Appendix A

Public Scoping and Review Comments and DOE Responses

Appendix A

Public Scoping and Review Comments and DOE Responses

The Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) (42 USC 4321) state "there shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process shall be termed scoping" (40 CFR 1501.7). The principal purpose of scoping is to determine the "range of actions, alternatives, and impacts to be considered in an Environmental Impact Statement (EIS)" (40 CFR 1508.25).

This appendix presents a summary of the scoping comments and responses for the 1) *Immobilized Low-Activity Waste Disposal Supplemental Environmental Impact Statement* (ILAW SEIS) in Part 1, and 2) the *Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement* (HSW EIS) in Part 2, because the former ILAW SEIS has been merged with this revised HSW EIS.

Part 1—Public Scoping Comments and Responses for the ILAW SEIS

Following the Notice of Intent (67 FR 45104) to prepare the ILAW SEIS, the U.S. Department of Energy (DOE) held a scoping meeting in Richland, Washington, on August 20, 2002. During scoping, meetings were held with tribal nations, organizations, and agencies; written comments were received from nine of those entities.

The scoping comments and questions centered on several major themes:

- requests for technical information and clarification
- ILAW disposal alternatives
- long-term performance, mitigation, and stewardship
- ILAW waste form and treatment alternatives
- cumulative impacts
- regulatory, and NEPA issues
- waste classification, definition of ILAW and high-level waste (HLW)
- other impacts and analyses
- relationship to this HSW EIS and other NEPA documents
- public involvement process
- relationship to current DOE cleanup plans
- opposition to disposal or storage of ILAW at Hanford.

After the end of scoping for the ILAW disposal SEIS, DOE decided to combine that SEIS with this revised draft HSW EIS. The HSW EIS now provides the NEPA review for ILAW disposal in addition to Hanford Solid Waste Program operations evaluated in the first draft HSW EIS. Individuals, organizations, and agencies commenting on the scoping phase of the ILAW SEIS are listed in Table A.1. The scoping comments and questions regarding the ILAW disposal SEIS and DOE responses to those comments are summarized in Table A.2.

Table A.1. Individuals, Organizations, and Agencies that Commented on the Scoping Phase of the ILAW SEIS

Name	Organization
Public Scoping Meeting, Richland – August 20, 2002	
Allyn Boldt	Private citizen
Don Clark	Private citizen
Gordon Rogers	Private citizen
Dick Schmidt	Private citizen
Seattle Briefing – August 22, 2002	
Tom Carpenter	Government Accountability Project, West Coast Office
Ashley Evans	Government Accountability Project, West Coast Office
Clare Gilbert	Government Accountability Project, West Coast Office
Dave Johnson	Private citizen
Hyun Lee	Heart of America Northwest
Ruth Yarrow	Private citizen
Portland Briefing – September 3, 2002	
Doug Huston	Oregon Office of Energy
Doug Riggs	Private citizen
Written Comments	
Tom Carpenter, Ashley Evans, Clare Gilbert	Government Accountability Project, West Coast Office –August 26, 2002
Suzanne Dahl and Michael Wilson	Washington State Department of Ecology – August 23, 2002
Glenn Eades	The Mountaineers, president – August 12, 2002
Paige Knight	Hanford Watch – August 15, 2002
Doug Huston and Ken Niles	Oregon Office of Energy – August 30, 2002
Hyun S. Lee	Heart of America – August 26, 2002
Richard Tripp	Private citizen
Harry Smiskin	Confederated Tribes and Bands of the Yakama Nation, administrator – September 26, 2002
Gordon Smith	Private citizen – August 11, 2002

