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Page 1 of 2

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ENVIRONMENTAL PERMITS AND APPROVALS PLAN FOR HIGH-LEVEL WASTE INTERIM STORAGE, PROJECT W-464

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Lockheed Martin Hanford Corporation, Richland, WA 99352
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Abstract: Permitting Plan regarding NEPA, SEPA, RCRA, and other regulatory standards and alternatives, for planning the environmental permitting of the Canister Storage Building, Project W-464.

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ENVIRONMENTAL PERMITS AND APPROVALS PLAN FOR HIGH-LEVEL WASTE INTERIM STORAGE, PROJECT W-464

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ENVIRONMENTAL PERMITS AND APPROVALS PLAN

FOR

HIGH-LEVEL WASTE INTERIM STORAGE,
PROJECT W-464

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LIST OF TERMS

ALARA	as low as reasonably achievable
ALARACT	as low as reasonably achievable control technology
AOP	air operating permit
BACT	best available control technology
BARCT	best available radionuclide control technology
CFR	<i>Code of Federal Regulations</i>
CSB	Canister Storage Building
CWC	Central Waste Complex
CX	categorical exclusion
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy, Richland Operations Office
DOH	State of Washington Department of Health
DST	double-shell tank
EA	environmental assessment
Ecology	Washington State Department of Ecology
ECO	Environmental Compliance Officer
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
FDH	Fluor Daniel Hanford, Inc.
FONSI	finding of no significant impact
FR	Federal Register
g/d	gallons per day
HLW	high-level waste
HLWIS	high-level waste interim storage
HWVP	Hanford Waste Vitrification Plant
IHLW	immobilized high-level waste
LAW	low activity waste
NEPA	<i>National Environmental Policy Act of 1969</i>
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NOC	notice of construction
NOI	notice of intent
NPDES	National Pollutant Discharge Elimination System
NWPA	Nuclear Waste Policy Act of 19??
OCRWM	Office of Civilian Radioactive Waste Management
PL	public law
PSD	prevention of significant deterioration
RCRA	<i>Resource Conservation and Recovery Act of 1976</i>
ROD	record of decision
SA	(EIS) supplement analysis
SEPA	<i>State Environmental Policy Act of 1971</i>

LIST OF TERMS (Continued)

SNF	spent nuclear fuel
SQE	small quantity emission
SWDP	state waste discharge permit
TAPs	toxic air pollutants
T-BACT	best available control technology for toxics
Tri-Party Agreement	<i>Hanford Federal Facility Agreement and Consent Order</i>
TSD	treatment, storage, and/or disposal
TWRS	Tank Waste Remediation Systems
UIC	underground injection control
USACE	U. S. Army Corps of Engineers
USFWS	U. S. Fish and Wildlife Service
UST	underground storage tanks
WAC	<i>Washington Administrative Code</i>
WDOH	Washington State Department of Health

ENVIRONMENTAL PERMITS AND APPROVALS PLAN FOR HIGH-LEVEL WASTE INTERIM STORAGE, PROJECT W-464

1.0 INTRODUCTION

This permitting and approvals plan describes the environmental permitting activities necessary for the transportation and interim storage of: (1) immobilized high-level waste (IHLW), produced primarily during Phase 1 vitrification plant operations (glass product), (2) radioactive cesium, separated during Phase 1 low-activity waste (LAW) vitrification plant operation (separated cesium), and (3) secondary high-level radioactive and mixed waste, produced during Phase 1 (high-level waste [HLW]) and LAW vitrification plant operations (nonroutine HLW). Secondary or nonroutine HLW is expected to consist primarily of refractory and solidified glass from failed melters.

This plan has several objectives, including the following:

- Identification of the necessary permitting activities
- Evaluation of the current permitting status for IHLW activities
- Identification of options and strategies to comply with environmental requirements
- Recommended course of action for each of the required permitting activities
- Estimated time required to undertake those permitting activities
- Estimated cost to implement the permitting activities.

The U.S. Department of Energy, Richland Operations Office (DOE-RL) is responsible for the transportation and interim storage of these waste types during Phase 1 of the Hanford Site privatization effort.

These waste types will be transported in hermetically sealed stainless steel containers to the Canister Storage Building (CSB) in a DOE-RL-provided transportation cask via diesel-powered tractor/trailer. This waste will be produced as part of the privatization effort to immobilize tank waste. Each canister/container will have been sealed, decontaminated, and surveyed before being transferred to the CSB in accordance with the Tank Waste Remediation System (TWRS) Privatization Contract(s) Nos. DE-RP06-96RL13308 (British Nuclear Fuels Ltd) and DE-RP06-96RL13309 (Lockheed Martin Advanced Environmental Systems [LMAES]).

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-90 (Ecology et al. 1996) establishes a new major milestone and associated interim milestones and target dates, and governs acquisition and/or modification of facilities necessary for (1) interim storage of TWRS IHLW and other canistered HLW forms and (2) interim storage and disposal of TWRS immobilized LAW.

An environmental requirements checklist and narrative were developed to identify the permitting path forward for this HLW interim storage (HLWIS) project (W-464), refer to (Appendix A). This plan follows the permitting logic developed in the subject checklist.

Additional information on the scope of the IHLW subproject can be found in the TWRS *Retrieval and Disposal Mission Immobilized High-Level Waste Storage Plan*, HNF-1751 (Calmus 1998).

2.0 NATIONAL ENVIRONMENTAL POLICY ACT

NEPA (42 USC 4321 et seq.) was enacted to ensure that environmental matters are considered before federal actions are initiated that might affect the quality of the human environment. The U.S. Department of Energy (DOE) regulation (Title 10 *Code of Federal Regulations* [CFR]1021) promulgated under NEPA was developed to conform with 40 CFR 1500-1508 regulations and to categorize the environmental impacts associated with various DOE proposals or actions.

2.1 APPLICABILITY AND REQUIREMENTS SUMMARY

The proposed action to store HLW canisters by improving the existing vaults in the CSB is a major action requiring appropriate NEPA documentation.

The NEPA documentation process begins by identifying the purpose, scope, and location of a proposed action.

If a proposed action appears to be covered under an existing approved environmental impact statement (EIS) or environmental assessment (EA), the relevant record of decision (ROD) or finding of no significant impact (FONSI) should be examined to ensure the proposed action is adequately bounded by existing documentation. The associated NEPA evaluation results in a supplement analysis determination, which concludes whether or not the existing EIS adequately covers the proposed action.

In the event that the DOE-RL determines that a proposed action is not covered by existing environmental documentation, an evaluation would be required to determine whether the proposed action falls within one of the categorical exclusions (CX) per 10 CFR 1021. If the proposed action is covered by a CX, a memorandum is prepared that summarizes the proposed action and its background. In addition, an explanation of how the action meets the minimum requirements of a CX is needed.

If the proposed action is not covered by a CX, a decision whether or not the project warrants an EA, a supplement analysis (SA) to an existing EIS, or a new EIS must be made by the DOE-RL.

If DOE-RL determines that an EA is warranted, an EA is developed to discuss the environmental consequences of the proposed action and the alternatives to that action, including the consequences of accidents, routine operations, and the cumulative and long-term impacts. The relationship of the proposed action to federal, state, and local land use plans, policies, and regulations also is discussed. Environmental Assessments are submitted to the DOE-RL for final determination. This determination either results in a decision that the proposed action is a major action significantly affecting human health and the environment that requires an EIS, or a FONSI is issued.

If a proposed action is not bounded by an existing EIS but is similar to an action addressed in an existing EIS, DOE-RL could elect to prepare a supplemental EIS. Guidance on the need to prepare a supplemental EIS is provided in 10 CFR 1021.314 and 40 CFR 1502.9. When it is unclear whether or not a supplemental EIS is required, the DOE would prepare an SA. The SA would identify whether the agency is proposing substantial changes in the proposed action that are relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. The SA would contain sufficient information for the DOE to determine whether the existing EIS should be supplemented, a new EIS should be prepared, or that no further NEPA documentation is required.

2.2 SUMMARY OF DATA AND/OR INFORMATION

A summary of the minimum data and/or information needs required for development of the NEPA documentation for the HLWIS project is provided in Appendix B.

2.3 DISCUSSION OF ALTERNATIVES

The following alternatives exist for NEPA documentation regarding the action to store HLW canisters in the CSB:

1. Verify that the action to be taken is adequately covered by the existing TWRS EIS (DOE/EIS-0189F) and evaluate the existing TWRS EIS ROD (62 FR 8693) to determine if a ROD amendment is required.
2. Prepare an SA to the existing TWRS EIS to determine if the action to be taken is sufficiently bounded by the discussion of the TWRS EIS proposed action, alternatives, and impacts analysis.

3. Prepare an EA to determine if an EIS or a FONSI is appropriate.
4. Prepare a new EIS or Supplemental EIS.

2.4 RECOMMENDED NATIONAL ENVIRONMENTAL POLICY ACT STRATEGY

In the case of the HLWIS project, the existing TWRS EIS has been approved and a ROD issued February 26, 1997. The TWRS EIS covers HLWIS project scope including HLW canister storage at CSB.

The recommended strategy is to adhere to the ROD (62 FR 8693) for TWRS. The ROD was based on the final EIS (DOE/EIS-0189F), co-authored by the DOE and Washington State Department of Ecology (Ecology).

The 'Phased Implementation Alternative' was identified in the Final EIS as the preferred alternative. The pertinent items within the ROD are as follows:

- Storing separated HLW (i.e., glass product, separated cesium, and nonroutine) at the treatment facilities or in the CSB pending future HLW treatment
- Transporting the low- and high-activity waste to onsite interim storage facilities
- Packaging the HLW (i.e., glass product and nonroutine) in canisters for onsite interim storage and future shipment to a national geologic repository. The separated cesium will be returned to the HLW vendor for further treatment and final disposition.

3.0 STATE ENVIRONMENTAL POLICY ACT

The SEPA (Chapter 43.21C Revised Code of Washington) legislation is the Washington State equivalent of NEPA, and requires evaluation of environmental impacts associated with a project or an agency action before approval of the project or action is granted. The SEPA rules, *Washington Administrative Code* (WAC) Chapter 197-11, are the implementing regulations.

