3.5.6 Timing of Activities Evaluated in the Alternative Groups

Under all HSW EIS alternative groups, there are uncertainties related to the timing of their implementation. Timing uncertainties include:

- the technical maturity of waste treatment technologies and the amount of development necessary before design and construction of facilities could proceed

- the possibility that regulatory requirements could change, which could introduce delays by affecting the design and cost of selected alternatives

- the time required to obtain necessary permits and approvals for various treatment, storage and disposal actions

- the timely appropriation of funds by Congress to enable DOE to implement decisions resulting from this EIS

- the effect of proposals for accelerated cleanup at Hanford (DOE-RL 2002) and at other DOE facilities, which could potentially influence the timing and quantities of waste receipts.

In general, these uncertainties are addressed in this EIS by adopting conservative assumptions in analyses (that is, assumptions that would tend to maximize the estimated environmental impacts). The timing of activities evaluated in the EIS may differ from assumptions used in the analyses; however, the nature and extent of those actions are expected to be similar whenever they may occur.

3.6 Costs of Alternatives

Consolidated cost estimates were prepared for the continued operation of existing facilities, the modification of existing facilities, construction of new facilities, and operation of the new or modified facilities (FH 2003; Aromi and Freeburg 2002). The costs were calculated using a constant 2002 dollars. Some operations, such as capping the LLBGs and treatment of leachate from mixed waste trenches, would continue beyond 2046. These costs have been included as a separate category. The cost of each major facility for each alternative group is shown in Table 3.21. The increased costs for the operation of the LLBGs with the increased volume of waste can be seen. Because the additional MLLW in the Upper Bound waste volume do not need treatment, the costs for treatment facilities do not change. In the No Action Alternative Group, the increased needs for storage of MLLW and the limited volume of waste disposed of are reflected in the relative costs of the CWC and the MLLW trenches. The increased costs for the baseline operation of the T Plant Complex for the No Action Alternative Group compared with Alternative Groups A, B, and C result from the continuing need to store the K Basin sludge in the No Action Alternative. The combination of commercial MLLW treatment and modification of the T Plant Complex in Alternative Group A is less expensive than construction of a new facility, with DOE doing the majority of the treatment onsite in Alternative Group B. The consolidation of disposal facilities should lead to lower disposal costs – most easily noted in the total alternative group costs between Alternative Groups D and E and Alternative Group A.

Table 3.21 (sheet 1). Consolidated Cost Estimates for Alternative Groups A, B, and C (Construction and Operation Cost)

Cost Category	Cost of Alternatives (Millions of Dollars)								
	Group A			Group B			Group C		
	Waste Volume			Waste Volume			Waste Volume		
	Hanford Only	Lower Bound	Upper Bound	Hanford Only	Lower Bound	Upper Bound	Hanford Only	Lower Bound	Upper Bound
LLBG	267	339	484	268	340	485	267	339	484
CWC	566	566	566	566	566	566	566	566	566
WRAP	710	710	710	710	710	710	710	710	710
T Plant	376	376	376	376	376	376	376	376	376
Commercial MLLW Treatment	229	229	229	17	17	17	229	229	229
New Treatment Capacity	457	457	457	830	830	830	457	457	457
MLLW and Melter Disposal	275	275	424	268	268	429	275	275	424
ILAW Disposal	680	680	680	680	680	680	506	506	506
Post 2046 Costs	103	103	116	110	110	125	103	103	116
Total Operations	3663	3735	4042	3825	3897	4218	3489	3561	3868
Post-Operational Monitoring	75	75	75	75	75	75	75	75	75

Table 3.21 (sheet 2). Consolidated Cost Estimates for Alternative Groups D, E, and No Action

Cost Category	Cost of Alternatives (Millions of Dollars)							
	Groups D1, D2, and D3			Groups E1, E2, and E3			No Action[b]	
	Waste Volume			Waste Volume			Waste Volume	
	Hanford Only	Lower Bound	Upper Bound	Hanford Only	Lower Bound	Upper Bound	Hanford Only	Lower Bound
LLBG	(a)	(a)	(a)	(a)	(a)	(a)	268	345
CWC	566	566	566	566	566	566	1090	1090
WRAP	710	710	710	710	710	710	710	710
T Plant	376	376	376	376	376	376	511	511
Commercial MLLW Treatment	229	229	229	229	229	229	17	17
New Treatment Capacity	457	457	457	457	457	457	0	0
MLLW and Melter Disposal	755	777	1076	486	511	829	152	152
ILAW Disposal	(a)	(a)	(a)	506	506	506	706	706
Post 2046 Costs	103	103	116	103	103	116	(b)	(b)
Total Operations	3196	3218	3530	3433	3458	3789	3454	3531
Post-operational Monitoring[c]	75	75	75	75	75	75	75	75

(a) Combined disposal facility – costs included in MLLW and Melter Disposal.
(b) Does not account for costs for storage, treatment, or eventual disposal of waste remaining in storage after 2046.
(c) Estimated minimum cost of $500,000 per year for a 100-year institutional control period (DOE 2002b). Maximum cost estimated at $750,000 per year depending on number of wells and monitoring requirements.