Table A.2. ILAW Disposal SEIS – Public Scoping Comments and Responses

Name or Organization	Comment/Statement/Question/Concern	Response
1. Technical/General		
Richard K. Tripp, 8806 W. Grande Ronde Ave., Kennewick, WA 99336-1091, letter	ILAW trenches should be fenced in with permanent signs attached to them identifying the trenches. Should be maintained and replaced when needed over a very long time.	A number of technical comments across a range of topics were received during the scoping meetings, including institutional controls (fences and signs), waste inventories, waste disposal approaches, etc. The U.S. Department of Energy (DOE) has considered these comments and the HSW EIS addresses these issues, as appropriate. The evaluations of immobilized low-activity waste (ILAW) disposal incorporates the latest available and referenceable data (e.g., best basis inventory, current waste loading plans, ILAW Performance Assessment, etc.). It includes the disposal of all ILAW from tank waste treatment. DOE recently announced its intent to prepare a follow-on EIS (Environmental Impact Statement for Retrieval, Treatment, and Disposal of Tank Waste and Closure of Single-Shell Tanks at the Hanford Site, Richland, Washington [DOE/EIS-0356]) to the Tank Waste Remediation System (TWRS) EIS for retrieval, treatment, and disposal of Hanford tank waste, and for closure of 149 single-shell tanks (68 FR 1052). That EIS would evaluate alternative treatment processes for some tank waste and disposal of low-activity waste forms other than the vitrified ILAW considered in this HSW EIS.
Richard K. Tripp, 8806 W. Grande Ronde Ave., Kennewick, WA 99336-1091, letter	Will leachate be contained in such a way to prevent it from percolating up to the surface? Is the only thing between the leachate and the air the earth closure cap?	
Public scoping meeting in Richland, August 20, 2002, Questions and concerns	The volume of the ILAW	
Public scoping meeting in Richland, August 20, 2002, Public comments	Dick Schmidt, Office of Sustainable Development for the City of Portland, Oregon - Proposes using cathode ray tubes from computer monitors and televisions as frit for making the glass rather than mining natural resources and therefore reducing the unavoidable adverse impacts and potential irreversible and irretrievable commitment of resources.	
Public scoping meeting in Richland, August 20, 2002, Public comments	Allyn Boldt, retired Hanford worker and Kennewick resident – Address all of the waste and not just Phase I.	
Public scoping meeting in Richland, August 20, 2002, Public comments	Allyn Boldt, retired Hanford worker and Kennewick resident – Use the 2002 Best Bases Inventory.	
Public scoping meeting in Richland, August 20, 2002, Public comments	Allyn Boldt, retired Hanford worker and Kennewick resident – Don't base analysis in the SEIS on the SA3 because the SA3 data is out of date.	
Seattle briefing, August 22, 2002	Clare Gilbert asked for clarification between storage and disposal.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Seattle briefing, August 22, 2002	Tom Carpenter wanted to know what fraction of the waste was ILAW.	
Seattle briefing, August 22, 2002	Hyun Lee commented on the carbon tetra chloride and solid wastes that are already in the ground in the 200 West Area and is concerned about placing additional ILAW in the ground.	
Seattle briefing, August 22, 2002	Tom Carpenter wanted to know what the curie difference in the LAW would be when it is vitrified compared to 500 years from now.	
Seattle briefing, August 22, 2002	Tom Carpenter wanted to know who has jurisdiction over the MUSTs.	
Seattle briefing, August 22, 2002	Hyun Lee requested a chart or matrix be made that shows where ILAW fits in the tank farm and WTP operations, including a time line.	
Seattle briefing, August 22, 2002	Dave Johnson asked about chemical constituents in the waste.	
Seattle briefing, August 22, 2002	Ruth Yarrow requested that curies be shown as well as volume when discussing tank waste.	
Portland briefing, September 3, 2002	Doug Riggs asked what is the half-life of LAW?	
Portland briefing, September 3, 2002	Doug Huston asked what the radiation per canister would be.	
Paige Knight, Hanford Watch, letter, August 15, 2002	Please include the kinds and longevity of radionuclides and chemicals.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	There have been major new discoveries at the Hanford Site since 1997 (when the TWRS EIS was issued) which affect greatly the plan to dispose of vitrified tank waste in the 200 Area burial grounds. These include the discovery of technetium-99 seeping into the groundwater from tank leaks.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	DOE must analyze the possibility that in order to vitrify the tank waste, the waste loading would have to be reduced to extremely low levels. This could increase greatly the volume of vitrified waste disposed of at Hanford.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	The possibility of terrorist attacks on the trenches housing the low-activity waste must be considered in the SEIS.	
Oregon Office of Energy, Formal comments, August 30, 2002	This SEIS should present the long-range plan showing key actions and annual progress anticipated for this project along with the funding requirements for this project for the duration of the tank waste treatment schedule. The budgeting information should include monitoring costs and be presented in FY2003 dollars, as escalated dollars, and as net present value dollars to provide a clear analysis of future costs.	
The Mountaineers, Glenn Eades, President, letter, August 12, 2002	Issues and Concerns: Illegal practices by increasing contractor "self assessment" and reducing federal oversight for safety and health.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
2. Opposed to Onsite Storage or Disposal of Solid Waste at Hanford		
Gordon Smith 8029 Meridian N. Seattle, WA 98103 letter, August 11, 2002	No more storage of any sort on this site on the edge of the Columbia River ecosystem.	DOE acknowledges that there is some opposition to onsite storage/disposal of ILAW, but is proceeding based on decisions derived from environmental impact analysis conducted under the Final Tank Waste Remediation System Environmental Impact Statement (TWRS EIS; DOE 1996). After consultation with the U.S. Nuclear Regulatory Commission (NRC), DOE determined that LAW is appropriate for disposal at Hanford (see HSW EIS Section 1). The HSW EIS evaluates waste management options for the disposal of ILAW at Hanford. The HSW EIS considers a No Action Alternative that evaluates retrievable disposal of ILAW in vaults. The EIS also considers other alternatives for disposal of ILAW (see HSW EIS Section 3).
Seattle briefing, August 22, 2002	Tom Carpenter was concerned that LAW was still HLW and as long as DOE did not dispose of it on site it would be ok.	
Seattle briefing, August 22, 2002	Tom Carpenter said he had no problem with long-term storage of the ILAW but was not in agreement with disposal of ILAW on the Hanford Site. ORP should keep their options open for ILAW storage versus disposal.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
3. Immobilized Low-Activity Waste Form and Treatment Alternatives		
Gordon Smith 8029 Meridian N. Seattle, WA 98103 letter, August 11, 2002	Strongly favors cullet size vitrification because it is easier and safer to process.	The TWRS EIS evaluated waste treatment options and decided it was feasible to vitrify tank waste. DOE has published a Notice of Intent (68 FR 1052) regarding the Tank Waste Retrieval and Closure EIS to evaluate alternative waste forms and supplemental treatment technologies This HSW EIS focuses on the disposal of vitrified ILAW forms (cullet and monolithic forms). For the purposes of analysis in this EIS the treated waste form is assumed to be glass. The EIS provides explanation of the technical, environmental, and financial criteria, uncertainties, and cumulative impacts for the alternatives associated with the proposed action and related alternatives for disposal of ILAW and melters evaluated in the EIS.
Public scoping meeting in Richland, August 20, 2002, Questions and concerns	Will there be a statement in the SEIS about a future alternative waste treatment?	
Public scoping meeting in Richland, August 20, 2002, Questions and concerns	We should only address glass in the SEIS and not make any statement about the future.	
Public scoping meeting in Richland, August 20, 2002, Public comments	Allyn Boldt, retired Hanford worker and Kennewick resident – Keep the option for cullet or monolith in the SEIS in case the monolith form becomes a handling problem during production.	
Seattle briefing, August 22, 2002	Ashley Evans inquired about the practicality of vitrifying tank waste and whether it was technically achievable.	
Seattle briefing, August 22, 2002	Ruth Yarrow was concerned about Jessie Roberson's statement about vitrifying 10% of the waste and using other technologies to stabilize the remaining 90%.	
Portland briefing, September 3, 2002	Doug Riggs stated he was glad that the SEIS continues with the intent to treat the low-activity waste by turning it into glass. He believes it is beneficial that DOE remains open to considering other options to supplemental vitrification if it meets the current standards for treatment and disposal. The presentation explained why the monolith form is proposed and this makes sense. Doug Riggs requested that the draft SEIS include clear explanations on the technical, environmental, and financial criteria for the alternatives.	
Portland briefing, September 3, 2002	Doug Riggs asked if the SEIS covered waste forms other than glass ILAW, and believes this should be clarified in the executive summary.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Washington State Department of Ecology, Formal Comments, August 3, 2002	The analysis of the waste to be disposed must include the disposal of both the vitrified waste and the melters in which the vitrified waste was processed. The analysis cannot consider other waste forms now under consideration within the DOE because Ecology has not agreed that they are appropriate for land disposal of the wastes.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	The tank waste should be discussed in terms of its radiological properties and components, rather than in vague production terms such as 'high-level and "low-activity" waste. If the DOE is now defining "high-level" waste as cesium-137, strontium-90, plutonium, and other transuranics, it should discuss the waste in these specific terms. DOE should rely on scientifically accurate and comprehensive inventories of the contents of the tanks and discuss the waste in these terms. If DOE continues to use the irrelevant production terms, it should explain why it is doing so.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	In the past year the Bush administration and DOE's Jessie Roberson have publicly stated that they plan to vitrify only 10% of the waste currently stored in Hanford's HLW tanks. Yet DOE-Richland asserts that it will vitrify 100% of the tank waste. This discrepancy within DOE's policies must be addressed in a new EIS that considers the TWRS EIS (and SEIS) in light of the Bush administration's vision of 'accelerated cleanup.'	
The Mountaineers, Glenn Eades, President, letter, August 12, 2002	Issues and Concerns: Grouting the tank waste prior to appropriate NEPA documentation.	
Public scoping meeting in Richland, August 20, 2002, Public comments	Allyn Boldt, retired Hanford worker and Kennewick resident – We've given up privatization (Phase I demonstration, Phase II production) so the SEIS should reflect what we are doing now.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	In the cumulative impacts analysis, DOE must consider each of the following: The accelerated cleanup plan: Cumulative impact analysis must also consider how DOE's accelerated cleanup plan to vitrify only 10% of the tank waste is being factored into the proposed action. If it is not being factored in, then DOE must explain why not, and whether they will reissue a new EIS if the plan comes to fruition.	
The Mountaineers, Glenn Eades, President, letter, August 12, 2002	Issues and Concerns: The Bush administration's goal to eliminate vitrification of 75% of the tank waste.	
Heart of America Northwest, formal comments, submitted by Hyun S. Lee, August 26, 2002	There have been drastic new changes in factual circumstances that require DOE to consider conducting a new environmental impacts statement. There have been changes in the factual circumstances since the 1996 TWRS EIS ROD which selected the Phased Implementation alternative and decided to privatize the project. Since the issuance of the ROD, DOE has terminated contracts with Lockheed Martin Advanced Environmental Systems and British Nuclear Fuel, Inc. and has awarded the contract to a new contractor altogether. Furthermore, DOE is considering departing from the Tri-Party Agreement milestone requirements and leaving 75% of Hanford's liquid high-level wastes in the tanks forever.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	DOE has stated that it does not yet have complete characterization data for the contents of the Hanford single-and double-shell tanks. What statistical methods has DOE utilized to determine the uncertainty of the inventory in each tank being considered in the SEIS? Does DOE's inventory analysis rely primarily on recent sampling data or on historical production data? Is the level of uncertainty in the inventory for the tanks similar, or does the uncertainty vary widely between tanks? The SEIS must include a detailed description of the record developed to date on tank content inventory, and its sufficiency. Is further characterization planned? This information should be provided in detail in the SEIS.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
4. Hanford Solid Waste Disposal Alternatives		
Public scoping meeting in Richland, August 20, 2002, Questions and concerns	Should the SEIS address alternative kinds of trenches, such as ERDF, for example?	This HSW EIS evaluates a reasonable range of ILAW disposal facility alternatives for accomplishing the proposed action, including disposal in dedicated facilities or with other waste types (see HSW EIS Sections 2 and 3). It addresses various locations (including a new disposal facility in 200 East Area, 200 West Area, the Environmental Restoration and Disposal Facility, or existing Low Level Burial Grounds). It discusses various options for liners and disposal facility covers (see HSW EIS Section 2 and Appendix D). The alternatives and disposal facilities described are assumed to meet and comply with applicable regulatory requirements as described in the EIS. The EIS describes the related analysis of long-term performance (including environmental impacts) and estimates impacts over those time periods (see HSW EIS Sections 5.3 and 5.11). The EIS also describes administrative controls and procedures followed, including waste inspection verification in accordance with established waste acceptance criteria. DOE also plans to evaluate a reasonable range of alternatives for accomplishing the proposed actions for tank closure and tank waste vitrification under the Tank Waste Retrieval and Closure EIS.
Public scoping meeting in Richland, August 20, 2002, Public comments	Gordon Rogers, Pasco resident – Recommends using trenches to dispose of LAW other than the LAW from the vit plant.	
Seattle briefing, August 22, 2002	Hyun Lee asked how ILAW would be stored with the solid waste.	
Seattle briefing, August 22, 2002	Ruth Yarrow asked why we were evaluating ILAW trenches located in the 200 West Area with a modified RCRA barrier.	
Portland briefing, September 3, 2002	Doug Riggs said the draft should be upfront where the SEIS meets initial protections and clear if it does not. A clear and effective executive summary is critical. The differences and benefits that the various barriers provide should be explained.	
Portland briefing, September 3, 2002	Doug Huston stated the collection system is not a long-term protection system and asked if the original TWRS EIS looked at a trench option.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Heart of America Northwest, formal comments, submitted by Hyun S. Lee, August 26, 2002	DOE has suggested that the ILAW wastes in question in this SEIS may be disposed of in the same facilities as LLW considered in the HSWEIS. DOE must consider the long history of waste mismanagement at Hanford's LLBG where offsite generators have mislabeled, mischaracterized, and mispackaged shipments of radioactive waste sent to Hanford for disposal. Heart of America Northwest has documented that offsite generators have disposed of mixed waste in the LLW-only burial grounds. Disposal of highly radioactive waste in a facility where there has been a long history of waste mismanagement would have potentially catastrophic consequences. These factors must be considered before moving forward with the disposal of ILAW in the same facilities as LLW.	
Heart of America Northwest, formal comments, submitted by Hyun S. Lee, August 26, 2002	DOE must consider the full range of reasonable alternatives, including meeting Tri Party Agreement milestone requirements to empty tanks and complete vitrification of tank wastes by 2028.	
Oregon Office of Energy, Formal comments, August 30, 2002	A clear explanation of the reason for changing the proposed ILAW disposal method from the belowground vaults to trenches needs to be presented in this EIS. Additionally, although we recognize this is a supplemental EIS, we recommend that DOE consider and analyze and include in this SEIS all other reasonable ILAW disposal options.	
Washington State Department of Ecology, Formal Comments, August 23, 2002	This SEIS should address all the land-based disposal facilities required for disposing of all ILAW generated by the Hanford Waste Treatment Plant. It should identify the total number of trenches required, their proposed locations, and the impacts of such uses of the land.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Washington State Department of Ecology, Formal Comments, August 23, 2002	All disposal facilities must be assumed to meet the requirements of the Washington Dangerous Waste Regulations (WAC Chapter 173, Part 303) for land-based disposal facilities. Ecology is not entertaining petitions to delist the dangerous waste constituents, or listed wastes in the LAW, or considering any delisting before the waste form is generated.	
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	Is the primary authority for tank waste disposal the Washington Dangerous Waste Regulations (WAC Chapter 173 Part 303)?	
Paige Knight, Hanford Watch, letter, August 15, 2002	Please offer real alternatives that truly permanently protect the environment since the assumption has changed from storage to permanent disposal.	
Paige Knight, Hanford Watch, letter, August 15, 2002	Offer more long-term protection of waste trenches than an impermanent, short-lived plastic caps.	
Paige Knight, Hanford Watch, letter, August 15, 2002	We need a full range of alternatives with all impacts addressed to the environment.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	The reason for DOE's proposed changes to the TWRS EIS (from retrievable storage in concrete vaults to disposal in trenches) should be explained in the SEIS.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	A new EIS and/or the Supplemental EIS must include as alternatives: 1) storage of waste, 2) disposal of waste, and 3) the Tri-Party Agreement milestone of emptying tanks and completing vitrification by 2028.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
5. Relationship to HSW EIS and Other NEPA Documents		
Public scoping meeting in Richland, August 20, 2002, Public comments	Gordon Rogers, Pasco resident – Integrate this SEIS with the Solid Waste EIS and make sure all the waste forms are covered.	DOE has incorporated the ILAW SEIS into this HSW EIS, which adopts the Industrial-Exclusive designations relative to land-use decisions set forth under the Hanford Comprehensive Land-Use Plan EIS ROD (64 FR 61615).
Portland briefing, September 3, 2002	Doug Huston advised that the tank SEIS be communicated clearly so it does not become confused with the Hanford solid waste EIS.	