3.1 APPLICABILITY AND REQUIREMENTS SUMMARY

The normal method of addressing the SEPA requirements is to complete a SEPA environmental checklist that provides the information necessary for the appropriate agency to make a threshold determination on the significance of the proposed action. If the proposed action is categorically exempt or nonsignificant, further action under SEPA is not required. If the proposed action is significant, preparation of a SEPA EIS is required. An option exists for adoption of an existing NEPA document(s) (e.g., a NEPA EIS) to fulfill the agency's responsibilities.

3.2 SUMMARY OF DATA AND/OR INFORMATION

The types of data and information needed are those discussed in Section 2.2 regarding the NEPA process.

3.3 DISCUSSION OF ALTERNATIVES

The following alternatives exist for compliance with SEPA:

1. Submit a letter to Ecology for SEPA adoption and/or provide a briefing to appropriate regulatory agencies (Ecology is normally the lead agency for TWRS activities) stating that DOE-RL believes that existing environmental documentation provided to or prepared by Washington State agencies, and issuance of permits by those agencies, covers this action.
2. Submit a SEPA environmental checklist in conjunction with an application for permit(s) needed (e.g., air, *Resource Conservation and Recovery Act of 1976* [RCRA], building) and let the agency determine if an EIS is required.

3.4 RECOMMENDED STATE ENVIRONMENTAL POLICY ACT STRATEGY

The recommended approach is to inform Ecology that the TWRS final EIS (DOE/EIS-0189F), the Spent Nuclear Fuels final EIS (DOE/EIS-0245F), and issuance of permits necessary for construction of the CSB cover this action and request Ecology adopt the existing NEPA documentation for SEPA. This will be included in the permitting notice of intent (NOI) to expand the capacity of the CSB (refer to Section 4.3).

4.0 RESOURCE CONSERVATION AND RECOVERY ACT

The *Resource Conservation and Recovery Act of 1976* was enacted as a comprehensive national program to mandate that hazardous waste will be treated, stored, and disposed of so as to minimize the present and future threat to human health and the environment. The Washington Administrative Code, WAC 173-303, "Dangerous Waste Regulations," implements the authorized portion of the federal regulations in Washington State.

4.1 APPLICABILITY AND REQUIREMENTS SUMMARY

WAC 173-303 regulations apply to all facilities within Washington State that treat, store, and/or dispose of dangerous and/or waste. These regulations are equivalent to, or more stringent than, the federal hazardous waste regulations. Under the dangerous waste program, all treatment, storage, and/or disposal (TSD) units must obtain a permit. Units that were in existence on November 19, 1980, were granted an interim status permit with the submittal of a Part A, Form 3, identifying the intent to treat, store, and/or dispose of dangerous waste. A final status permit is granted after final administrative disposition of the Part B documentation.

The process for obtaining an RCRA permit consists of three collective submittals. Each submittal consists of various levels of detailed information concerning the TSD unit. The three submittals are the NOI; the Part A, Form 3 permit application (Part A); and the Part B permit application (Part B).

4.1.1 Notice of Intent

An NOI is required for proposed facilities or expansion at an existing facility. Expansion includes enlargement of land surface area, the addition of new dangerous waste processes, or an increase in overall design capacity. The NOI contains preliminary information concerning the proposed facility and/or expansion. The NOI requires a general process description, operating capacities, waste type, a topographic map, and a statement of environmental conditions, which could include a SEPA environmental checklist or a SEPA adoption letter.

4.1.2 Part A

The Part A includes process design capacity, process description, dangerous waste numbers and estimated annual quantity, description of dangerous waste, facility diagrams, photographs, geographic location, facility owner, and operator/co-operator certification. The Part A is submitted no earlier than 150 days following submittal of the NOI to Ecology and the public.

The preparation process requires approximately 6 months to complete, including reviews by the Fluor Daniel Hanford, Inc. (FDH) team and DOE-RL and certification by FDH and DOE-RL.

4.1.3 Part B

The Part B permit application documentation provides detailed descriptions of the processes to be used for the TSD of dangerous waste, design capacity of such processes, specific dangerous waste types to be managed, operation and maintenance, training, contingency planning, closure, and other relevant information concerning the waste management facility.

The Part B is evaluated by Ecology for completeness and technical adequacy. The latter includes plausibility, general detail of plans and procedures, and protection of human health and the environment. For any item deemed incomplete or technically inadequate, Ecology issues a notice of deficiency to the applicant. Resolution of notice of deficiencies and subsequent revisions of the Part B permit application is through a workshop process that involves the DOE-RL, FDH and its subcontractors, and Ecology.

When satisfied with the Part B permit application, Ecology prepares a draft Part B permit. This draft permit is published for public and interagency review. On completion of the public review period, significant public comments are factored into the final status permit issued by Ecology. For the Hanford Site, one dangerous waste permit has been issued for the Hanford Facility. On completion of the unit-specific Part B process, each TSD unit will be appended to the Hanford Facility Dangerous Waste Permit. Generally, preparation of a Part B application requires approximately 14 months through the first certification cycle, and the total duration could last approximately 3 to 6 years.

Interim status expansion can be requested from Ecology. Once the revised Part A and NOI are submitted, construction can proceed if Ecology grants interim status expansion under the Part A.

4.2 SUMMARY OF DATA/INFORMATION

A summary of the minimum data and/or information needs required for development of the RCRA documentation for the HLW project is provided in Appendix B.

4.3 DISCUSSION OF ALTERNATIVES

The alternatives for permitting HLW canister storage are discussed as follows. The probability of success (high, medium, low) follows each alternative.

1. Establishing a new TSD Unit - Submit a NOI for expansion under interim status and submit a Part A and Part B. (high)

Assumptions:

- (a) An NOI will be submitted splitting the existing CSB storage capacity, as a standalone unit, from the current HWVP storage capacity and increasing the overall design capacity for storage of vitrified waste.
- (b) Part A and Part B permit applications will be written and submitted.
- (c) A revision of the Hanford Waste Vitrification Plant (HWVP) Part A will be submitted to remove the CSB storage capacities and process codes currently identified. The remaining treatment capacity of the original HWVP Part A will need to be dispositioned. The options will be procedural closure or transfer of capacity to the private contractors.
- (d) Interim status will be granted for construction and storage operations.
- (e) Final status Part B will be pursued concurrent with storage operations.
- (f) *Hanford Facility Dangerous Waste Permit Application, General Information Portion* (DOE/RL-91-28) will be revised to provide current information.

This alternative will not support the scheduled hot operations date of June 2, 2002 unless operation could start under interim status (item e).

2. Modify an existing unit (i.e., Central Waste Complex (CWC), DST, and Low-level Burial Grounds) Part A and Part B permit application, and submit an NOI for expansion).

Assumptions:

- (a) An NOI will be submitted for an increase in overall design capacity.

- (b) The existing unit Part A revision will be submitted to transfer the existing CSB storage capacity plus any increase currently planned for canister storage of vitrified waste in the CSB. The revision is unlikely to affect dangerous waste numbers.
- (c) A revision of the Hanford Waste Vitrification Plant (HWVP) Part A will be submitted to remove the CSB storage capacities and process codes currently identified for the HWVP. The remaining treatment capacity of the original HWVP Part A will need to be despositioned. The options are procedural closure or transfer of capacity to the private contractors.
- (d) The existing unit Part B Permit will be modified (WAC 173-303-830 Class III Modification).
- (e) The Hanford Facility Dangerous Waste Permit Application, General Information Portion (DOE/RL-91-28) will be revised to provide current information.

4.4 RECOMMENDED PERMITTING STRATEGY

Expanding into an existing unit (Alternative 2) will complicate the processing of the permit application. Existing units are currently undergoing their own permitting process, which would be significantly impacted/by the introduction of such a change. Some of the likely units might be in final status before CSB hot operations begin, depending on the permitting schedule. This could preclude operation of the CSB under interim status.

Neither Alternative 1 nor Alternative 2 supports final status within the available time. Alternative 1 (new unit) allows for separate negotiations with the regulators for hot operations under interim status. Alternative 1 also allows anyone on the FDH team to operate CSB. The recommended permitting strategy for the HLW CSB is Alternative 1.

Negotiation with Ecology and EPA on Tri-Party Agreement milestones for achieving final status, and what could be conducted under interim status (i.e., operation), needs to be evaluated before beginning any CSB retrofitting. Negotiations with Ecology will be required to allow operation under interim status under all alternatives.

The remaining treatment capacity of the original HWVP Part A will need to be despositioned. The options are procedural closure or transfer of capacity to the private contractors.

It is anticipated that a Part B permit application and modification to the Hanford Facility RCRA Permit would be required for the CSB identified in the HLW project description.

5.0 THE CLEAN AIR ACT

The purpose of the *Clean Air Act of 1977* is to protect public health and welfare by safeguarding air quality, bringing polluted air into compliance and protecting clean air from degradation. In Washington State, the provisions of the *Clean Air Act of 1977* are implemented by EPA, Ecology, Washington State Department of Health (WDOH), and local air authorities.

5.1 APPLICABILITY AND REQUIREMENTS SUMMARY

The HLW activities [transfer and storage of HLW in canisters, cesium, and nonroutine waste, use of new heating, ventilation, and air conditioning systems] will require several approvals to proceed before commencement of activities. These approvals will be issued by the EPA, Ecology, and the WDOH.

The air permitting process is based on permitting and emission standards administered by regulatory agencies contained in the following regulations:

- National Emissions Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR 61, Subpart H)
- Prevention of Significant Deterioration (PSD) standards (40 CFR 52.21 and WAC 173-400)
- Ambient Air Quality Standards for Radionuclides (WAC 173-480)
- Radiation Protection - Air Emissions (WAC 246-247)
- Controls for New Sources of Toxic Air Pollutants (TAPs) (WAC 173-460).

