lined trench to be built in the 200 East Area LLBGs, and the ILAW would be disposed of in multiple lined trenches to be built in the 200 West Area.

All of the mixed waste trenches would be capped with a modified RCRA Subtitle C barrier in accordance with applicable regulatory requirements. The rest of the LLBGs would be capped at closure.

As in Alternative Group A, CH TRU waste in standard containers would be processed at WRAP. The New Waste Processing Facility would be used to process and certify RH and non-standard containers of TRU waste. All of the processed and certified TRU waste would be shipped to WIPP.

3.1.4 Alternative Group C

Alternative Group C activities for storage, treatment, and processing of LLW, MLLW, and TRU waste are the same as those considered in Alternative Group A. This group also includes use of existing LLW and MLLW disposal capacity before construction of new disposal facilities and appropriate closure as in Alternative Group A.

Additional disposal alternatives in Alternative Group C include: LLW disposal in the LLBGs in a single expandable unlined trench in the 200 West Area; MLLW disposal in the LLBGs in a single expandable lined trench in the 200 East Area; ILAW disposal in a single expandable lined trench near PUREX, and melter disposal in a single expandable lined trench also near PUREX. All of the trenches would be capped with a modified RCRA Subtitle C barrier at closure in accordance with applicable regulatory requirements.

3.1.5 Alternative Group D

Alternatives for treatment and processing of LLW, MLLW, and TRU waste are the same as those considered in Alternative Group A. Alternative Group D considers a single lined modular combined-use facility for onsite disposal of all LLW, MLLW, ILAW, and WTP melters. This Alternative Group contains three subalternatives that correspond to different locations for the combined-use disposal facility. The subalternatives are denoted by subscripts. This group also includes use of existing LLW and MLLW disposal capacity before construction of new disposal facilities and appropriate closure as in Alternative Group A. The three subalternative locations for the single combined-use disposal facility are:

- Alternative Group D_1 – 200 East Area near the PUREX plant
- Alternative Group D_2 – 200 East Area LLBGs
- Alternative Group D_3 – at ERDF.

During final design a combined-use disposal facility could be configured in numerous ways. Different waste types could be disposed of in separate cells within a combined-use disposal facility, or different waste types could be disposed of in the same cell (commingled). Little interaction between the different waste types is anticipated because MLLW, ILAW, and the melters would be treated to meet applicable regulatory requirements. In addition, all waste types would need to meet the waste acceptance criteria for that disposal facility. The separate cells could be permitted under RCRA where appropriate, or the entire facility could be operated under a single regulatory program.

3.1.6 Alternative Group E

Alternatives for treatment and processing of LLW, MLLW, and TRU waste are the same as those considered in Alternative Group A. This group also includes use of existing LLW and MLLW disposal capacity before construction of new disposal facilities and appropriate closure caps as in Alternative Group A. Alternative Group E considers two onsite lined combined-use facilities, one facility for combined disposal of LLW and MLLW, and a separate facility for combined disposal of ILAW and WTP melters. Alternative Group E contains three subalternatives that correspond to different combinations of locations for the two disposal facilities. The subalternatives are denoted by subscripts. This group also includes use of existing LLW and MLLW disposal capacity before construction of new disposal facilities and appropriate closure as in Alternative Group A. The subalternative locations for the two dual use disposal facilities are:

- Alternative Group E_1 – combined disposal of LLW and MLLW in a modular lined facility in the 200 East Area LLBGs; combined disposal of WTP melters and ILAW in a modular lined facility at ERDF;

- Alternative Group E_2 – combined disposal of LLW and MLLW in a modular lined facility near PUREX; combined disposal of WTP melters and ILAW in a modular lined facility at ERDF; and

- Alternative Group E_3 – combined disposal of LLW and MLLW in a modular lined facility at ERDF; combined disposal of WTP melters and ILAW in a modular lined facility near PUREX.

During final design a combined-use disposal facility could be configured in numerous ways. Different waste types could be disposed of in separate cells within a combined-use disposal facility, or different waste types could be disposed of in the same cell (commingled). Little interaction between the different waste types is anticipated because MLLW, ILAW, and the melters would be treated to meet applicable regulatory requirements. In addition, all waste types would need to meet the waste acceptance criteria for that disposal facility. The separate cells could be permitted under RCRA where appropriate, or the entire facility could be operated under a single regulatory program.