Heart of America Northwest, formal comments, submitted by Hyun S. Lee, August 26, 2002	DOE must consider public comments submitted during the Hanford site solid waste environmental impact statement. These comments reflect the concerns of the Citizens of the Pacific Northwest about future land disposal of radioactive waste at the Hanford Nuclear Reservation. Disposal of the ILAW in question in trenches with a volume of 200,000 m^3 each (potentially containing 81,000 waste monoliths) will impact alternatives considered in the HSWEIS.	
Oregon Office of Energy, Formal comments, August 30, 2002	An analysis of the compatibility of this SEIS's various options with the Hanford Comprehensive Land Use Plan should be included.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
6. Classification and Definition of ILAW and High-Level Waste		
Public scoping meeting in Richland, August 20, 2002, Questions and concerns	Definition of low-activity waste	This HSW EIS only addresses disposal of the ILAW component of the tank waste. For the purposes of the HSW EIS, DOE assumes that previous designations of ILAW remain valid. The wastes described and defined in the HSW EIS are also classified consistent with the TWRS EIS. Waste retrieval, separations, treatment, storage, and disposal of high-level waste, as well as closure of the tank farms and WTP will be addressed in the Tank Waste Retrieval and Closure EIS that is currently being prepared by the Office of River Protection (ORP). Reclassification of tank waste as TRU waste is not being considered as part of this HSW EIS.
Seattle briefing, August 22, 2002	Tom Carpenter asked if DOE should still go ahead with ILAW disposal with the court challenge pending on tank waste classification.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	DOE must consider the possibility that the federal courts may rule that "low-activity waste" is still "high-level waste" under the *Nuclear Waste Policy Act*. DOE has attempted to bypass laws applicable to high-level waste, such as the Nuclear Waste Policy Act, by reclassifying high-level waste as low-activity waste. DOE defines low-activity waste as "The waste that remains after separating from HLW as much of the radioactivity as is practicable that when solidified may be disposed of as low-level waste in a near surface facility" (TWRS EIS, GL-13, Volume One). However, HLW is defined by the Nuclear Regulatory Commission and the Nuclear Waste Policy Act by its source as "material resulting from reprocessing." DOE ignores this when defining "low activity waste." Similarly, in DOE Order 435.1, DOE grants itself permission to reclassify HLW as "incidental waste." DOE's attempts to reclassify high-level waste as something other than high-level waste are being challenged in U.S. District Court by public interest organizations, indigenous tribes, and the states of Washington and Idaho. The lawsuit recently survived DOE's Motion for Summary Decision, and presumably will be ruled upon in the near future. The TWRS Supplemental EIS must consider that the court may rule in favor of the plaintiffs and find that "low-activity waste" is still "high-level waste," subject to the Nuclear Waste Policy Act.	
The Mountaineers, Glenn Eades, President, letter, August 12, 2002	Issues and Concerns: Illegitimate reclassification of wastes at Hanford to mixed low-level or TRU.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	Are the contents of the Hanford single-shell tanks classified as high-level waste? Are the contents of any single-shell tanks, in whole or in part, classified as waste other than high-level waste? If so, the procedure for classification of the wastes in each of the 149 single-shell tanks must be explicitly described in the SEIS, along with the statutes that govern the disposal of such waste.	
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	Are the contents of the Hanford double-shell tanks classified as high-level waste? Are the contents of any double-shell tanks, in whole or in part, classified as waste other than high-level waste? If so, the procedure for classification of the wastes in each of the 28 double-shell tanks must be explicitly described in the SEIS, along with the statutes that govern the disposal of such waste.	
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	Does the *Nuclear Waste Policy Act* govern disposal of the entire contents of all Hanford singe-shell tanks? Does the *Nuclear Waste Policy Act* govern disposal of the entire contents of all Hanford double-shell tanks? The SEIS must clearly describe the authority (or authorities) upon which DOE relies in making decisions for 1) removal of waste from tanks, 2) pretreatment of waste, and 3) final disposal of tank waste.	
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	Under what authority may DOE dispose of any Hanford single- or double-shell tank waste in near-surface trenches? What is the legal and technical process by which DOE determines such disposal to be legally compliant, including the process for classifying the tank waste and analyzing the waste to ensure that it meets the classification criteria? A logic diagram in the SEIS for waste classification would allow for a clear analysis of this important issue.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
7. Cumulative Impacts		
Seattle briefing, August 22, 2002	Tom Carpenter would like the SEIS to include cumulative impacts and update them since the TWRS EIS, which was released in 1996. New knowledge needs to be factored into the SEIS.	This HSW EIS has absorbed the scope of the former ILAW SEIS. The EIS addresses the cumulative environmental impacts from ILAW and other Hanford solid wastes handled during past, present, and reasonably foreseeable future solid waste management activities at Hanford Site (see HSW EIS Section 5.14 and Appendix L). Alternatives considered in this EIS would not preclude retrieval of ILAW, although some alternatives for combined disposal could make retrieval more difficult; however, the impacts of retrieval are not specifically evaluated. If DOE were to decide to retrieve ILAW at some later date, additional environmental review may be required.
Heart of America Northwest, formal comments, submitted by Hyun S. Lee, August 26, 2002	DOE must consider the cumulative environmental impacts disposal of the ILAW in trenches in the 200 Area will have. 40 CFR 1508.25 is not adequate to merely consider the impacts of this proposed action to the environment as though it were taking place in a vacuum or sterile environment. This proposed action will result in the disposal of 1,840,000 Ci of radiation being disposed of in the 200 Area. The NEPA regulations require the agency to consider the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR 1508.7). DOE must consider what the addition of 1,840,000 Ci of radiation will be to the already existing contamination at Hanford.	
Heart of America Northwest, formal comments, submitted by Hyun S. Lee, August 26, 2002	DOE must consider the cumulative, significant impact the proposed disposal of ILAW in the 200 Area will have to the environment (adding 1,840,000 Ci of radiation) in conjunction with the addition of 70,000 truckloads of LLW and mixed waste considered in the Hanford Site solid waste EIS. These cumulative impacts must be analyzed before any decision can be made.	
Oregon Office of Energy, Formal comments, August 30, 2002	The SEIS represents a connected action with respect to the SWEIS, and therefore needs to look at the cumulative impact of adding this waste to those wastes analyzed in the SWEIS, as well as all other current and planned disposal activities.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Washington State Department of Ecology, Formal Comments, August 23, 2002	The ILAW SEIS must be coordinated with the Hanford solid waste EIS, which addresses other land-based disposal facilities on Hanford's Central Plateau. Included in the coordinated effort must be an analysis that addresses the cumulative effects of all of the land-based dangerous waste disposal facilities on the plateau. That cumulative effect must include the overall impact of land use for those facilities.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	In the cumulative impacts analysis, DOE must consider each of the following: Interplay of HSW EIS and tank waste SEIS: The cumulative impact analysis must analyze the impact of adding almost 2,000,000 Ci of highly radioactive waste to a site slated to house an additional 70,000 truckloads of waste, as proposed recently in the Hanford solid waste EIS. The cumulative effects on both the HSW EIS and the tank waste SEIS must be analyzed.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	In the cumulative impacts analysis, DOE must consider each of the following: The tank waste cumulative impacts analysis must be tailored to both the 200 West and East Areas: The disposal of 2,000,000 Ci will affect the 200 West and 200 East Areas differently, given their differing current conditions. Also, because the *National Environmental Policy Act* requires consideration of both the current condition and foreseeable future actions at site of proposed action, the cumulative analysis should include the effects of the HSW EIS on both sites (40 CFR 1508.25 and 1508.7).	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	In the cumulative impacts analysis, DOE must consider each of the following: Effect of retrieval on low-activity waste in shared trench: DOE has indicated that the tank waste could be buried in the trenches that contain (or would under the HSW EIS) low-level waste. DOE also has indicated that the disposal of tank waste might not be permanent and that the waste might be retrieved someday. The new EIS/SEIS must consider how such retrieval would affect the LLW in the shared trench. DOE must also consider the possibility that some mixed low-level waste was inadvertently disposed of in the low-level waste trenches, and the associated risks of putting high-level waste or low-activity waste near mixed low-level waste.	
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	DOE must consider the cumulative impacts of its tank waste treatment and disposal program along with the impacts of all other waste and land use planning for Hanford.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
8. Regulatory and Legal NEPA Issues		
Seattle briefing, August 22, 2002	Tom Carpenter said that rather than preparing an SEIS, ORP should prepare a new EIS to evaluate the environmental impacts of disposing of the ILAW in trenches.	DOE considered the need for a new EIS but determined that inclusion of a NEPA analysis for the ILAW disposal in this HSW EIS (merging scopes) would be sufficient to respond to comments. Because of the added scope, the EIS includes new information and alternatives for disposal of ILAW at Hanford and DOE has decided to issue a second draft HSW EIS for public comment. DOE has consulted with the various tribes and stakeholders during the preparation of the EIS. DOE recently announced its intent to prepare a follow-on EIS (Environmental Impact Statement for Retrieval, Treatment, and Disposal of Tank Waste and Closure of Single-Shell Tanks at the Hanford Site, Richland, Washington [DOE/EIS-0356]) to the TWRS EIS for retrieval, treatment, and disposal of Hanford tank waste, and for closure of 149 single-shell tanks (68 FR 1052). That EIS would evaluate alternative treatment processes for some tank waste and disposal of low-activity waste forms other than the vitrified ILAW considered in this HSW EIS.
Portland briefing, September 3, 2002	Doug Huston asked about delegation of authority for the tank farm Supplemental EIS. He felt this was a good idea for streamlining the decision-making process.	
Heart of America Northwest, formal comments, submitted by Hyun S. Lee, August 26, 2002	DOE must consider conducting a completely new environmental impact statement, not merely a supplement to the 1996 environmental impact statement. Since the ROD was issued on the 1996 TWRS EIS there has been significant new information that would have substantively impacted decision-makers' decisions such as the discovery that the Hanford tanks were leaking into the groundwater. This SEIS is examining a substantive change in policy from temporary retrievable storage of ILAW (1,840,000 Ci of radiation) to actual permanent disposal at Hanford. This is a major change that requires in-depth examination.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	The magnitude of the proposed changes since the 1997 TWRS EIS warrants an entirely new EIS rather than a supplement to the earlier EIS.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
9. Native American Treaty Rights/Tribal Concerns		
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	DOE's planning must include specific measures it will take to fulfill its enforceable trust obligations to the Yakama Nation. Such measures should be described in the SEIS.	This HSW EIS addresses impacts on Treaty rights and discusses DOE's relationship with Native Americans (see Section 6). DOE interacts and consults regularly and directly with the Native American tribes in the vicinity of Hanford Site. DOE will continue to do so during the NEPA process for this EIS and for the Tank Waste Retrieval and Closure EIS. In addition, DOE agreed to a Yakama Nation request to participate in the preparation of the HSW EIS; however, the Yakama Nation subsequently withdrew.
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	DOE's planning must include specific measures it will take to ensure compliance with the Treaty of 1855 between the United States and the Yakama Nation. Such measures should be described in the SEIS.	
Portland briefing, September 3, 2002	Doug Riggs asked what are the tribal issues or comments thus far.	
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	Specifically, by what means and at what decision points will DOE consult with the Yakama Nation on the matters addressed in the SEIS? The planning for tank waste retrieval, treatment, and disposal all affect the near-term and long-term health and safety of Yakama Nation tribal members. In addition, the SEIS considers actions which may have extremely long-term impacts on Treaty rights as well as trust resources, and which are of great concern to the Yakama Nation. The scope of the SEIS should address in detail how DOE will integrate its planning efforts with its consultation obligations to the Yakama Nation to address these matters.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
10. Long-Term Performance, Mitigation Measures, and Stewardship		
Seattle briefing, August 22, 2002	Tom Carpenter inquired how long the monolith would perform.	This HSW EIS evaluates the environmental impacts of various disposal facilities and considers various mitigation measures. Long-term performance is evaluated over 10,000 years for trenches and vaults (as in the TWRS EIS preferred alternative). Assumptions used in modeling are discussed in Section 5.3 and Appendix G. Mitigation measures and stewardship are addressed in Section 5.18. Performance Assessments (PAs) for disposal will be prepared for proposed new and expanded disposal facilities as part of the DOE approval process under DOE Order 435.1 (DOE 2001b). PAs evaluate long-term impacts of disposal of specific wastes in proposed disposal facilities. PAs are re-evaluated regularly to assure that facilities continue to meet the long-term limits.
Seattle briefing, August 22, 2002	Ruth Yarrow asked if vaults were safer than trenches. .	
Seattle briefing, August 22, 2002	Dave Johnson suggested that we evaluate the impacts of a potential ice age that could occur in 60,000 years.	
Portland briefing, September 3, 2002	Doug Riggs asked why the concrete vaults are not as beneficial as trenches and if the trenches have a better flow or drainage system.	
Portland briefing, September 3, 2002	Doug Huston stated that it appears you have less barriers without a vault compared to a trench and the reasons need to be explained in the draft. Doug Huston stated that "not taking credit" confuses the public and the draft should explain and document why the trenches are seen as better than vaults.	
Oregon Office of Energy, Formal comments, August 30, 2002	A performance assessment for each alternative should be included in the EIS along with a description of the maintenance and monitoring programs required for each alternative. This discussion should include a detailed description of how these alternatives will be monitored for leakage. We are particularly concerned that this monitoring plan be able to detect leakage as early as possible.	
Oregon Office of Energy, Formal comments, August 30, 2002	This SEIS must discuss in detail mitigation plans and schedules for each alternative.	
Washington State Department of Ecology, Formal Comments, August 23, 2002	The ILAW SEIS must evaluate the requirements, probable success or failure, and potential costs of long-term stewardship activities associated with each of the alternatives.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	The TWRS EIS called for retrievable storage, as opposed to disposal. The new proposal for changing from storage to disposal has vast repercussions, none of which were contemplated in the original EIS and all of which warrant extensive review and consideration.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	The TWRS SEIS must consider future scenarios. For example, many scientists believe that the vitrified glass will last only 500 years before breaking down and releasing its radioactive contents into the environment. The SEIS must examine what will occur if this prediction is realized.	
Tom Carpenter, Ashley Evans, and Clare Gilbert, Government Accountability Project, West Coast Office, August 26, 2002	Additionally, the SEIS should consider the effects of global warming, climate change, and the possibility of ice age in the next several hundred to one thousand years. These global changes pose the risk of altered burial ground composition and temperature changes leading to the release of radioactive materials.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
11. Public Involvement		
Seattle briefing, August 22, 2002	Clare Gilbert wanted to know if DOE was going to respond to comments.	This HSW EIS considers all comments received on the ILAW SEIS scoping and the first draft HSW EIS. Summary level responses to scoping comments are provided in this appendix and responses to public comments received on the first draft HSW EIS appear in Volume III of this revised draft HSW EIS. DOE recognizes the need for a clear summary and has revised it accordingly.
Portland briefing, September 3, 2002	Both Doug Huston and Doug Riggs were emphatic that the executive summary be reader friendly, clear, and well supported with appropriate data on key questions that the public will have. They recommended that they or someone from their organization have a chance to review the executive summary to ensure the right issues are addressed upfront and the information is written in a public friendly style.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
12. Other Impacts and Analyses		
Public scoping meeting in Richland, August 20, 2002, Public comments	Don Clark, retired Hanford worker, Richland resident– Include relative risk and cost in the SEIS.	This HSW EIS evaluates the environmental impacts (e.g., risk, land use, irreversible and irretrievable commitment of resources, cost, transportation, ecology, etc.) for the various ILAW disposal alternatives.
Portland briefing, September 3, 2002	Doug Huston handed out copies of the Oregon of Office of Energy's comments on the SEIS. Doug Huston explained that the size and number of caps and the material required to make them could have an impact on the environment, and asked if there will be enough material onsite to generate the barriers.	
Oregon Office of Energy, Formal comments, August 30, 2002	The SEIS will need to specify potential sources of borrow material for the daily cover and capping material in order to accurately assess costs and mitigation requirements. Other ongoing activities and the HSW EIS depend on onsite borrow areas that may not contain adequate reserves. If adequate volumes cannot be identified, then the development of new borrow sources would have to be evaluated for impacts.	
Washington State Department of Ecology, Formal Comments, August 23, 2002	The SEIS should address risks and transport mechanisms associated with each of the disposal sites described.	
Paige Knight, Hanford Watch, letter, August 15, 2002	One of the values of the Hanford Advisory Board is to do no more harm to the land.	