These regulations establish standards and rules applicable to the control and/or the prevention of the emission of air contaminants. Three main requirements to be met are: use of best available control technology; quantification of air pollutant emissions; and demonstration of human health and environmental protection. Detailed information on waste type and the nature of all emissions to the atmosphere are required for submissions made pursuant to the *Clean Air Act of 1977*.

5.1.1 Radioactive Emissions

Radioactive air emissions currently are regulated by the WDOH, pursuant to WAC 246-247, and the EPA, pursuant to 40 CFR 61 Subpart H. Both agencies require an approval to construct if the planned activity creates a new source of radioactive air emissions or if there is a change to an existing source that causes any increase in emissions (increase is calculated without the benefit of emissions control equipment) as a result of the planned activity.

The WDOH requires the use of best available radionuclide control technology (BARCT) for all significant modifications or the use of as low as reasonably achievable control technology (ALARACT) for all nonsignificant modifications. A BARCT assessment evaluates the universe of available control technologies and selects the most effective control technology from all known feasible alternatives. The ALARACT assessment requires the use of radionuclide emission control technology that achieves emission levels that are consistent with the philosophy of as low as reasonably achievable (ALARA). This is demonstrated by evaluating the control system in relation to applicable technology standards and other control technologies that have been operated successfully in similar applications. A significant modification is one where the potential-to-emit airborne radioactivity is at a rate that could increase the total effective dose equivalent to the maximally exposed offsite individual by 1.0 millirem per year or more (assuming normal operations and no emissions control equipment in place).

The EPA requires the sampling and monitoring system to meet specific criteria when the effective dose equivalent to the maximally exposed offsite individual resulting from the activity is 0.1 millirem per year or greater (assuming normal operations and no emissions control equipment in place).

5.1.2 Nonradioactive Emissions

Nonradioactive air emissions of concern fall into two categories: TAPs and criteria pollutants. Ecology regulates both categories pursuant to WAC 173-460 and 173-400-141, respectively.

The TAPs regulations require the use of best available control technology for toxics (T-BACT). Also, if emissions exceed the small quantity emission rates (SQERs), dispersion modeling must be performed to demonstrate that the offsite concentration for each constituent does not exceed its applicable acceptable source impact level. For constituents without an SQER, dispersion modeling also is required.

Ecology requires the submittal and subsequent approval of a Notice of Construction (NOC) for the construction of new sources of toxic air pollutants; the modification of an existing source that increases its emissions (increase is calculated assuming emissions control equipment is in

place); or the replacement or substantial alteration of the emissions control technology at an existing source. The need for HLW to obtain Ecology's approval will have to be determined when data are available to estimate any increase in emissions.

Criteria pollutants are subject to the PSD program. Ecology has incorporated, by reference, most of the federal PSD requirements. If emissions resulting from HLW activities exceed the trigger levels of any of the 14 criteria pollutants, a PSD permit application must be prepared and approved before construction.

5.2 SUMMARY OF DATA/INFORMATION

A summary of the minimum data and/or information needs required for development of the *Clean Air Act of 1977* documentation for the HLWIS project is provided in Appendix B.

5.3 STRATEGY DISCUSSION

The current planning basis for storage of the anticipated waste types (i.e., glass, separated cesium, and nonroutine) is that the waste will be contained within hermetically sealed canisters.

A hermetically sealed canister falls within the definition of a sealed source as set forth in WAC 246-247-030(24). In turn, a sealed source is excluded from the permitting requirements of WAC 246-247-060. Additionally, if the material is in a hermetically sealed canister, the permitting requirements of 40 CFR 61 would not apply. Therefore, the canisters would be exempt from federal and state regulations governing the release to atmosphere of radionuclides.

If the design of the storage canister is modified such that the canister can no longer be considered a sealed source, the activity will have to be reviewed for *Clean Air Act of 1977* applicability.

5.4 RECOMMENDED PERMITTING STRATEGY

The recommended strategy for the HLW activities is to secure the air permits or sealed source approval before retrofit construction. It is expected that a request to store HLW in sealed source containers will be submitted for WAC 246-247, 40 CFR 61 Subpart H (NESHAPs), and WAC 173-460 (TAPs). It is assumed that the activities will not result in emissions exceeding significance levels for any criteria pollutants under the PSD program. Installation of BARCT will be required by WAC 246-247 and T-BACT will be required by the TAPs

program. If it is determined that air permits are needed for the cesium and nonroutine waste, also in sealed sources, then a revision of this permitting plan and air permitting planning basis would be needed.

If approvals are not obtained for the sealed source canisters or additional needs are identified, air permit applications and approvals would need to be obtained.

Coordination between vendor and management contractors, responsible for different aspects of the project, is essential for complete descriptions of activities and their resulting emissions. This permit plan assumes that the onsite contractor will have responsibility for heating ventilation and air conditioning design, construction, modification, and permitting. The private vendors are assumed responsible for design and adaption of their canisters to the CSB. Fluor Daniel Hanford, Inc. will assume responsibility to coordinate the request for proposal, permits, and operations.

The HLW would need approval from both agencies if the waste type or waste form could potentially increase air emissions at the CSB. One application, with all information required by both agencies, can be prepared and submitted to both agencies.

The HLW will likely be able to take advantage of a set of conditions under which Ecology does not require an NOC. That is, if the activity is a minor process change and the emissions are below the SQERs, an NOC would not be required.

6.0 TRANSPORTATION

The transportation of radioactive materials and mixed waste within Hanford Site boundaries, in areas that are not accessible to the public, currently is not subject to U.S. Department of Transportation regulation. Transportation and packaging operations are authorized and controlled by contractor-approved methods and safety evaluations.

6.1 APPLICABILITY AND REQUIREMENTS SUMMARY

The mechanism by which the transportation and packaging of radioactive materials and mixed waste is approved under the current Project Hanford Management Contractor involves the application of requirements similar to those imposed by U.S. Department of Transportation and the Nuclear Regulatory Commission for the transportation of these materials and waste in the public domain. Packaging design is a primary element in identifying the applicable requirements and the extent to which the transfers of HLW to the CSB must be controlled. Packaging systems that afford the greatest degree of protection for the contents require the lowest degree of operational control.

To fully identify applicable requirements and approvals, the packaging design, maximum intended payload, the transfer route, and the frequency must be established.

6.2 SUMMARY OF DATA/INFORMATION

A summary of the minimum data and/or information needs required for development of the transportation documentation for the HLW project is provided in Appendix B.

6.3 DISCUSSION OF ALTERNATIVES

The following alternatives exist for transportation of canisters to storage in the CSB.

1. Full regulatory compliance for offsite shipping, requires the use of a certified packaging system. Unless a currently certified system is identified and is usable for this campaign, the selection of this alternative typically requires an effort of 2 to 5 years to obtain certification of the packaging design, along with significant cost to execute the process. Another difficulty that would be encountered, if this alternative were selected, is the necessity to fully characterize the material being shipped, a process that might not be completed until the production of the payload is well underway. Advantages of this alternative include the possession of a well-established pedigree from an independent regulatory agency that is obtained through a defined process. This approach is conservative from a safety perspective.
2. Approval under the onsite transportation safety program, is more flexible and deals with safety aspects of the operation that do not contribute to the evaluations performed in support of the first alternative. The flexibility of this alternative lies in the safety criteria, which are based on potential dose consequences corresponding to accident frequencies. The advantages of this alternative include the use of less expensive packaging systems that are less cumbersome to handle. The onsite packaging and transportation procedures can be developed to apply ALARA principles in a manner not permitted by the first alternative. A disadvantage of this approach is that the packaging system would not be approved for shipment offsite to a final storage location.

6.4 RECOMMENDED APPROVAL STRATEGY

The recommended approval strategy for the packaging and transport of canisters of vitrified HLW, separated cesium, and nonroutine waste is to conduct the design and safety evaluations within the onsite transportation safety program taking full advantage of the flexibility and cost

efficiency provided by this approach. The packaging design and safety evaluations should be conducted in parallel. No agency approvals will be needed for onsite transport. Offsite disposal approvals will be necessary.

7.0 RADIATION PROTECTION STANDARDS/MONITORING

DOE Order 5400.1, *General Environmental Protection Program*, and DOE Order 5400.5, *Radiation Protection of the Public and the Environment*, require that monitoring be performed to determine the impact on the environment from activities that involve potential emission of radionuclides.

Additional requirements for radioactive and mixed waste management are found in DOE Orders 5820.2A and 6430.1A and in 40 CFR 191.

7.1 APPLICABILITY AND REQUIREMENTS SUMMARY

This DOE order establishes standards and requirements that must be followed to protect members of the public and environment against undue risk from radiation. The general environmental protection program requirements are established in DOE Order 5400.1. DOE Order 5400.1 requires that all DOE sites prepare an environmental monitoring plan.

DOE/RL-91-50, "Environmental Monitoring Plan," includes DOE/EH-0173T, "Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance," which provides specific guidance regarding environmental monitoring activities.

The provisions of DOE Order 6430.1A apply to all departmental elements except as otherwise provided by statute or by specific delegation of authority from the Secretary of Energy, and all contractors and subcontractors performing work for the DOE whose contract may involve planning, design, or facility acquisitions. This includes DOE-owned, -leased, or -controlled sites where federal funds are used totally or in part, except where otherwise authorized by separate statute or where specific exemptions are granted by the Secretary of Energy or designee.

Management and storage of spent nuclear fuel, high-level, and transuranic waste are regulated under 40 CFR 191, Subpart A.

Radiation doses received by members of the public as a result of the management and storage of spent nuclear fuel or high-level or transuranic waste at any disposal facility that is operated by the DOE and that is not regulated by the Nuclear Regulatory Commission or by Agreement States will be addressed.

All high-level waste generated by DOE operations shall be safely stored, treated, and disposed of according to the requirements set forth in DOE Order 5820.2A.

7.2 SUMMARY OF DATA OF INFORMATION

DOE Orders 5400.1 and 5400.5 require that baseline data be obtained before the start of a project, and that periodic monitoring be performed to determine if the environment is being affected. The baseline data required include the following:

- Background radiation levels at the project site and in surrounding areas, including onsite and offsite
- Radionuclides present in flora, fauna, soil, wildlife, water, vadose and groundwater, agriculture products and animals, and, in some circumstances, members of the public.