3.1.7 Summary Tables of Alternative Groups

To facilitate comparison and references for each of the alternative groups, Tables 3.1 and 3.2 summarize the various actions proposed as part of each group. Table 3.1 provides the treatment alternatives and Table 3.2 provides the disposal alternatives. Table 3.1 identifies the various treatment alternatives on a waste stream level and shows which individual alternatives (indicated by bullet) are included in each alternative group. The ILAW and melter waste types are not included in Table 3.1 since the treatment of ILAW and melters is part of the WTP scope. In Table 3.2 the individual disposal facility alternatives are shown for each alternative group.

3.2 Alternatives Considered but Not Evaluated in Detail

This section describes alternatives that were considered as possible methods for the management of one or more of the waste types, but were not evaluated in detail, because DOE has determined that they are not currently reasonable alternatives. The alternatives are organized by the key activity of storage, treatment, and disposal. This section also provides a qualitative discussion of the Stop Work scenario.

3.2.1 Storage Options

3.2.1.1 Storage of Waste at the Generators' Sites

Storage of waste at either the Hanford or offsite generators' sites could potentially reduce the storage requirements at CWC. However, the action alternatives do not require additional storage beyond the current CWC capacity. Storage at multiple sites would not allow DOE to take advantage of the economies of scale possible by consolidation of the wastes at CWC and would make security more difficult. Continued storage at generator's sites could be inconsistent with LDR requirements and site treatment plans. Most onsite and offsite generators do not have permitted available onsite storage and would need to increase storage capacity and might adversely impact cleanup and closure activities.

3.2.1.2 Shipment of Hanford GTC3 Wastes to Other Sites for Longer-Term Storage

No GTC3 LLW is forecast to be generated at Hanford, but 1 m^3 is assumed for analysis to address future contingencies. The amount of storage required for this waste is so small in comparison with other wastes, that storage of this waste at Hanford is not expected to impact the required capacity at CWC in any of the alternatives. Shipment of GTC3 wastes from Hanford to other DOE sites would not be

Table 3.1. Treatment Alternatives Summary

Treatment Alternatives	Alternative Groups for Analysis					
	A	**B**	**C**	**D**	**E**	**No Action**
LLW – Cat 1						
None required; optional by generator	-	-	-	-	-	-
LLW – Cat 3, GTC3						
HICs or Trench Grouted	s	s	s	s	s	s
LLW – Non-Conforming						
Offsite Facility, establish new contract(s)	•		•	•	•	
New Waste Processing Facility in 200 W Area		•				
None (storage of untreated LLW)						•
MLLW – RH & Non-Standard Containers						
Modified T Plant	•		•	•	•	
New Waste Processing Facility in 200 W Area		•				
None (storage of untreated MLLW)						•
MLLW – CH Standard, Organic Solids & Debris						
Offsite Facility, complete existing commercial contract	s	s	s	s	s	s
Offsite Facility, establish new contract(s)	•		•	•	•	
New Waste Processing Facility in 200 W Area		•				
None (storage of untreated MLLW)						•
MLLW – CH Standard, Elemental Lead, Elemental Mercury						
Offsite Facility	•		•	•	•	
New Waste Processing Facility in 200 W Area		•				
None (storage of untreated MLLW)						•
MLLW – Disposal Trench Leachate						
Effluent Treatment Facility (ETF)	s	s	s	s	s	s
Pulse dryers after ETF closure	s	s	s	s	s	s
TRUW – CH Standard (retrievably stored in LLBGs & CWC, newly generated)						
WRAP	•	•	•	•	•	•
Mobile Units in 200 W Area		•				
TRUW – CH Non-Standard (LLBGs, CWC, newly generated), RH (LLBGs, caissons, CWC, newly generated), K Basin sludge, PCB Commingled						
Modified T Plant	•		•	•	•	
New Waste Processing Facility in 200 W Area		•				
Mobile Units in 200 W Area		•				
None (storage of unprocessed TRU Waste)						•

- = Activity not included in analysis
s = Activity included in analysis; same for all alternatives
• = Alternative actions evaluated in analysis group.