Table A.2. (contd)

Name or Organization	Comment/Statement/Question/Concern	Response
13. Out of Scope		
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	The President and Congress have selected Yucca Mountain in Nevada as the site of the first national high-level waste repository. How does DOE integrate its defense high-level waste disposal plans for Hanford with those of the Yucca Mountain Project? How did DOE arrive at the 10% figure for allocation of repository space for combined defense high-level waste and DOE spent nuclear fuel, while the allocation reserved for commercial spent fuel is 90%? Can the total contents of Hanford's tanks be disposed of in the Yucca Mountain repository? The SEIS scope must include a description of how the DOE repository waste allocation decisions (i.e., space for commercial spent fuel vs. DOE defense high-level waste and DOE spent fuel) affect Hanford tank retrieval, treatment, and disposal planning.	Integration of HLW disposal plans across DOE sites was addressed in the Yucca Mountain EIS. The analysis in this HSW EIS focuses only on disposal on the Hanford Site of the ILAW component of the waste retrieved from the tanks. Discussion of management of HLW at Hanford will be addressed in the Tank Waste Retrieval and Closure EIS.
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	DOE has stated that it intends to maximize the "loading" of the high-level waste canisters designed for disposal in a geologic repository. The SEIS must describe in detail the factors which permit and hinder "loading" of the canisters. The criteria for loading should be described in detail in the SEIS, and the technical basis for such loading.	
Confederated Tribes and Bands of the Yakama Nation, Harry Smiskin, administrator, letter, September 26, 2002	The Hanford Tank Waste Remediation System EIS Record of Decision states that an Environmental Impact Statement will be developed prior to the disposal of any Hanford tank waste. Does this statement apply to planned closure actions for tank C-106 and other tanks being planned for closure in the near future?	

Part 2—Public Scoping Comments and Responses for the HSW EIS

The Notice of Intent (NOI) to prepare the HSW EIS was published in the Federal Register (FR) on October 27, 1997, (62 FR 55615) in accordance with 40 CFR 1501.7, 40 CFR 1508.22, and 10 CFR 1021.311. The NOI announced the schedule for the public scoping process and summarized the alternatives and environmental consequences to be considered in the EIS. Two scoping meetings were held in Richland, Washington, on November 12, 1997, followed by a meeting in Pendleton, Oregon, on November 13, 1997. Originally scheduled from October 27, 1997, to December 11, 1997, the comment period was extended by DOE through January 30, 1998 in response to a request from the State of Oregon. The notice of extension appeared in the December 11, 1997, *Federal Register* (62 FR 65254).

In Part 2 of this appendix, comments received by DOE during the scoping period are summarized and grouped into categories corresponding with the topics that were considered in preparing the HSW EIS. The comments are shown in italic typeface, and have been reproduced as accurately as possible with only minor grammatical corrections incorporated. Responses from DOE and the manner in which the comments were addressed in preparing this EIS follow each category. Persons and agency representatives who provided comments are listed in Table A.3.

Table A.3. Individuals, Organizations, and Agencies Commenting on the Scoping Phase of the HSW EIS

Name	Organization
Written Comments	
Barry C. Bede[(a)]	U.S. Ecology
Mary Lou Blazek & Dirk Dunning[(a)]	Oregon Department of Energy
Dirk Dunning	Oregon Department of Energy
Tim Heffernan	Gaian Technologies
Jay McConnaughey	State of Washington, Department of Fish and Wildlife
Vince Panesko[(a)]	Pacific Rim Enterprise Center
Sam Volpentest	Tri-City Industrial Development Council (TRIDEC)
Mike Wilson	Washington State Department of Ecology
Public Scoping Meeting Comments	
Barry C. Bede[(a)]	U.S. Ecology
Dirk Dunning[(a)]	Oregon Department of Energy
Dirk Dunning[(a)]	Private Citizen
Vince Panesko[(a)]	Pacific Rim Enterprise Center
(a) These individuals submitted written as well as oral comments.	

A.1 DOE Programmatic/Nationwide Analysis

This category contains comments related to coordination of the HSW EIS with other DOE nationwide initiatives, programs, and NEPA documents.