7.3 DISCUSSION OF ALTERNATIVES

The three alternatives available for this project are as follows: (1) gather the required information specifically for this project, (2) use information gathered by Spent Nuclear Fuels and routine monitoring of the Hanford Site, and (3) use routine monitoring data for the Hanford Site supplemented by project-specific data related to the location of the CSB and storage of the canisters.

1. Gathering the data specifically for this project would duplicate a considerable amount of monitoring work routinely performed on the Hanford Site. Also, for much of the preferred 2-year baseline period, the Spent Nuclear Fuels project actively would be storing fuel in the CSB. This situation could bias the Hanford Site baseline data. Alternative 1 is judged to be the most expensive alternative and has the longest schedule.

2. Use of existing data for the baseline limits this project to ongoing monitoring. The ongoing monitoring can be accomplished by use of Hanford Site programs and the specific monitoring established for storage by the Spent Nuclear Fuel project. It is not expected that storage of HLW canisters will require monitoring beyond that done by the routine Hanford Site programs.
3. Make use of existing data supplemented by data specific to storage of HLW canisters. Because very little data can be separated from the Spent Nuclear Fuels use of the CSB, this option is not viable.

7.4 RECOMMENDED STRATEGY

The recommended strategy is to use Alternative 2. Baseline data are required for this project; however, no specific action is needed because the same data are required for storage of the spent nuclear fuel or as part of other routine Hanford Site monitoring. The HLW canisters are not expected to have radioactive emissions; however, monitoring is provided by the radiation sampling system installed on the building ventilation system. This system is required for the spent nuclear fuel canisters as there is a potential for radioactive gas emissions.

8.0 REFERENCES

- 10 CFR 1021, "National Environmental Policy Act Implementing Procedures," *Code of Federal Regulations*, as amended.
- 10 CFR 1021.314, "Supplemental Environmental Impact Statements"
- 40 CFR 52.21, "Approval and Promulgation of Implementation Plans," Part 52.21, *Code of Federal Regulations*, as amended.
- 40 CFR 61, "National Emission Standards for Hazardous Air Pollutants," Part 61, *Code of Federal Regulations*, as amended.
- 40 CFR 191, "Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes," Part 191 and Subpart A, *Code of Federal Regulations*, as amended.
- 40 CFR 1500-1508, "Regulations for Implementing the Procedural Provisions for the National Environmental Policy Act," Part 1500-1508, *Code of Federal Regulations*, as amended.

- 40 CFR 1502.9, "Environmental Impact Statement," Part 1502.9, *Code of Federal Regulations*, as amended.
- 42 USC 7401, 1977, *Clean Air Act of 1977*, as amended, et seq.
- 42 USC 4321, 1969, *National Environmental Policy Act of 1969*, as amended, et seq.
- 62 FR 8693, Record of Decision for Tank Waste Remediation System Environmental Impact Statement, *Federal Register*, Vol. 62, pp. 8693.
- Calmus, R. G., 1998, *Immobilized High-Level Waste Storage Subproject Plan*, HNF-1751, Fluor Daniel Hanford, Inc., Richland, Washington.
- DOE, 1990, *General Environmental Protection Program*, DOE Order 5400.1, U.S. Department of Energy, Washington, D.C.
- DOE, 1993, *Radiation Protection of the Public and the Environment*, DOE Order 5400.5,
- DOE, 1988, *Radioactive Waste Management*, DOE Order 5820.2A, U. S. Department of Energy, Washington, D. C.
- DOE, 1989, *General Design Criteria*, DOE Order 6430.1A, U. S. Department of Energy, Washington, D. C.
- DOE/EH, *Environmental Regulatory Guide for Radiological Effluent Monitoring Environmental Surveillance*, DOE/EH-0173T, U.S. Department of Energy, Washington, D.C.
- DOE/EIS, 1996, *Final Environmental Impact Statement for the Tank Waste Remediation System*, DOE/EIS-0189F, U.S. Department of Energy, Richland Operations Office, Washington.
- DOE/EIS, 1996, *Final Environmental Impact Statement: Management of Spent Nuclear Fuel from the K-Basins at the Hanford Site*, Richland, Washington, DOE/EIS-0245F, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL, 1991, *Hanford Facility Dangerous Waste Permit Application, General Information Portion*, DOE/RL-91-28, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL, 1991, *Environmental Monitoring Plan*, DOE/RL-91-50, U. S. Department of Energy, Richland Operations Office, Richland, Washington.

Ecology, EPA, and DOE-RL, 1996, *Hanford Federal Facility Agreement and Consent Order*, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Richland Operations Office, Olympia, Washington, amended periodically.

National Environmental Policy Act of 1969, 42 USC 4321 et seq.

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, as amended.

WAC 173-303-281, "Notice of Intent,"
WAC 173-303-830, "Permit Changes,"

WAC 173-400, "General Regulations for Air Pollution Sources," *Washington Administrative Code*, as amended.

WAC 173-460, "Controls for New Sources of Toxic Air Pollutants," *Washington Administrative Code*, as amended.

WAC 173-480, "Ambient Air Quality Standards and Emission Limits for Radionuclides," *Washington Administrative Code*, as amended.

WAC 197-11, "SEPA Rules and WAC 173-802 SEPA Procedures," *Washington Administrative Code*, as amended.

WAC 246-247, "Radiation Protection--Air Emissions," *Washington Administrative Code*, as amended.

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APPENDIX A

**ENVIRONMENTAL REQUIREMENTS CHECKLIST FOR
HIGH LEVEL WASTE INTERIM STORAGE PROJECT**

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**SCOPE OF WORK/ENVIRONMENTAL SUMMARY FOR
HIGH LEVEL WASTE INTERIM STORAGE PROJECT**

Project W-464, the HLWS project will be conducted in two phases. Phase 1 will design and make modifications to the existing CSB, which provides dry storage for the Spent Nuclear Fuel (SNF) from the K-Basins. The CSB was designed with three subsurface storage vaults, only one of which will be needed for the SNF. The other two areas will be modified by W-464 to accept sealed storage canisters from the vitrification contractor(s), before being shipped to an off-site national geologic repository.

The canisters will contain vitrified processing wastes, and be hermetically sealed in stainless steel canisters by the privatization contractor(s). The contractor(s) will accept the responsibility to ensure that:

- a) Canisters meet WDOH designation as a "sealed source." The WDOH has issued a letter accepting this designation of the canisters, under limited conditions (Conklin to Rasmussen, letter 9852880, March 27, 1998 [Conklin 1998]).
- b) The completed waste form will meet the waste acceptance criteria of the geologic repository, containing no RCRA-controlled components. In the event that items are refused by the geologic repository, they would be returned to the Hanford Site. Disposition of off-normal canisters is outside the scope of this project.

Environmental issues that have been identified at this time include:

- Compliance with the National Environmental Policy Act (NEPA)
- Compliance with the Washington State Environmental Policy Act (SEPA)
- Development of facility operational parameters for compliance with the *Clean Air Act of 1977*
- Completion and submittal of applicable federal, state and local permit applications
- Development of suitable on-site and off-site transportation requirements and strategy
- Incorporation of suitable operational controls in the general CSB administrative documents, and
- Incorporation of suitable interface controls with the vitrification contractor(s) to permit HLW Canister storage in the modified CSB.

A facility monitoring strategy and emissions monitoring plan will need to be developed and/or incorporated into the existing Hanford Site-wide environmental monitoring program. Other environmental issues may need to be addressed as the project is carried through Phase 1 (modification to the existing CSB) and into canister acceptance, storage and operation (Phase 2). After the vitrified HLW is accepted at the geologic repository, a closure plan will need to be developed for the facility. This is beyond the scope of the present checklist.

Central to acceptance at the geologic repository is that items be considered only hazardous for radioactivity, and any components controlled by the RCRA be exempted from that classification. Vitrification of wastes has been declared a best demonstrated technology for exemption (delisting) of wastes controlled for corrosivity and some toxicity properties. If an exemption is not approved, the HLW canisters will need to meet Land Disposal Restrictions. The waste designation issue should be resolved early in order to complete an effective compliance strategy and incorporate the needed controls.

EXPLANATION OF ENVIRONMENTAL REQUIREMENTS AND NARRATIVE

The following table identifies environmental permits, approvals, and/or requirements applicable to the project. Any "Yes" answer in the applicability column will be further described in the narrative that follows the table. Some "No" answers may require special explanation and will have narrative associated with them. In this case, the words "See Text" will be stated in the applicability column. A contact person is identified at the end of each evaluation to answer questions and/or provide additional information regarding the specific regulation in question. If the contact cannot be reached, TWRS Environmental Compliance organization or WMH Environmental Management Services may be contacted to obtain answers to questions or to coordinate meetings with subject matter experts within the PHMC environmental area.

Note also, that environmental requirements are often subject to change, particularly as a project proceeds toward final design. The checklist represents a "snapshot in time," which is usually based on preliminary planning data, usually that of the functional design criteria. Waste Management Hanford Environmental Management Services strongly recommends that the criteria identified in this checklist be reevaluated after the final design is complete, to ensure the appropriate information is included in the checklist.