Table 3.2. Disposal Alternatives Summary

Disposal Alternatives for New Construction[(a)]	Alternative Groups for Analysis									
				D			E			
	A	B	C	1	2	3	1	2	3	No Action
LLW – Cat 1, Cat 3, GTC3, Non-Conforming										
200 W LLBG – Existing design unlined trenches		•								
200 W LLBG – Deeper, wider unlined trenches	•									
200 W LLBG – Single unlined trench			•							
Near PUREX – Modular combined-use lined facility				•				•		
200 E LLBG – Modular combined-use lined facility					•		•			
ERDF – Modular combined use lined facility						•			•	
200 W LLBG – Existing design unlined trenches, backfill only, no barrier (Cat 1, Cat 3, GTC3 LLW)										•
None (storage of non-conforming LLW)										•
Previously Buried Waste										
Install modified RCRA Subtitle C barrier	•	•	•	•	•	•	•	•	•	
Backfill only, no RCRA barrier										•
MLLW – treated, ready for disposal, RH & CH MLLW, Elemental Lead & Elemental Mercury, solids from MLLW leachate treatment										
200 E LLBG – Existing design lined trenches		•								
200 E LLBG – Deeper, wider lined trenches	•									
200 E LLBG – Single expandable lined trench			•							
Near PUREX – Modular combined-use lined facility				•				•		
200 E LLBG – Modular combined-use lined facility					•		•			
ERDF – Modular combined-use lined facility						•			•	
None (storage of untreated MLLW and treated MLLW in excess of existing disposal capacity)										•
TRUW – CH Standard										
Ship to Waste Isolation Pilot Plant	S	S	S	S			S			S
TRUW – CH Non-Standard, RH, K Basin sludge, PCB										
Ship to Waste Isolation Pilot Plant	•	•	•	•			•			
None (storage of unprocessed TRUW)										•

(a) In all cases, existing trench space for LLW and MLLW in the 200 W Area, LLBGs would be filled before constructing new disposal capacity. All disposal facilities would be covered with a modified RCRA Subtitle C barrier as filled or at closure, except as noted.

S = Activity included in analysis; same in all alternative groups.

• = Alternative actions evaluated in analysis group.

Table 3.2. (contd)

Disposal Alternatives for New Construction[(a)]	Alternative Groups for Analysis									
				D			E			No Action
	A	B	C	1	2	3	1	2	3	
WTP Melters										
Near PUREX – Single lined trench	•		•							
200 E LLBG – Single lined trench		•								
Near PUREX – Modular combined-use lined facility				•					•	
200 E LLBG – Modular combined-use lined facility					•					
ERDF – Modular combined-use lined facility						•	•	•		
None (storage)										•
ILAW										
Near PUREX – Multiple lined trenches	•									
200 W Area – Multiple lined trenches		•								
Near PUREX – Single lined trench			•							
Near PUREX – Modular combined-use lined facility				•					•	
200 E LLBG – Modular combined-use lined facility					•					
ERDF – Modular combined-use lined facility						•	•	•		
Near PUREX – Lined vault disposal facility										•

(a) In all cases, existing trench space for LLW and MLLW in the 200 W Area, LLBGs would be filled before constructing new disposal capacity. All disposal facilities would be covered with a modified RCRA Subtitle C barrier as filled or at closure, except as noted.

• = Alternative actions evaluated in analysis group.

consistent with the WM PEIS ROD (65 FR 10061) for LLW and MLLW. The effort required to send waste to another site would be greater than the effort to store onsite. Thus, the most reasonable storage alternative for GTC3 LLW is storage in CWC.

3.2.2 Treatment Options

3.2.2.1 Use of Offsite DOE Facilities for Treatment of All Hanford Waste

The consolidation of waste management functions at designated DOE sites was a major focus of the WM PEIS (DOE 1997b). Attempts were made to identify treatment capacity at other DOE sites for Hanford wastes, but treatment capacity is limited at other DOE sites. Therefore, this is not a reasonable alternative for all Hanford waste. If DOE were able to ship wastes to other DOE sites for treatment, potential impacts would be similar to those for commercial treatment. Hanford may ship small-volume waste streams to other DOE sites in the future if specialized facilities become available. However, impacts of those shipments would be similar to those included for offsite treatment of MLLW.