A.1.1 Coordination with Other Federal Reports, Environmental Impact, and DOE Policy Statements

- *The Notice of Intent (NOI) states that the Solid Waste Programmatic EIS (SW PEIS) will be coordinated with Records of Decisions (ROD) for the Waste Management Programmatic EIS (WM PEIS) and other DOE EIS that affect waste management at the Hanford Site. The NOI also states that the analysis in the SW PEIS of transuranic waste (TRU) waste management will be consistent with the forthcoming ROD for the Waste Isolation Pilot Plant (WIPP) Disposal Phase Final Supplemental EIS. The NOI also states that the goals of the 2006 Plan will be incorporated into the action alternatives evaluated for the SW PEIS. Given these three statements in the NOI, the scope of the SWP EIS must specifically include these three topics. These topics must be clearly addressed so that readers will have no difficulty verifying that the NOI statements have been fulfilled.*

- *In the NOI, there are some statements that the EIS will be coordinated with various RODs and other HSW EIS that affect waste management at the Hanford Site. The NOI also says it will be consistent with the forthcoming ROD on WIPP. It also says the goals of the 2006 Plan will be incorporated into the action alternatives. What my comment is… that these other documents, the RODs for the Waste Management EIS (WM EIS) will be clearly identified and their impact on this HSW EIS will be clearly recognized and stated.*

- *The recent site contractors conceptual study of waste shipment, processing, and packaging for disposal alternatives should be carefully evaluated and utilized when appropriate to achieve the most economical strategy for the ultimate disposal of these wastes.*

  (Note: This comment also addresses issues discussed under Section A.2, Alternatives and Activities Analyzed in the HSW EIS.)

- *Ten years ago, or a little over that, DOE entered into a consent order agreement in regard to a lawsuit in Washington, D.C., about doing a PEIS on all DOE operations. Resulting out of that, DOE splintered that requirement into a bunch of fractions. One of those was a Waste Management EIS (WM EIS) and Environmental Restoration EIS (ER EIS). The WM PEIS is only the waste management portion. The environmental restoration (ER) portion was excluded from analysis. And one of the things that I heard in the question and answer session was that this HSW EIS would also look at ER waste. And I would like to suggest to you that absent the analysis of the ER portion of the PEIS, this HSW EIS has no basis to do so. In addition, the Contractors Report, which came out in association with the focus on 2006 Plan was a report, which was not prepared in compliance with the National Environmental Policy Act (NEPA). It was not done under a Federal Advisory Committee Act process. And as such I believe it has no legal basis to be used in any decision making by DOE.*

(Note: This comment also addresses issues discussed under Section A.3, Waste Types and Volumes.)

- *The Contractors Report is clearly referenced and portions of it are included as recommendations within the national 2006 Plan. I believe as a consequence of that the 2006 Plan also fails to meet the requirements under the NEPA and under the Federal Advisory Committee Act to be able to be used for decision making. And as a consequence, this SW EIS should consider neither of those in any way as the HSW EIS is performed.*

Response to Comments on Programmatic Coordination Issues

DOE recognizes the numerous relationships that exist between the HSW EIS and other ongoing and historic DOE activities. This revised draft HSW EIS strives for consistency with existing decisions and, at the same time, provides DOE and other stakeholders with an updated analysis of Hanford Solid Waste Program operations and alternatives for implementing future activities. Every effort has been made to coordinate with, and tier from, DOE programmatic NEPA documents and decisions, such as the Waste Management Programmatic Environmental Impact Statement (WM PEIS, DOE 1997b; 63 FR 3629, 63 FR 41810, 64 FR 46661, 65 FR 10061) and the Waste Isolation Pilot Plant Supplemental Environmental Impact Statement II (WIPP SEIS II, DOE 1997c; 63 FR 3623).

A nationwide integration team authored the Site Contractors Study (DOE 1997a). The goal of that study was to identify opportunities for increasing the efficiency of DOE waste management operations by coordinating and maximizing the use of existing facilities across the DOE complex. Options considered in other DOE nationwide and Hanford Site initiatives are included in this HSW EIS to the extent that they are consistent with previous NEPA decisions. Some of those initiatives include the Hanford Federal Facility Agreement and Consent Order (Ecology et al. 1989), also known as the Tri-Party Agreement (TPA); remediation activities conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601); the Hanford Groundwater/Vadose Zone Integration Project (DOE-RL 1999a, b; DOE-RL 2000), and the DOE complex 2006 Plan. In general, those initiatives deal with methods and schedules for implementing decisions that result from programmatic NEPA documents. Specific studies of various ways to meet DOE waste management objectives are not decision documents, and need not be subject to NEPA review at the conceptual stage. Any activities proposed in those conceptual and planning documents that are incorporated into the HSW EIS alternatives will undergo the appropriate NEPA process and public review as part of preparing this document and a subsequent ROD. Relationships between NEPA documents and other studies are addressed in this HSW EIS.

Environmental restoration waste is generally not within the scope of the HSW EIS. However, it will be evaluated using the CERCLA process, which provides for assessment of environmental consequences and public review in a manner similar to the NEPA process.

A.1.2 Nationwide Impact Comparisons and Equity Issues

- *The SW EIS must be part of a systematic, complex-wide examination of trade-offs between candidate sites for receipt of additional solid waste…In comments on the PEIS and in other forums, Ecology has noted a critical missing element in DOE's decision-making process for selecting sites for waste treatment, storage, or disposal within the DOE complex. The PEIS is sufficient for making conceptual decisions on whether various waste streams should be centrally, regionally, or decentrally managed and disposed. Site-specific analyses are appropriate for understanding the impacts of those decisions on a given site. Missing is a meaningful comparison of environmental impacts between the candidate sites… To satisfy this need, the SW EIS must be one of several site-specific EIS each addressing a candidate site.*

- *Of special note, both the SW EIS and DOE's broader programmatic decision-making process should consider equity among the sites in both alternative development and impact analysis.*

  (Note: This comment also addresses issues discussed under Section A.2, Alternatives and Activities Analyzed in the HSW EIS.)

- *The transfer of wastes between sites where significant economies of processing and disposal costs and the avoidance of the duplication of needed facilities and programs should be fully considered. In inter-site transfers of wastes between sites, i.e., DOE Richland Operations Office (DOE-RL) and Idaho National Engineering and Environmental Laboratory (INEEL), a reasonable equity balance between the sites should be maintained.*

  (Note: This comment also addresses issues discussed under Section A.2, Alternatives and Activities Analyzed in the HSW EIS.)

- *The mixed waste issue must be addressed on a nation-wide basis, including the shipment of wastes between sites to achieve the most economical waste processing and disposal.*

  (Note: This comment also addresses issues discussed under Section A.2, Alternatives and Activities Analyzed in the HSW EIS.)

- *Managing wastes using primarily cost considerations has been largely responsible for the magnitude of DOE's existing complex-wide cleanup problem. It is time to begin selecting the best disposal sites based on technical and social considerations rather than on economic or other secondary factors.*

  (Note: This comment also addresses issues discussed under the Section A.2, Alternatives and Activities Analyzed in the HSW EIS.)

Response to Comments on Nationwide Analysis

In 1989, DOE established the U.S. Department of Energy Office of Environmental Management (EM) in an effort to coordinate cleanup and waste management activities at DOE facilities. Before this, DOE had focused on managing its waste through individual site-specific programs. As more sites have come into compliance with regulations and urgent needs have been addressed, DOE has been able to focus on a more unified nationwide vision. This vision is reflected in the Final WM PEIS, which presents a nationwide strategy to treat, store, and dispose of radioactive and hazardous waste in a safe, responsible, and efficient manner.

To increase efficiency across the complex, DOE established an Environmental Management Integration initiative. The underlying strategy of the initiative is to increase the efficiency in DOE waste management operations by eliminating the need for redundant facilities, applying site lessons learned across the nation, and using available waste management capabilities across program boundaries. These efforts illustrate a DOE movement towards examining and implementing cleanup and remediation actions from a nationwide perspective.

DOE nationwide waste management impacts have been evaluated in the WM PEIS and in various site-specific NEPA documents. The DOE considered a range of factors, including scientific, technical, economic, and equity issues in making decisions in the WM PEIS RODs (63 FR 3629, 63 FR 41810, 64 FR 46661, 65 FR 10061). The HSW EIS analyzes alternatives for implementing the WM PEIS RODs at Hanford.

A.2 Alternatives and Activities Analyzed in the HSW EIS

This category contains comments related to the proposed alternatives and waste management activities analyzed in the revised HSW EIS.

A.2.1 Alternative Options

A.2.1.1 Shipment of Offsite Waste to Hanford

- *Any costs related to the processing and disposal of wastes from other sites, which are shipped to Hanford, must be funded by HQ or the originating site as an addition to the Hanford cleanup budget. This supplemental funding must be on a full-cost recovery basis including appropriate site overhead and infrastructure costs.*

- *Normally any wastes shipped to Hanford from other sites for processing should be returned to the originating site or to the end disposal location for final disposal. In some cases, it may be appropriate to dispose of the processed wastes at Hanford if suitable facilities are not available elsewhere within the DOE complex. The shipment of additional offsite waste (over and above that which is already in the Hanford baseline) to Hanford for direct disposal may be done only under the following conditions:*

- *It does not increase the amount of land required to be set aside for Hanford's own waste.*

- *The waste meets the acceptance and disposal criteria as currently specified which assures environmental and public safety.*

- *It reduces the cost or accelerates the disposal, of Hanford's own waste.*

- *Accompanying incremental funding is provided for treatment, storage, and/or disposal of the waste.*

- *Any waste shipments to Hanford for processing, interim storage, or disposal must not interfere with or delay any Hanford Site cleanup activities.*

- *As DOE is well aware, there is a significant risk that DOE's proposed actions for handling the immense amounts of other wastes on the Hanford Site are not assured…. Under these circumstances, it is inappropriate for DOE to consider the importation of any waste to Hanford until the cleanup of Hanford wastes is both assured and complete.*

- *The current plans within things such as the 2006 Plan and other documents discuss perhaps leaving a large majority of the tank waste at Hanford buried in-place, rather than retrieving it. If these decisions are made, as the Contractors Report points out, they are recommending increasing the legal exposure limits in order to allow that to occur…As a consequence, bringing any additional waste to Hanford would cause it also to be a part of that exceedence of the legal limit, and as a consequence, it would be unacceptable under the law to do so.*

(Note: This comment also addresses issues discussed under Section A.1, Programmatic/Complex-Wide Analysis.)