SUMMARY CHECKLIST OF POTENTIAL PERMITS/APPROVALS/REQUIREMENTS

ENVIRONMENT-MEDIA	PERMIT, APPROVAL, or REQUIREMENT	REGULATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
<u>NEPA</u>	NEPA Documentation	40 CFR 1500-1508 10 CFR 1021 DOE Order 451.1A	DOE	Title II Design (Projects), Procurement	Y
	Price Anderson Review	10 CFR 835	DOE FDH Legal	Operational Readiness	N
<u>SEPA</u>	SEPA Documentation	WAC 197-11	Ecology	License, Permit	Y
<u>External Procurement</u>	NEPA 216 Process	10 CFR 1021.216	FDH Procurement DOE/RL	Environmental Critique before external contract is let.	N
<u>CERCLA</u>	ARARs,	40 CFR 300.400,	EPA	Construction,	N
	Model Toxics Control Act	WAC 173-340	Ecology	TPA cleanup	
<u>All Media</u>	Cultural Resource Review	10 CFR 1021, 36 CFR 63, 36 CFR 800, 43 CFR 7, 16 USC 461-470aa, 42 USC 1996, 42 USC 4321	DOE, State Historic Preservation Office	Archaeological, Any surface disturbance, Building mods, Historic Register eligibility	See Text
	Ecological Compliance Review	10 CFR 1021, 50 CFR 17, 50 CFR 402.6, 16 USC 703-712, 16 USC 1531, DOE Order 5484.1, WAC 232-12	USFWS, Ecology	Construction, Excavation, Habitat mods, Protection of threatened or endangered species	See Text
	American Indian Policies Review	42 USC 1966, DOE 1230.2	DOE, BIA	Actions impacting tribal interests, energy, cultural, & environmental	N
	Floodplain/Wetland Assessment	10 CFR 1022	DOE	Any surface disturbance	N
	Site Location Review	Hanford BMP HNF-PRO-551	FDH Landlord	Before Final Design	See Text
	Excavation Permit	36 CFR 800	DOE	Any excavation	Y

ENVIRONMENT-MEDIA	PERMIT, APPROVAL, or REQUIREMENT	REGULATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
	Preoperational Monitoring of Facility or Site/Operations	DOE Order 5400.1	DOE	Before Operation	Y
<u>All Media (contd)</u>	General Radiation Program/Protection Standards	DOE Order 5400.1 DOE Order 5400.5	DOE	Construction	See Text
	Radioactive Waste Management	DOE Order 5820.2A	DOE	Waste management	
	External Sample/Analysis	EPA-SW-846	EPA	Certified results for compliance	See Text
<u>All Air Emissions</u>	General Regulations for Air Pollution	WAC 173-400	Ecology,	Construction, Operation	See Text
	Radiation Protection - Air Emissions	WAC 246-247	WDOH		
	New Source Review	WAC 173-400-110,	Ecology	Construction, Operation	See Text
	Control technology BARCT, T-BACT, ALARACT	WAC 173-400-040, WAC 173-460-030, WAC 246-247-040, WAC 246-247-130	Ecology, WDOH	Construction, Operation	See Text
	Air Operating Permit, Mods to Control Technology	WAC 173-401 WAC 173-400-114	Ecology, WDOH, EPA	Construction, Operation	See Text
<u>Nonrad. Air Emissions</u>	Source Review/NOC, Source Registration	WAC 173-400-110, WAC 173-400-101	Ecology	Construction	See Text
	Prevention of Significant Deterioration	WAC 173-400-141	Ecology	Construction	N
	Toxic Air Pollutants, Source Review	WAC 173-460-030, WAC 173-460-040	Ecology	Construction	N

ENVIRONMENT-MEDIA	PERMIT, APPROVAL, or REQUIREMENT	REGULATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
	Dangerous/ Hazardous waste, RCRA air emissions	WAC 173-303 -120(4)(e), -400(3), -690, and -691, 40 CFR 264/265 Subpart CC	Ecology and EPA	Operations	See Text
<u>Radioactive Air Emissions</u>	Radiation Protection - Air Emissions Source Review/NOC;	WAC 246-247-060	WDOH	Construction, Operation	See Text
	NESHAPs	40 CFR 61 Subpart H	EPA	Construction	See Text
<u>Special Substances</u>	Toxic Substances	40 CFR 720,	EPA	Design, Special training, Special controls, Notifications	N
	PCBs	40 CFR 761, WAC 173-303	EPA, Ecology		
	Pesticides, Herbicides	WAC-228 to 232	State Dept of Agriculture,		
	Waste Oils	WAC 173-303-040, -360, -515	Ecology		
	Mixtures (Air and Water Releases)	40 CFR 302, -355, -372 49 CFR 172, WAC 173-303-145, -375	Ecology	Upon Release, Before Off-site transport	
<u>Asbestos</u>	Asbestos/Notice of Intent	BCCAA Reg. 1, Article 8; 40 CFR 61, Subpart M	BCCAA	Special training, Notification before working with Asbestos	N
<u>Outdoor or Unconfined Burning</u>	Burn Permit	WAC 173-425; BCCAA Reg. 1, Article 5	Hanford Fire De- partment, BCCAA	Open Burning	N
<u>CFCs, Ozone Depleting Sub- stances</u>	Release Prevention; Recovery/Recycle; Certification; Labeling	40 CFR 82	Ecology	Reporting, Training, Operation	N

ENVIRONMENT-MEDIA	PERMIT, APPROVAL, or REQUIREMENT	REGULATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
<u>Soil Column Waste Water Disposal</u>	State Waste Discharge Permit Water Quality Stds	WAC 173-200 WAC 173-216/218	Ecology, WDOH	Monitoring plan, Operation	N
	Approval of Engr. Report, Plans & Specs., and O&M Manual	WAC 173-240	Ecology	Construction	N
	UIC Permit/Registration	WAC 173-218	Ecology	Operation	N
<u>Domestic Waste Water Disposal</u>	Septic Systems <14,500 gpd cap. Design Approval	WAC 246-272	WDOH	Construction	N
	Septic Systems >14,500 gpd cap. Design Approval	WAC 173-216; WAC 173-240	Ecology	Construction	N
	Pretreatment Permit	40 CFR 403; City Ordinance	city of Richland	Discharge to city sewage facility	N
	Operator Certification	WAC 173-230	Ecology	Operation	N
	Discharge Standards	WAC 173-221	Ecology	Discharge	N
<u>Surface Waste Water Disposal</u>	NPDES Permit	40 CFR 122	EPA	Operation	N
	Certification of NPDES Permit	40 CFR 121	Ecology	Operation	N
	Storm Water Discharge Under General Permit	57 FR No. 175	EPA	River Construction	N
	U.S. Dept of Army Permit	33 CFR 325	USACE	River Construction	N
	Wild & Scenic River Section 10 Permit	33 CFR 320; 33 CFR 322	USACE	River Construction	N
	Nationwide Waterway Permits	33 CFR 330	USACE	River Construction	N
	Hydraulic Projects Permit	WAC 220-110	State Dept. of Fisheries	River Construction	N

ENVIRONMENT-MEDIA	PERMIT, APPROVAL, or REQUIREMENT	REGULATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
	Shoreline Development Permit	WAC 173-14 to -20	Benton County	River/Island Construction	N
	Aquatic Lands Lease	WAC 332-30	State Dept of Natural Resources	Construction	N
	Hanford Reach Study Act Notification	PL 100-605	U.S. Park Service	Construction within 1/4 mi. of River	N
	Water Quality Modification Permit	WAC 173-201	Ecology	River Construction	N
	Categorical Standards	40 CFR 405 to 471	EPA	Monitoring Plan, Operation	See Text
<u>Drinking Water Supply</u>	Approval of Engr. Report, Plans & Specs.	WAC 246-290	WDOH	Construction	N
	System ID. Number	WAC 246-290	WDOH	Operation	N
	Operator Certification	WAC 246-292	WDOH	Operation	N
<u>High-Level Waste</u>	Reprocessing of Spent Nuclear Fuel	Atomic Energy Act DOE Order 5820.2A 10 CFR 962 40 CFR 191	DOE/RL, EPA, NRC	Operation, Treatment, Packaging, Store/Ship	Y
	Design Criteria	DOE Order 6430.1A		Transfers/Construction	
<u>Solid Waste</u>	Solid Waste Facility Permit,	WAC 173-304, 40 CFR 262 to 265,	Ecology, BCCAA	Construction	See Text
	Pollution Prevention	DOE 5400.1	DOE		
<u>Dangerous Waste</u>	Dangerous Waste Permit (RCRA Part A and B)	WAC 173-303-800 thru-860; 40 CFR 264-40 CFR 265; 40 CFR 270	Ecology	Construction of New Facility, or Expansion of Exist Facility	See Text
	Notice of Intent	WAC 173-303-281	Ecology & Public	Public Reading Room & Newspaper	See Text

ENVIRONMENT-MEDIA	PERMIT, APPROVAL, or REQUIREMENT	REGULATION(S) ¹	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
	Construction or expansion of surface impoundments, waste piles, or landfill units	WAC 173-303-335	Ecology	Construction quality assurance plans, program, and certification	N
	Non-Standard Methods/RD&D	WAC 173-303-500 to-607, -809 & -830	Ecology	RD&D Permit, Waivers	See Text
USTs	Tank Permit	WAC 173-360	Ecology	Operation	N

¹These are the 'major' requirements; additional secondary requirements will be identified in the evaluations.

NEPA

National Environmental Policy Act (NEPA) Documentation - 10 CFR 1021

NEPA requires federal agencies to examine ALL activities for effects on the environment. This is done by preparing an Environmental Impact statement (EIS) or an Environmental Assessment (EA). A NEPA compliance review is required for all proposed actions at the Hanford Site to determine the appropriate level of environmental documentation. A categorical exclusion (CX) is issued by RL if the proposed action clearly has no significant impact on the quality of the human environment. However, all actions qualifying for a CX must still be documented.

A NEPA Documentation Request Checklist is on the Hanford Site Intranet (Environmental Services home page) which is completed and forwarded to WMH NEPA Services Team to initiate the review process. NEPA documentation must be completed before starting Title II Design, or long lead procurements. NEPA/SEPA documentation procedures are in HNF-PRO-452.

Note: All cultural and ecological surveys must also be completed before NEPA documentation is submitted to RL. Sample NEPA documentation may be read on the Hanford Site Intranet, Environmental Services home page. Projects with multiple potential locations must complete a Site Location Review (see following); this same process is also considered in the EA/EIS.