Response to Comments on Shipment of Offsite Waste to Hanford

DOE nationwide waste management impacts have been evaluated in the WM PEIS and in various site-specific NEPA documents. The DOE considered a range of factors, including scientific, technical, economic, and equity issues in making decisions in the WM PEIS RODs (63 FR 3629, 63 FR 41810, 64 FR 46661, 65 FR 10061). The HSW EIS analyzes alternatives for implementing the WM PEIS RODs at Hanford.

Hanford waste management services currently used by offsite DOE waste generators are supported in part by fees charged to those generators. The U.S. Department of Energy Richland Operations Office will request funding adequate to meet cleanup goals, including TPA milestones. However, funding for Hanford Site cleanup and other DOE activities is ultimately determined by Congress.

Any waste received for processing or disposal at Hanford would meet the site waste acceptance criteria (FH 2002). Most offsite waste is expected to be in ready-to-dispose form. Disposal and treatment of offsite waste at Hanford could facilitate the cleanup and closure of other DOE facilities in the short

term, which would reduce or eliminate the costs associated with operating those facilities. Reducing the long-term costs of operating those facilities may ultimately make additional funding available to Hanford and other major DOE sites for management of more complex waste streams.

Land-use impacts at Hanford are evaluated in the HSW EIS.

The consequences of alternatives considered in the HSW EIS are evaluated with respect to their cumulative impacts with other past, present, and reasonably foreseeable activities at the Hanford Site.

A.2.1.2 Use of Commercial or Offsite Disposal Facilities

- *U.S. Ecology encourages the DOE-RL to include, in the Hanford Site SW EIS scope and alternatives, the potential use of the commercial low-level radioactive waste (LLW) site located between 200 East and 200 West on the Hanford Reservation to dispose of DOE LLW…U.S. Ecology offers the use of its site as a viable alternative to expansion or reconfiguration of the existing Hanford LLW burial site. All LLW identified in the recent NOI (with the exception of Greater Than Class C Waste) has previously been and in the future can be disposed of at the U.S. Ecology site.*

- *Evaluation of the use of the commercial site in the HSW EIS would clearly demonstrate Hanford Operation's commitment to be fiscally responsible, economically conscience, administratively efficient and environmentally protective in considering LLW disposal options.*

- *Immediate closure of the Hanford LLW burial grounds also should be evaluated. Waste currently at the burial grounds was disposed of using operating procedures significantly different from those at the U.S. Ecology site. Possible relocation of this waste to the commercial site should be assessed for its potential environmental impact in the HSW EIS scope. Similar attention should be given to the environmental impact of direct receipt of offsite DOE laboratory LLW at the U.S. Ecology site.*

- *We (U.S. Ecology) believe that the alternatives you have selected are basically very, very broad alternatives, and that under the possible alternative of minimizing waste, that the consideration of using commercial facilities (in particular U.S. Ecology) for the disposal of LLW should be considered.*

- *The proposed HSW EIS should evaluate not only the impacts of ongoing and past activities at Hanford but should also seriously consider the relative impacts of utilizing existing offsite disposal alternatives… Any consideration of further onsite waste disposal should be secondary to a consideration of offsite alternatives. Unless onsite disposal can be clearly demonstrated to be preferable on environmental, social and economic grounds, offsite disposal should be prioritized.*

Response to Comments on the Use of Commercial or Offsite Disposal Facilities

This revised draft HSW EIS considers the option of sending some LLW to a commercial disposal site, such as the U.S. Ecology site at Hanford. Potential benefits to this action, such as avoiding the need to develop new waste disposal facilities and disruption of sensitive habitats, are noted. However, because

waste sent to U.S. Ecology would be disposed of in proximity to the DOE Low Level Burial Grounds (LLBGs), the impacts of this option would be similar to other onsite disposal alternatives and are not evaluated in detail.

Some waste that may be generated at Hanford and at other DOE facilities would not be suitable for disposal at commercial facilities under existing permits and regulations. Nor would it be cost-effective or environmentally beneficial to relocate LLW that was disposed of in the LLBG after 1970, because regulations governing disposal of DOE waste have historically been similar to those for commercial facilities. (Waste that was disposed of at the Hanford Site prior to 1970 will be evaluated under the CERCLA process and remediated as necessary.) Therefore, the Hanford Site would need to maintain its waste management operations and infrastructure to provide for disposition of wastes that are not suitable for commercial disposal, as well as to prepare the existing disposal facilities for final closure.

The WM PEIS ROD for LLW and MLLW identified the Hanford Site as a regional site for disposal of LLW, and for treatment and disposal of MLLW, from onsite and offsite DOE generators (65 FR 10061). The WM PEIS ROD for TRU waste specified that DOE sites, with few exceptions, would be responsible for preparing and certifying TRU waste at the site where it was generated for eventual disposal at the WIPP (63 FR 3629). These decisions also specified the Hanford Site would manage LLW, MLLW, and TRU waste generated at Hanford. Use of commercial facilities for treatment or disposal of some Hanford waste would be consistent with the WM PEIS decisions, to the extent that such use is more cost-effective than developing similar capabilities at Hanford. However, use of other DOE sites for disposal of Hanford LLW or MLLW would generally be inconsistent with the WM PEIS decisions, which considered the environmental consequences associated with management of radioactive and hazardous waste across the DOE complex.

A.2.1.3 Alternative Actions and Emerging Technologies

- *At one time solid waste containing plutonium at Hanford was incinerated to recover the plutonium from the ash. Incineration routinely achieved greater than 95% volume reduction of the waste form. Such a volume reduction would significantly reduce the life cycle costs of subsequent storage and permanent disposal. The cost saved in permanent disposal space is a savings, which will accrue for decades or longer. An ash product may be more amenable to treatments that meet land ban requirements. Therefore, I recommend that incineration be considered as an alternative for all waste types.*

- *One option being considered by another DOE program at Hanford is to fill unused canyon facilities with solid nuclear waste prior to entombment. This alternative should be considered for at least the GTC3 waste. The alternative of putting new solid waste into the canyons should be considered as opposed to contaminating new soil.*

- *The caissons contain remote-handled waste. The radiation levels are so high that recovery actions may put workers at an unacceptable risk. Consider an alternative for adding a fixant to the caissons (perhaps filling the caisson with a liquid that sets up into a solid).*

Response to Comments on Alternative Actions and Emerging Technologies

Thermal treatment of some MLLW streams is being considered in the HSW EIS action alternatives. Both MLLW and TRU waste would be treated as required by regulation, or to meet disposal facility acceptance criteria. However, the environmental consequences of constructing and operating new treatment facilities, the cost of treatment, and the relative advantages of reducing waste volume may not be justified for other types of waste. Consistent with the WM PEIS ROD for LLW, waste will be treated as required to prepare it for transportation and disposal (65 FR 10061). Minimal treatment involves stabilization and packaging of LLW, including solidification of liquid and particulate waste. Additional volume reduction measures, such as compaction, thermal treatments, or size reduction, could be employed at the discretion of individual waste generators. However, DOE decided not to pursue LLW volume reduction as a nationwide policy because the projected benefits would not be justified by the cost, environmental impacts, and potential health risk to workers from constructing and operating facilities to provide those capabilities (65 FR 10061).

An ongoing CERCLA study is considering the use of the major canyon facilities for disposal of some waste types that are included in the HSW EIS. As currently envisioned, higher hazard waste such as Category 3 LLW would be placed inside the canyons and other wastes (Category 1 LLW, for example) would be placed above and outside the canyon. The entire facility would then be covered with a layer of soil and capped. The HSW EIS evaluation of LLW disposal in the LLBGs would bound the impacts of disposal in the canyon facilities.

DOE previously decided to retrieve TRU waste stored in the 200 Area LLBGs, including waste in the caissons, as a result of analyses in the Hanford Defense Waste EIS (HDW EIS)(DOE 1987; 53 FR 12449). The HSW EIS evaluates processing and certification of TRU waste, but additional analysis of retrieval activities has been deferred. LLW within caissons, including remote-handled (RH) LLW, would not be retrieved.

A.2.2 Recommended Alternative Analyses

- *As scoping for this HSW EIS is occurring in advance of decisions on the PEIS, in accordance with NEPA this HSW EIS must also examine and consider all reasonable alternatives to the proposed TSD at Hanford. These alternatives should include analysis of similar options at sites from which waste is proposed to be shipped, as well as separate treatment, storage and disposal at sites with no transport of waste.*

  (Note: This comment also addresses issues discussed under Section A.1, Programmatic/Complex-Wide Analysis.)

- *The SW EIS must examine the full range of alternative management and disposal options. In developing and examining options, the HSW EIS should emphasize the following: waste minimization, treatment, avoidance of impacts, and support of cleanup activities. As the alternatives are analyzed, the HSW EIS should be particularly sensitive to impacts on: land use, cleanup schedules, transportation, habitat and compliance with cleanup laws.*

(Note: This comment also addresses issues discussed under Section A.4, Environmental Consequences and Analysis Methods.)

- *Closure of these waste streams (Low Level Burial Grounds [LLBG] and Mixed Low-Level Radioactive Waste [MLLW] trenches) will involve some type of barrier requiring geological resources. The geological resources needed may include: soil, sand, gravel and basalt…Washington Department of Fish and Wildlife (WDFW) requests that a NEPA analysis (EIS) occur to evaluate the environmental impacts related to closure activities for waste streams of the Solid Waste program, the Tank Waste Remediation System (TWRS) program, and the ER program requiring geological resources.*

Response to Comments on Alternative Analyses

Consequences of managing radioactive, hazardous, and mixed waste were evaluated in the WM PEIS, the WIPP SEIS II, and a number of site-specific NEPA documents. The WM PEIS decisions, issued since the HSW EIS scoping period ended, specified that the Hanford Site would be available to treat MLLW and dispose of LLW and MLLW from both offsite and onsite generators. Hanford would also process TRU waste for disposal at WIPP as a result of those decisions. The HSW EIS analyzes the impacts at Hanford from implementing those programmatic decisions. Impacts at other potential waste generator and management sites have been evaluated in the programmatic documents, as well as in other site-specific NEPA analyses, and are not duplicated in this HSW EIS.

Consequences of solid waste program activities at Hanford are evaluated for all applicable resources as required under NEPA, including land use, geological resources, ecological resources, and traffic and transportation. Waste minimization and pollution prevention are also discussed.

The cumulative impacts of waste management activities that are the subject of the HSW EIS are considered in addition to those from other past, present, and reasonably foreseeable activities at Hanford. Hanford Site needs for geologic resources have been addressed in other NEPA documents (DOE 1999, 2001a). As part of commitments made in the *Hanford Comprehensive Land-Use Plan Environmental Impact Statement* (DOE 1999) the Hanford Site is developing a plan for managing geologic resources that may be required for sitewide programs and activities.