Price-Anderson Amendments Review - 10 CFR 835

If a project or corrective action is being done in response to a deficiency or non-conformance under the Price-Anderson Amendments (PAA), then the closure authority, (defined in the PAA determination, and which is listed in the Hanford Site Deficiency Tracking System database [DTS]), and the PHMC Legal Office must also review the project scope, the NEPA determination, and the permits that will redefine closure of the deficiency and provide a basis for restart of the facility/process.

EVALUATION: The HLW Storage Project is covered by the Final Environmental Impact Statement, DOE/EIS-0189F, for the Tank Waste Remediation System, (Volume 2, Appendix B, B.3.9.3.1, "Phase 1, Immobilization" Paragraph 3) -- "The vitrified HLW would be placed directly into canisters. The HLW canisters (0.61m [2ft] diameter by 4.57m [15ft] long) would be placed in transportation casks and transported to the canister storage building for interim storage. The canisters would be removed from the casks and placed into storage tubes at one of [two] canister storage building vaults." [Note: the CSB design has three vaults; the first will contain SNF from K-Basins.] This satisfies the NEPA documentation requirements for a portion (vitrified HLW) of the Phase 1 activities.

Storage of the separated cesium and nonroutine waste -- a) at the treatment facilities, or b) packaging and transport of same to the CSB for onsite interim storage, pending future HLW waste treatment -- was analyzed in the TWRS EIS, Phased Implementation Alternative, and listed in the ROD (62 FR 8693) under Phase 1 of that alternative.

If new issues are identified during detailed design for the HLWIS project, which are (or seem to be) outside the scope of the TWRS EIS, an SA or CX might need to be prepared.

Discussions with the project and other technical contacts have revealed no design requirements that are the result of Price-Anderson Act controls.

Contact M. L. Deffenbaugh, (373-5399) for general project environmental support or B. G. Erlandson (372-2678). For additional assistance, contact Ms G. D. Cummins (372-2484) for NEPA issues. Contact L. P. Diediker (373-1716) for Price-Anderson environmental issues. Contact Barbara Williamson (376-6492) at FDH Legal for PAA closure issues.

SEPA

State of Washington Environmental Policy Act Documentation - WAC 197-11

SEPA is the State equivalent of NEPA, requiring evaluation of the project's environmental impacts before it can be approved. A SEPA checklist is completed when required by Ecology; (typically only if some state permit, other than an air permit is needed). An EIS or EA developed under NEPA may substitute (at the option of Ecology) for the SEPA checklist. The DOE/RL NEPA Compliance Officer will forward copies of the NEPA documentation and/or SEPA Checklist to the State. Ecology will determine if a State EIS is required or will issue a determination of non-significance.

EVALUATION: Because Ecology co-prepared the TWRS EIS, DOE/EIS-0189F, it is assumed that Ecology will accept the existing NEPA documentation, as sufficient to meet the SEPA requirements. It is recommended that the project provide a briefing to the State (Ecology), stating that DOE/RL believes that existing documentation covers the proposed HLW activities. Ecology might want to re-evaluate the CSB design, with the Project W-464 modifications, to determine whether it still feels that the project modifications for vitrified HLW are suitably described in the NEPA document(s). A notification letter to Ecology, identifying adoption of the NEPA documentation for HLW in lieu of a SEPA checklist is suggested.

Contact M. L. Deffenbaugh (373-5399) for general project environmental support or B. G. Erlandson (372-2678). For additional assistance, contact Ms G. D. Cummins (372-2484) for SEPA issues..

NEPA 216 Process/Environmental Critique - 10 CFR 1021.216

For those procurement actions with potential environmental liabilities, which are not specifically included in the NEPA documentation, the environmental impacts must be evaluated before placing service contracts with external suppliers. All bidder proposals must be evaluated for past compliance history, effectiveness of proposed mitigation, and the potential bidder responsibilities for environmental compliance. The NEPA compliance guidelines in 10 CFR 1021.216 must be followed and the results issued in an Environmental Critique. Evaluation results must also be approved by the DOE/RL NEPA Compliance Office before final contract. These evaluations become part of the formal procurement documentation and may be published as part of the public record.

EVALUATION: Not Applicable. It is assumed that no NEPA 216 procurement of systems or services will be needed for the HLW project.

CERCLA

Comprehensive Environmental Response, Compensation and Liability Act: Applicable or Relevant and Appropriate Requirements (ARARs)- 40 CFR 300.400

No federal, state, or local permits are required for onsite response actions covered by CERCLA, Sections 104, 106, 120, 121, 121, or 122. The Hanford Site has been included on the National Priorities List, under CERCLA section 300. This exception is allowed because onsite response actions must comply with the substantive parts of ARARs. On the Hanford Site, an activity is recognized as a CERCLA activity if the unit is identified as a CERCLA operable unit in the Tri-Party Agreement, or the activity is documented and performed in accordance with the CERCLA process. CERCLA remedial actions must comply with the substantive requirements of ARARs both during the remedial action and upon completion of the remedial action. The Hanford Federal Facility Agreement and Consent Order of 1989 recognizes that some CERCLA releases may be covered by the Washington State Model Toxics Control Act.

Additionally, removal actions (commonly called interim actions or expedited response actions) must comply with ARARs depending upon the urgency and scope of the circumstances and the removal action. The substantive

portions of ARARs are generally required unless the removal is an emergency situation that does not allow for a planning phase to identify ARARs.

Model Toxics Control Act (MTCA) - WAC 173-340

Ecology will use the Model Toxics Control Act residual standards (analogous to CERCLA standards) to make decisions regarding the "contained-in policy" for miscellaneous media. If environmental media are contaminated with a listed waste, AND meet the definition of debris (WAC 173-303-040 & 40 CFR 268.2), AND the solids exceed 60 mm -- then alternative treatment standards of 40 CFR 268.45 may be applicable, instead. (See Special Substances section, following).

Most Hanford CERCLA actions are the responsibility of the Environmental Restoration Contractor; contact Bechtel Hanford Incorporated Environmental Compliance for additional interpretive details.

EVALUATION: The HLW Project (W-464) is not a CERCLA response action project. The CSB is located within an operable unit, which will eventually be decommissioned under CERCLA. This effort is outside of the HLW Phase 1 scope of work. It is assumed CERCLA activities will be addressed in future CSB closure plan efforts.

ALL MEDIA

Cultural Resources Review - 36 CFR 800

A cultural review shall be performed for any project involving demolition, modification, or deactivation of a potentially historic facility or structure. The cultural resource review must be made before initiating any external surface-disturbing activities onsite, or if any modifications are planned for any facility with the potential for inclusion on the National Register of Historic Places. The request to perform this review is macro GEF271.

Ecological Compliance Review - 10 CFR 1021, 50 CFR 402.6, DOE Order 5484.1

A site survey should be performed to identify: Any plant or animal species protected under the Endangered Species Act; candidates for such protection; species listed as threatened, endangered, candidate, sensitive, or monitored by the state of Washington; and species protected under the Migratory Bird Treaty Act. Also assessed is whether the planned activities have the potential to disturb any priority habitats and/or species identified in the survey. The request form to perform this review is macro GEF271. This review also fulfills the NEPA ecological/biological review requirement.

NOTE: This section also applies to: taking, possession, transportation, sale, purchase/barter, export, import of special status plants and animals (both living and dead). It includes removal/remediation action, corrective action, decontamination/decommissioning (D&D) activities, and project construction activity.

American Indian Tribal Government Agreements - DOE Order 1230.2

American Indian Tribal Governments have a special and unique legal relationship with the US Federal Government and its agencies. These are defined in numerous treaties, statutes, historical precedents, and the US

Constitution. In addition, the state of Washington has agreements respecting current and future use of the lands surrounding the Hanford Site. All actions on the Hanford Site, which may impact these agreements, must be approved by the DOE-RL office for native American interests. The Cultural Resource Review will be the mechanism for identifying any such potential impacts.

EVALUATION: It is assumed that all actions included under the HLW Project (W-464), will occur inside or within 150 meters of the 200 East tank farm boundary which has an existing cultural review (e. g. , "Cultural Resources Exemption of the Tank Farms Area," evaluated Aug 16, 1994 and updated annually). No further review should be needed.

It is assumed that no new actions within the 200 Area boundary will impact existing Native American Tribal agreements; this should be verified by contacting the RL Tribal Interface Office.

Contact Ms. N. Cadoret (376-8107) for cultural review questions, or Dee Lloyd/RL (372-2299) for cultural/historic interpretations. If the Project later identifies potential impacts, contact K. V. Clarke (376-6332), DOE/RL liaison for Indian Affairs.

Floodplain/Wetland Assessment - 10 CFR 1022

A Floodplain/Wetland Assessment applies to all proposed floodplain/wetlands actions. A proposed action shall be designed to minimize potential harm to or within a floodplain. The assessment should be performed in conjunction with the NEPA process.

EVALUATION: Not applicable. The HLW Project will not include any floodplain or wetlands activity.

Site Location Review - HNF-PRO-551, Section 3.3.2.3

Any new facility must receive a landlord site location review, coordinated by Dyncorp/Site and Land Use Planning organization. This review is a Hanford Site best management practice. It offers an opportunity during the early planning stages to identify unusual or uncertain compliance, safety or operations issues; it covers similar aspects as the alternatives review under NEPA (Environmental Impact Statement, or Environmental Assessment).

EVALUATION: Completed. A site evaluation was made before the initial design and construction of the CSB. Assumptions of the dual-use for the CSB depended on the fact that the location would be sufficient for both functional actions (e.g., storage of both SNF and HLW), without each interfering with the other.

Contact M. L. Deffenbaugh (373-5399) for general project environmental support. For additional information, contact E. F. Yancey (376-8134), for questions on the Site Location Review or Contact J. I. Gould (376-1157), for environmental issues identification.

Excavation Permit - 36 CFR 800

An excavation permit is required before initiating any potential surface-disturbing onsite activities. The request form to obtain this permit is located on the HLAN, under Site Forms, [A-7400-373, "Hanford Excavation Permit"]. The facility Environmental Compliance Officer (ECO) may review and approve excavation permits before excavation begins, to ensure that all environmental, cultural and ecological resource reviews have been completed.

EVALUATION: The need has been identified, for small to moderate sized excavations around the periphery of the CSB in order to complete the modifications for acceptance and storage of the HLW. An excavation permit and health physics survey of the surrounding soil to check for contamination will be needed before excavation activities. Because much of the excavation area for the CSB HLW modification is near the disturbed zone of the initial construction, it is assumed that the surrounding area will be free of contamination.

Contact the TWRS Environmental Compliance Officer P. C. Miller (373-6389), or M. L. Deffenbaugh (373-5399) for excavation permit environmental issues and application approval. Contact D. A. Nawarynsky (376-6173) for assistance with sitewide excavation permit preparation.

Pre-operational Monitoring of Facilities, Sites, and Operations - DOE Order 5400.1

A pre-operational environmental study shall be conducted before startup of a site, facility, or process that has the potential for significant adverse environmental impact. This study should begin not less than one year (preferably two years) before startup, so seasonal changes can be evaluated. This study precedes the conceptual design report and can include data acquired in the site selection process, excavation permit process, and NEPA/SEPA process. For more information see the environmental compliance procedures, HNF-PRO-453, HNF-PRO-456 & HNF-PRO-457. (Waste Management Federal Services, Northwest Operations (WM-NW) coordinates this work for the PHMC.)

EVALUATION: Pre-operational baseline monitoring of the CSB will be required. It is possible that baseline monitoring performed to allow the SNF to be accepted will be accepted in lieu of a completely new effort. It is recommended that resources be identified for the pre-operational baseline, in the event the discussions with the DOH, on the recommended strategy, are not allowed; see the NOC section, below.

Contact M. L. Deffenbaugh (373-5399) for general project environmental support. Contact A. R. Johnson (372-3056), of WM-NW/Environmental Monitoring & Investigations, for pre-operational monitoring.

General Public/Environmental Protection - DOE Order 5400.1

Radiation Protection Standards - DOE Order 5400.5

DOE Order 5400.1 requires all Hanford Site facilities and projects to incorporate an overall protection program for environment, the public, and workers.

DOE Order 5400.5 establishes standards and requirements that must be followed to protect members of the public and environment against undue risk from radiation. DOE Order 5400.1 requires that all DOE Sites prepare an environmental monitoring plan. DOE/RL 91-50, *Environmental Monitoring Plan*, includes DOE/EH-0173T, *Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance*, which provides specific guidance regarding environmental monitoring activities.

EVALUATION: To be determined. Requirements for additional controls and permits, plus special actions to meet DOE Orders 5400.1 and 5400.5 will depend on whether the DOH accepts the designation of the HLW canister(s) as a "sealed source." The Hanford Site as a whole must meet these requirements. If all of the canisters accepted into the CSB for storage are designated as "sealed sources," and no possibility exists for other non-sealed designation exists, then the overall site program should be sufficient.

If this designation request is not agreed upon by DOH, then a complete facility monitoring plan would be needed to demonstrate compliance with the DOE Orders.

Contact M. L. Deffenbaugh (373-5399) for general project environmental support.

Contact L. P. Diediker (373-1716) for assistance in applying the Radiation Protection Standards, and requirements for developing a facility monitoring plan.

ALL AIR EMISSIONS

Air Operating Permit - WAC 173-401

WAC 173-401 establishes a comprehensive Washington State AOP program meeting the requirements of Title V of the Federal Clean Air Act. A single sitewide permit is required for the Hanford facilities. This permit covers both radioactive and nonradioactive airborne emissions from all emission units that meet significance criteria defined by the Act.

The airborne emissions include criteria pollutants and hazardous air pollutants (including radionuclides). In this regulation, Ecology also has established thresholds for regulated pollutants below which emissions are considered insignificant (Insignificant Emission Units/IEUs) for the purposes of the air operating permit (AOP) program. Insignificant emission unit (IEU) items/activities must comply with general standards, but are exempt from the administrative requirements of the permit.

The AOP identifies emission limits and conditions of operation for sources on the Hanford Site. If a new NOC is required (see following section), and an emission unit becomes operational after the AOP permit is issued by the state, an AOP permit revision may be required before commencing operation. This application for modification is prepared in accordance with WAC 173-401-725. The NOC and AOP modification can be sought concurrently. Any NOC application and associated documentation must be retained by the facility.

EVALUATION: It is necessary for the designation of the canisters to be resolved early in discussions with the regulatory authorities. Most of the *Clean Air Act of 1977* compliance issues depend on whether the canisters, which are to be hermetically sealed as part of the vitrification contract, can be designated as "sealed sources."

If a canister is designated as a "sealed source," then it has no potential to emit, and no possibility to exceed air contamination limits. It would not be necessary to register the CSB as a major stack for monitoring purposes. There would also be no need for HEPA filtration on the ventilation/cooling system, under normal operations. If the canisters meet the definition of a "sealed source," prior approval from the regulators is not necessary.

For these reasons, making a formal presentation to the regulatory authorities, seeking their concurrence that the canisters may be designated as "sealed sources" is recommended as a top priority. If concurrence is not forthcoming, then the traditional permitting process would need to be followed, consisting of the NOC, which includes estimates of all potential emission contaminants and their estimated transport concentrations at the facility boundary. There might also be additional internal controls, of an environmental and safety nature, both administrative and operational, which would need to be incorporated into the preparations for facility use.

Portable/temporary air handlers may be needed in/around the CSB, after the spent nuclear fuel is in place and while the construction modifications are being made. Special monitoring needs will be evaluated in conjunction with Health Physics to determine whether temporary permitting is needed. It is anticipated that the earlier assumption that no environmental issues will be carried over from the SNF to impact W-464 would apply.

The Hanford Facility Air Operating Permit is scheduled to be completed and submitted for state approval by June 1998. All known, existing registered air sources will have been collected into this permit at that time. It is assumed that with the "sealed source" designation, the HLW project would not need to be identified in the final AOP.

Contact M. L. Deffenbaugh (373-5399) for general project environmental support.

Contact B. G. Curn (372-0840) for air operating permit questions.

Contact J. J. Luke (376-8629) with questions regarding permitting and for assistance in preparing the NOC and other permits for *Clean Air Act of 1977* compliance.

NONRADIOACTIVE AIR EMISSIONS

New Source Review Applicability - WAC 173-400-110

Source Registration - WAC 173-400-101

Any new activity, project, process, or equipment that will involve potential emissions of contamination to the air is subject to a preconstruction review and approval by the state of Washington. If the activity involves a physical or operational change at an existing source of air emissions, and if the change will result in ANY increase in the rate of contaminant emissions to the ambient air from the existing source or the emission of a constituent not

previously emitted, the proposed activity might be considered a modification and prior approval might be required.

To determine whether a change constitutes such a modification, emissions that will result after the change are compared to a baseline which is normally the annual rate of emissions observed from the facility, structure, or process(es) during the previous 2 years of operations. If increases or new constituents are identified, they are compared to a corresponding Small Quantity emission rate. Other options for definition of the baseline exist and may be negotiated with Ecology.

The increase may be related to such factors as increased flow rate or concentration of effluent, upstream heating or mixing of source material, or increased exposure to outside air. When determining whether increased emissions would occur, additional abatement by any planned emissions control equipment may not be factored in.

If it is determined that an NOC is required, the NOC must include a description of the new construction or modification activities with details concerning any effect the planned construction activity (or the new/changed operations) would have regarding containment or release of radionuclide air emissions. The NOC must also include estimates of actual and potential emissions and an assessment of best available control technology for toxics (T-BACT) and/or ALARCT.

NOTE: The need for a NOC also triggers the need for generating and maintaining specific records by the facility; see 40 CFR 61.95 and HNF-PRO-450.

Modifications to Emission Control Technology - WAC 173-400-114

Any person proposing to replace or substantially alter the emission control technology installed on an existing stationary source or emission unit shall file an NOC application with the appropriate authority. Replacement or substantial alteration of control technology does not include routine maintenance, repair or similar parts replacement.

The NOC is a written application to permit construction of a new source or modification of an existing source; see the Radioactive Air Emissions section, below. The application describes the proposed design, assesses potential impacts to the public and environment, and provides an assessment of best available control technology (BACT). An NOC for nonradioactive air emissions may be required because of requirements of two regulations: Sources subject to WAC 173-400 and 173-460 registration (including 40 CFR 60 and 61) may need an NOC prepared for preconstruction approval according to each regulation. In some cases a single, a combined NOC may be submitted for approval by the appropriate state or local agency. The descriptions under the following subtitles identify these specific regulations and NOC requirements.

EVALUATION: The CSB should be exempted from submitting an NOC, providing Ecology concurs that it will contain only sealed sources. This concurrence underlies all of the recommendations made here and in other sections supporting compliance with the *Clean Air Act of 1977*, and supporting state of Washington regulations.

If Ecology concurrence is not obtained, then the W-464 project must prepare and submit an NOC, with sufficient data to support the initial assumption that the CSB (containing SNF and HLW) will not constitute a significant source of air emissions, requiring continuous monitoring, and a near-isokinetic stack sampling system to demonstrate *Clean Air Act of 1977* compliance.

Contact M. L. Deffenbaugh (373-5399) for general project environmental support.

Contact J. J. Luke (376-8629) with questions regarding permitting and for assignment of permitting staff to prepare the NOC application.

Prevention of Significant Deterioration (PSD) - WAC 173-400-141

Any increased emission of criteria pollutants from a new or modified source may trigger a significant modification as defined by WAC 173-400-141, WAC 173-400-030 and CFR 52.21. Potential annual amounts of expected increases must be considered. Preconstruction approval may be required by Ecology; see HNF-PRO-450. The criteria pollutants include:

- Carbon monoxide
- Nitrogen oxides
- Sulfur dioxides
- Particulate matter and PM-10
- (volatile) organic compounds¹

¹As defined in WAC-173-400-030

- Lead
- Fluorides
- Sulfuric acid mist
- Total reduced sulfur compounds (& H₂S).
- Municipal waste combustor - acidic gases, metals, or organics

If an NOC is required, the potential annual emissions of the criteria pollutants must be estimated and included. (See NOC Section, above.)