A.3 Waste Types and Volumes

This category contains comments related to the types of waste and the waste volumes from Hanford and other DOE generators evaluated in the HSW EIS.

- *The WM PEIS needs to make it clear that pre-1970 waste containing plutonium and buried in cardboard boxes does not fall within the scope of this WM PEIS. The WM PEIS needs to provide a simple and crystal clear explanation as to why the pre-1970 waste is not within its scope. The explanation needs to provide a simple overview of the NEPA process, which is applicable to the pre-1970 burial grounds. Since the pre-1970 burial grounds are within close proximity to post-1970 TRU*

burial grounds, the WM PEIS needs to address consistencies and inconsistencies which may exist between the results of the NEPA process for the two different types of burial grounds.

- *I would recommend that the scope of this HSW EIS address the pre-1970 TRU and clearly explain why it's not within the jurisdiction of this HSW EIS...*

- *It is essential that decisions regarding both onsite and offsite waste management and disposal be made with a full understanding of what is currently on site. The SW EIS must establish a detailed (baseline) solid waste inventory. That will require a rigorous assessment of the types and volumes of solid waste that has been previously disposed at Hanford and what is currently waiting disposal. Added to that must be the anticipated onsite solid waste stream including pre-1990 wastes. Offsite wastes currently being received for disposal should not be included in a Hanford baseline. DOE should not assume these current relationships would automatically continue.*

  The solid waste baseline must then be combined with a sitewide waste inventory to create a Hanford Site baseline. This sitewide estimate must include other present and future Hanford Site waste streams such as remedial wastes and low and high activity tank wastes. It also must include residual contamination following planned cleanup activities.

  (Note: This comment also addresses issues discussed under Section A.2, Alternatives and Activities Analyzed in the HSW EIS.)

- *The amount of waste and its content (at Hanford) is very poorly and inadequately understood. At Hanford there is according to papers released by the Secretary of Energy, Hazel O'Leary, last year, 1.522 metric tons of plutonium unaccounted for. DOE is not convinced all of that ever actually existed. They are confidant that at least 400 kilograms really does exist and that they don't know where it is but are fairly certain it didn't leave Hanford. As a consequence, that material is likely in the facilities at Hanford or in disposal somewhere on the Hanford Site in unknown conditions. Those materials pose a sizable risk, which must be accounted for in the analysis under the SW EIS.*

- *Liquid wastes from other sites can only be shipped to Hanford for treatment (and disposal of the residual solid waste) if it can be safely shipped, handled, and treated. No liquids shall be directly disposed.*

- *We believe that DOE should break this HSW EIS into two separate pieces. One HSW EIS should deal with the onsite waste. The other HSW EIS should deal with offsite wastes. The lack of specific information on the quantity or character of offsite wastes necessitates this.*

- *To aid in the comparison between candidate sites and in the analysis of impacts at Hanford, the SW EIS must examine the incremental impacts of any offsite wastes that may be sent to Hanford for treatment or disposal. Hanford's solid waste baselines are essential to this examination so decision makers, state, local, and tribal officials and the public know what is already present at Hanford.*

Response to Comments on Waste Types and Volumes

The HSW EIS describes the existing and anticipated waste types and volumes included within its scope, as well as an explanation of waste types specifically excluded from analysis. Several waste types, including high-level radioactive waste, immobilized low-activity tank waste, spent nuclear fuel, hazardous waste, and waste from environmental remediation activities (including pre-1970 buried waste), are outside the scope of the HSW EIS, either because they have been evaluated in other NEPA documents, or are being addressed under the CERCLA process. The CERCLA process provides for analysis of environmental impacts in a manner that is generally consistent with the requirements of NEPA. Therefore, facilities that will be evaluated under CERCLA cleanup projects, such as pre-1970 waste in the inactive LLBG, are not included in the HSW EIS.

DOE recognizes the importance of examining the combined impacts from all waste storage, treatment, and disposal activities on the Hanford Site. The Groundwater/Vadose Zone Integration Program (DOE-RL 1999a, b; DOE-RL 2000) has undertaken an extensive task to quantify the radioactive and hazardous materials that may remain at the Hanford Site. Impacts from the management of these waste types are also included in the analyses of cumulative impacts in the HSW EIS to the extent that information is available.

DOE has very tight controls on the accounting of nuclear material because of safeguards and security. When the material is technically or economically unrecoverable and intentionally sent to waste, it is referred to as "normal operating losses." The 1,522 kg (3355 lb) of plutonium in waste at Hanford is accounted for as follows:

- high-level waste in the tank farms - 455 kg (1003 lb)
- solid waste in the burial grounds - 875 kg (1929 lb)
- waste in cribs, trenches, and ponds - 192 kg (423 lb)
- total - 1,522 kg (3355 lb).

The amount of plutonium in normal operating losses is consistent with the amounts reported in waste. For example, the normal operating loss of 192 kg (423 lb) in cribs, trenches, and ponds is consistent with the inventory of 190 kg (420 lb) (rounded) of plutonium that has been reported for TRU contaminated soil under the Hanford Environmental Restoration Program.

The Hanford Solid Waste Program primarily manages solid operational radioactive and hazardous waste, and generally does not receive liquid waste. Liquids are treated and converted to a solid waste form before receipt by the Solid Waste Program for disposal. The Hanford Site *Solid Waste Acceptance Criteria* (HSSWAC) document requires stabilization or use of sorbents with waste containing free liquids in the LLBGs (FH 2002).

The HSW EIS considers the consequences of managing most solid radioactive and hazardous operational waste that has been, or will be, received at Hanford. This assessment uses the best available information on previously disposed waste and forecast receipts. For the purposes of analysis in this EIS, a range of forecast LLW and MLLW volumes was evaluated to encompass the uncertainties in quantities

of waste that might ultimately be received at Hanford under the WM PEIS RODs. The Lower Bound waste volume considered in this EIS was obtained from the Hanford Solid Waste Integrated Forecast Technical (SWIFT) report (Barcot 1999), which includes forecast waste receipts from onsite programs where applicable, as well as small quantities of waste that Hanford is obligated to receive under existing agreements with offsite generators. Additional offsite waste that could come to Hanford under the WM PEIS RODs is included in an Upper Bound waste volume, so the incremental impacts of that waste can be clearly evaluated. The volume of TRU waste is based on a recently updated forecast (Barcot 2002) to incorporate a single maximum volume only, because the Hanford Site is not expected to receive substantial quantities of TRU waste from offsite DOE generators. The basis for quantities of each waste type evaluated is discussed in the HSW EIS.

A.4 Environmental Consequences and Analysis Methods

This category contains comments related to the types of environmental consequences evaluated in the HSW EIS and the methods used to analyze environmental impacts.

- *We are concerned about the risk assessment proposed by DOE. As the SX tank farm expert panel pointed out in their final report - none of the existing site or national vadose zone and groundwater models adequately predict the fate and transport of radioactive and hazardous waste through the soils at Hanford… Any model used must include a good assessment of the uncertainty of the calculations. It also must include a numerical estimate of the uncertainty of the model itself due to invalid assumptions, and model errors. This can only be achieved by validating the models against real world data. This validation must not use data that was used in the creation of the models.*

- *I think it is absolutely vital that all of the cumulative impacts from the site need to be addressed to great degree, and that needs to be with not just the best data available, but accurate data about the transport of radioactive and hazardous materials under the Hanford Site. To date that data does not exist. The most recent data released as part of the SX tank farm expert panel report indicates that previous data was wholly inadequate and inaccurate…*

- *The SW EIS proposed to do a comprehensive assessment of the cumulative risk…. We support a comprehensive assessment, but question whether adequate tools or data exist to perform such an assessment.*

- *To properly analyze the impacts, this HSW EIS should analyze impacts to every community effected by transport from every site waste is shipped. It should analyze the risks from disposal of these wastes in combination with all of the other risks already at Hanford… The scoping of this HSW EIS should be extended to allow affected communities along potential transport routes to have input into the framing of the HSW EIS.*

  (Note: This comment also addresses issues discussed under Section A.2, Alternatives and Activities Analyzed in the HSW EIS.)

- *Any interstate transportation of wastes is an issue, which must be carefully evaluated to ensure an adequate degree of public and environmental safety is maintained.*

- *An extensive stand of a big sagebrush/spiny hopsage plant community can be found there (central Plateau, of the Hanford Site). This plant community has been identified by WDFW as Priority Shrub Steppe Habitat…The expansion of the LLBG and MLLW trenches and any other new facilities related to this action could impact Priority Shrub Steppe Habitat of the Central Plateau if not wisely sited. We are requesting the following site selection processes occur for new facilities, expansions of reconfigurations…1) Avoid shrub steppe habitat by utilizing existing disturbed areas…2) Focus within the 200 East and 200 West fence line, excluding the 200 West expansion area…. etc.*

  (Note: This comment also addresses issues discussed under Section A.2, Alternatives and Activities Analyzed in the HSW EIS.)

- *The burial grounds are located in the vicinity of several facilities including T cribs, Z cribs, T-Tank Farms, 242-T Evaporator, 231-Z, 234-5, covered T-ditches, covered ditches from Z plant to U pond, covered U pond, covered ditches to S ponds and covered S ponds. The cleanup criteria, which may be addressed in the SW PEIS, should be consistent with the criteria used for the cleanup of the surrounding facilities. DOE needs to avoid spending millions of dollars to cleanup a burial ground when a nearby site may be left in place with a larger radionuclide inventory than the burial ground.*

  (Note: This comment also addresses issues discussed under Section A.2, Alternatives and Activities Analyzed in the HSW EIS.)

Response to Comments on Environmental Consequences and Analysis Methods

Hanford Site groundwater and vadose zone models have been incorporated into a sitewide model as part of the Groundwater/Vadose Zone Integration Project (DOE-RL 1999a, b; DOE-RL 2000). This sitewide simulation capability, known as the System Assessment Capability (SAC), has been designed as a stochastic capability with an option to perform deterministic simulations. It uses the groundwater model of the Hanford Site produced and supported by the Groundwater Monitoring Program. Currently, the groundwater portion of this model implements a fully three-dimensional conceptual model of the unconfined aquifer. This model has been inverse calibrated to Hanford Site water table measurements from 1944 to the present, and uses knowledge of geohydrologic units and field measurements of hydraulic conductivity to condition the model calibration. Future revisions of the SAC will incorporate inverse calibrated alternate conceptual models of the aquifer. However, at present, uncertainty in groundwater contaminant migration and fate is represented by the uncertainty in contaminant mobility as reflected in uncertainties in linear sorption isotherm model parameters (for example, distribution coefficients for various contaminants). At the time of preparation, the HSW EIS cumulative impacts evaluation used the best information available from the Groundwater/Vadose Zone Integration Project (DOE-RL 1999a, b; DOE-RL 2000) and from the Hanford Site Composite Analysis (Kincaid et al. 1998). The HSW EIS provides a conservative analysis commensurate with the purpose of the document, which is to bound and compare the consequences of the alternatives.

The consequences of transporting waste between DOE sites were evaluated in the WM PEIS (DOE 1997b) and the WIPP SEIS II (DOE 1997c). Analysis of onsite transportation is included in the HSW EIS, as needed, to address alternatives involving onsite and inter-site transportation of waste. However, the HSW EIS does not re-evaluate transportation between DOE sites that was addressed in previous nationwide NEPA analyses.

The consequences of constructing new facilities that may be needed to implement various alternatives are evaluated in the HSW EIS, including ecological impacts on sensitive plant and animal communities.

Cleanup criteria for various facilities surrounding the active LLBG are outside the scope of the HSW EIS. Cleanup criteria for environmental restoration facilities would be defined and evaluated during remedial actions conducted under the CERCLA process. Soil contamination in the 200 Areas has been evaluated in a number of recent studies (Simpson et al. 2001; Coony 2002). However, environmental remediation activities are regulated separately from the routine waste disposal operations considered in the HSW EIS. Criteria for disposal of LLW and MLLW in the LLBGs (FH 2002) were established to comply with existing regulations, which generally result in risks similar to those used as criteria for remediation activities.

A.5 Public Involvement and Government Agency Consultations

This category contains comments related to public involvement and coordination of the HSW EIS decisions with other government agencies and stakeholders.

- *Information about this HSW EIS was inadequate for the public to understand the potential scope and ramifications. We formally request DOE extend the public comment period on this HSW EIS until January 30, 1998.*

- *In addition, the HSW EIS should seek input from the Yakama, Umatilla, and other affected Native American communities. Their aboriginal lands have been impacted and they have the greatest personal stake in the outcomes selected for Hanford.*

- *Full public disclosure of hearings must be held on any proposed inter-site transfer of waste for processing, interim storage or disposal.*

  (Note: This comment also addresses issues discussed under Section A.4, Environmental Consequences and Analysis Methods.)

Response to Comments on Public Involvement and Government Agency Consultation

The scoping comment period was extended beyond the required 30 days as requested. In addition to the HSW EIS public meetings, numerous briefings were provided to tribal organizations, state agencies, the Hanford Advisory Board, and other organizations upon request. Information regarding the HSW EIS was also available at the National Dialog Meetings held in conjunction with publication of the final WM PEIS.

At their request, the Yakama Nation was invited to participate in preparation of the HSW EIS. Comments were also requested from other Tribal Nations, but none offered comments on the scope of the HSW EIS. They had an opportunity to review the first draft HSW EIS and provide input during the comment period following its publication. Their input on this revised draft HSW EIS will also be considered in preparing the final HSW EIS and a subsequent ROD.

Inter-site transport of waste between DOE sites was evaluated in the WM PEIS and WIPP SEIS II (discussed under responses in Section A.4). During preparation of those documents, extensive public input was obtained from communities potentially affected by transportation activities. Additional consultation with emergency planning organizations in potentially affected communities would take place as actual waste shipments are planned.

A.6 References

10 CFR 1021. "National Environmental Policy Act Implementing Procedures." U.S. Code of Federal Regulations. Online at: http://www.access.gpo.gov/nara/cfr/waisidx_02/10cfr1021_02.html.

40 CFR 1500-1508. Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. U.S. Code of Federal Regulations. Online at: http://www.access.gpo.gov/nara/cfr/waisidx_01/40cfrv28_01.html.

53 FR 12449. "Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes, Hanford Site, Richland, Washington; Record of Decision (ROD)." *Federal Register* (April 14, 1988).

62 FR 55615. "Notice of Intent to Prepare a Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement, Richland, Washington." *Federal Register* (October 27, 1997).

62 FR 65254. "Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement Richland, Washington; Public Scoping Period Extension." *Federal Register* (December 11, 1997).

63 FR 3623. "Record of Decision for the Department of Energy's Waste Isolation Pilot Plant Disposal Phase." *Federal Register* (January 23, 1998).

63 FR 3629. "Record of Decision for the Department of Energy's Waste Management Program: Treatment and Storage of Transuranic Waste." *Federal Register* (January 23, 1998).

63 FR 41810. "Record of Decision for the Department of Energy's Waste Management Program: Treatment of Non-wastewater Hazardous Waste." *Federal Register* (August 5, 1998).

64 FR 46661. "Record of Decision for the Department of Energy's Waste Management Program: Storage of High-Level Radioactive Waste." *Federal Register* (August 26, 1999).

64 FR 61615. "Record of Decision: Hanford Comprehensive Land-Use Plan Environmental Impact Statement (HCP EIS)." *Federal Register* (November 12, 1999).

65 FR 10061. "Record of Decision for the Department of Energy's Waste Management Program: Treatment and Disposal of Low-Level Waste and Mixed Low-Level Waste; Amendment of the Record of Decision for the Nevada Test Site." *Federal Register* (February 25, 2000).

67 FR 45104. "Supplemental Environmental Impact Statement for Disposal of Immobilized Low-Activity Wastes from Hanford Tank Waste Processing." *Federal Register* (July 8, 2002). Online at: http://frwebgate.access.gpo.gov.

68 FR 1052. "Notice of Intent To Prepare an Environmental Impact Statement for Retrieval, Treatment, and Disposal of Tank Waste and Closure of Single- Shell Tanks at the Hanford Site, Richland, WA." *Federal Register* (January 8, 2003). Online at: http://a257.g.adamaitech.net/7/257/2422/14mar20010800/edocket.access.gpo.gov/2003/03-318.htm.

42 USC 4321 et seq. National Environmental Policy Act (NEPA) of 1969. Online at: http://www4.law.cornell.edu.

42 USC 9601 et seq. 1980. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Online at: http://www4.law.cornell.edu.

Barcot, R. A. 1999. *Solid Waste Integrated Forecast Technical (SWIFT) Report*. HNF-EP-0918, Rev. 5, Fluor Hanford, Inc., Richland, Washington.

Barcot, R. A. 2002. *Solid Waste Integrated Forecast Technical (SWIFT) Report.* HNF-EP-0918, Rev. 9, Fluor Hanford, Inc., Richland, Washington.

Cooney, F.M. 2002. *Groundwater/Vadose Zone Integration Project Methods Used to Assemble Site-Specific Waste Site Inventories for the Initial Assessment*. BHI-01570, Rev 0, Bechtel Hanford, Inc., Richland, Washington.

DOE. 1987. *Final Environmental Impact Statement for Disposal of Hanford Defense High-Level, Transuranic, and Tank Wastes*. DOE/EIS-0113, U.S. Department of Energy, Richland, Washington.

DOE. 1996. *Tank Waste Remediation System, Hanford Site, Richland, Washington, Final Environmental Impact Statement*. DOE/EIS-0189, U.S. Department of Energy, Richland, Washington.

DOE. 1997a. *A Contractor Report to the Department of Energy on Environmental Management Baseline Programs and Integration Opportunities (Discussion Draft)*. INEL/EXT-97-00493. Complex-Wide EM Integration Team, U.S. DOE Office of Environmental Management, Germantown, Maryland.

DOE. 1997b. *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste.* DOE/EIS-0200-F, Vol. 1-5, U.S. Department of Energy, Washington, D.C.

DOE. 1997c. *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement*. DOE/EIS-0026-S-2, U.S. Department of Energy, Carlsbad Area Office, Carlsbad, New Mexico.

DOE. 1999. *Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement*. DOE/EIS-0222F, U.S. Department of Energy Richland Operations Office, Richland, Washington.

DOE. 2001a. *Environmental Assessment – Use of Existing Borrow Areas, Hanford Site, Richland, Washington*. DOE/EA-1403, U.S. Department of Energy Richland Operations Office, Richland, Washington.

DOE. 2001b. *Radioactive Waste Management*. DOE Order 435.1 Change 1, U.S. Department of Energy. Washington, D.C. Online at: http://www.directives.doe.gov.

DOE-RL. 1999a. *Groundwater/Vadose Zone Integration Project Background Information and State of Knowledge*. DOE/RL-98-48, Vol. II, Rev. 0, U.S. Department of Energy Richland Operations Office, Richland, Washington.

DOE-RL. 1999b. *Groundwater/Vadose Zone Integration Project Summary Description*. DOE/RL-98-48, Vol. I, Rev. 0., U.S. Department of Energy Richland Operations Office, Richland, Washington.

DOE-RL. 2000. *Volume III: Groundwater/Vadose Zone Integration Project Science and Technology Summary Description*. DOE/RL-98-48, Volume III, Rev. 1, U.S. Department of Energy Richland Operations Office, Richland, Washington.

Ecology, EPA, and DOE. 1989. *Hanford Federal Facility Agreement and Consent Order*. 89-10 REV. 5 (As Amended through December 31, 1998). Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Richland, Washington. Online at: http://www.hanford.gov/tpa/coverpg.htm.

FH. 2002. *Hanford Site Solid Waste Acceptance Criteria*. HNF-EP-0063, Rev. 7, Fluor Hanford, Inc., Richland Washington.

Kincaid, C. T., M. P. Bergeron, C. R. Cole, M. D. Freshley, N. L. Hassig, V. G. Johnson, D. I. Kaplan, R. J. Serne, G. P. Streile, D. L. Strenge, P. D. Thorne, L. W. Vail, G. A. Whyatt, and S. K. Wurstner. 1998. *Composite Analysis for Low-Level Waste Disposal in the 200 Area Plateau of the Hanford Site*. PNNL-11800, Pacific Northwest National Laboratory, Richland, Washington.

Simpson, B. C., R. A. Corbin, and S. F. Agnew. 2001. *Groundwater/Vadose Zone Integration Project: Hanford Soil Inventory Model.* BHI-01496, Rev 0, Bechtel Hanford Inc., Richland, Washington.