New Sources of Toxic Air Pollutants (TAPs) Requirements - WAC 173-460-030

New Source Review(under TAPs) - WAC-173-460-040

Activities that are considered "modifications" or "new construction" must be assessed for possible TAPs permitting. The TAPs evaluation will include potential and/or measurable emissions and a process description. TAPs are identified in WACS 173-460-150 and -160. The TAPs evaluation will identify all major contributions and associated threshold action limits, along with required controls. Some key requirements are:

- Source quantity of each TAP other than nonprocess fugitive emissions,
- Source impact category (listed in WAC 173-460, or WAC 173-400),
- Source exempt components,

- "New source" of TAPS, or facility/source modification,
- Identify T-BACT and/or TAPS.

EVALUATION: To be determined. The vitrified HLW waste form, the cesium capsules, and any stabilized non-normal (debris) waste must comply with the repository acceptance criteria. It will be the vitrification contractor(s) responsibility to ensure this. Documentation to ensure compliance will probably be developed jointly with the contractor during the early period of the vitrification facility design/construction.

Contact M. L. Deffenbaugh (373-5399) for project general environmental support.
Contact J. J. Luke (376-8629) for preparation of permit applications.

RADIOACTIVE AIR EMISSIONS

Radiation Protection - Air Emissions - WAC 246-247 Source Review/Notice Of Construction - WAC 246-247-060

The Washington State Department of Health (DOH) is the state regulatory agency for all radioactive air emissions. The DOH will make a case-by-case determination regarding the need to register any new or modified source of radioactive air emissions requiring an NOC. If an NOC is required (see WAC 246-247) the same data is usually combined for both DOH and Ecology.

Any new activity, process, or equipment that will involve potential emissions of radionuclides to the air is subject to a preconstruction review and approval by the DOH. If the activity involves a physical or operational change at an existing source of radionuclide air emissions, and the change will result in ANY increase in the rate of emissions of radionuclides to the ambient air or the release of a radionuclide not previously released from the existing source, review and approval by the DOH is required. Emissions resulting after the changes are compared to a baseline that is normally the annual rate of emissions observed from the facility, structure, or operation during the prior two years of operations. Other options for definition of the baseline exist and may be negotiated with DOH; see HNF-PRO-450.

The increase may be related to such factors as increased flow rate or concentration of effluent, upstream heating or mixing of source material, or increased exposure to outside air. When determining whether increased emissions would occur, additional abatement by any planned emissions control equipment may not be factored in.

An NOC application must be filed to obtain DOH approval before commencement of the new or modified activity. The NOC must include a description of the new construction or modification activities with details concerning any affect the planned construction activity, or the new or changed operations would have regarding containment or release of radionuclide air emissions. The NOC must also include estimates of actual and potential emissions and an assessment of BARCT or ALARACT as defined in the WAC 246-247. Any new major source of radioactive air emissions or major modification to a source must employ BARCT, per WAC 246-247-030, and the Hanford Site Radioactive Control Manual (HSRCM-1). This must also meet ALARA standards; see HNF-PRO-450.

EVALUATION: Most of the design decisions for radiation protection and BARCT compliance issues depend on whether the canisters, which are to be hermetically sealed as part of the vitrification contract, can be designated as "sealed sources."

If DOH concurrence on the "sealed source" designation is not obtained, then requirements for radioactive protection must be incorporated into the facility design, along with justification for the radioactive control technology to be used.

Contact M. L. Deffenbaugh (373-5399) for general project environmental support.
Contact J. J. Luke (376-8629) for questions regarding permitting and for assignment of permitting assistance.

**National Emission Standards for Hazardous Air Pollutants (NESHAPs) -
40 CFR 61, Subpart H**

Any new stationary source of radionuclide emissions is subject to a preconstruction review and approval by the EPA, Region 10. Also, any new physical or operational activity, which may provide any increase in potential emissions of radionuclides, is defined as a modification and may require approval. Additional operational records are required by NESHAPs designation; see 40 CFR 61.14(i).

NOTE: A facility may already have a completed facility effluent monitoring plan, which may only need revision if the existing stack/emission point is registered and continuously monitored for compliance. All emissions points which require continuous monitoring must also be included in a quality assurance program, meeting 10 CFR 61, Appendix B.

EVALUATION: It is assumed that the designation of the HLW canisters as "sealed sources" would remove the facility's need to develop NESHAPs permit application documentation. The DOH concurrence on this issue should be pursued at the earliest possible opportunity.

If DOH concurrence is not obtained for designation of the canisters as "sealed sources", then an evaluation of emissions potential must be developed and included in applicable permit applications (NOC, Part A, Part B) and submitted to the DOH for review/approval.

Contact M. L. Deffenbaugh (373-5399) for general project environmental support.
Contact L. P. Diediker (373-1716) for monitoring/sampling questions.
Contact J. J. Luke (376-8629) for questions regarding permitting and for assistance in preparing permit applications.

SPECIALLY CONTROLLED SUBSTANCES

Polychlorinated Biphenyls (PCBs) - 40 CFR 761 & WAC 173-303

PCB use, handling, and disposal are regulated by the state of Washington (WAC 173-303) if concentration is greater than 2 ppm, and by federal legislation (40 CFR 761) if concentration is greater than 50 ppm. PCB

wastes are often part of a mixture, derived-from or debris wastes (e.g., electrical power transformer fluid), which also have separate and special requirements. See HNF-PRO-451 for additional PCB guidance.

EVALUATION: Not applicable. Project W-464 will not use any PCBs or substances requiring special controls. The vitrification contractor will accept responsibility for the waste form processing, in such a way that the canisters are exempted from these controls.

A requirement will be included in the purchase specifications for any new equipment/systems, to prohibit the use of PCB-incorporating components, except in unusual circumstances. Such use should have the concurrence of the program manager, the manager of Waste Generator Services, and the HLW Project Environmental Compliance Officer.

Contact M. L. Deffenbaugh (373-5399) for general project environmental questions.

Contact T. A. Quayle (376-5223) for questions on PCB designation and controls.

Toxic Substance Control Act (TSCA) - 40 CFR 720

TSCA requires all commercial chemicals be maintained on a TSCA inventory. Users must input data for the Hanford Site Inventory, when materials are purchased. Some research and development activities are exempted from TSCA controls for "de minimus" quantities. TSCA guidelines give preference to use and recycling of all controlled materials. All chemical users must maintain the Material Safety Data Sheet in a convenient location near point of usage.

Pesticides, Rodenticides and Herbicides - WAC 16-228/232 incl

Miscellaneous poisons are controlled by the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). The Washington State Department of Agriculture is authorized to implement these regulations. Users must comply with the WAC 16 requirements, for training, usage, handling, storage, disposal and record-keeping of items under FIFRA. See HNF-PRO-451 for additional guidance on FIFRA controls.

EVALUATION: It is assumed that any TSCA or FIFRA controlled materials will be small quantity volumes, at worst case. A detailed evaluation should be made during the supporting project final design to determine whether any such materials will be used. A waste-minimization/pollution prevention study by the project is recommended, if simple screening shows the possibility for such.

Contact M. L. Deffenbaugh (373-5399) for general project environmental support.

Contact W. E. Toebe (372-2359) for questions regarding designation and controls for chemicals, pesticides, herbicides and other toxic substances.

Contact Ms. D. S. Merry (376-9773) for waste minimization assistance.

Waste Oils - WAC 173-303-040, -360, -515

Waste oil is oil that has been used, and contains contaminants that are controlled under RCRA or other authority. Waste oils are not controlled as hazardous substances, unless they also contain other components that must be controlled as hazardous substances under federal or state requirements. Controls for the Hanford Site are based only on the contaminant requirements that might be those of mixtures. Petroleum products being stored for eventual use are not considered waste. Special considerations allow waste oils with contaminants to be used for energy recovery, per WAC-173-303-515. Waste oils stored in small/portable containers may be exempted from

some storage requirements; those stored in fixed tanks may need to meet design requirements in WAC 173-303-360, or DOE 6430.1A

Evaluation: Not applicable under scope of project W-464.

Mixtures - Air Emissions and Liquid Releases - 40 CFR 302, -355, -372, and WAC 173-303-145, -372

Specialty controlled substances may be subject to release in air (as vapor, droplets, or solid particulates). They may be released in liquids as either dissolved or suspended materials. They may even appear as solids within a solid or semi-solid waste matrix. Special documentation and emissions/release estimates may be required as part of the description for normal and upset operating conditions. Special reporting protocols must be followed if a release of greater than the reportable quantity (RQ, see 49 CFR 172) occurs.

Special substances being managed as part of a mixture, especially mixtures involving radioactive components, or within a petroleum carrier product must meet the requirements for the container (design), leak detection, release, administrative management controls, and emissions sampling. These will normally be contained in the Facility Waste Minimization Plan, Facility Emissions Monitoring Plan (FEMP), and the RCRA Part A/Part B permit.

Evaluation: Not applicable under scope of project W-464.

ASBESTOS

Asbestos/NOI - BCCAA General Regulation 1, Article 8; 40 CFR 61, Subpart M

Asbestos is a controlled carcinogen. All work must be done by trained and certified personnel. Any proposed reconstruction, repair, or demolition involving asbestos must be reviewed by FDH Environmental Protection for possible preproject notification to the Benton County Clean Air Authority (BCCAA). All notifications will be handled by FDH Environmental Protection for the entire Hanford Site; see Notice of Intent (NOI) section following. Refer to HNF-PRO-450 for details.

EVALUATION: Not applicable. Project W-464 will not use any asbestos products.

OUTDOOR OR UNCONFINED BURNING

Burn Permit - WAC 173-425; BCCAA, Regulation 1, Article 5

Any use of unconfined burning requires a permit from the local BCCAA obtained through the Hanford Fire Department. Special burn permits are required for demolition or fire training.

Evaluation: Not applicable under scope of project W-464.

OZONE DEPLETING SUBSTANCES

Ozone Depleting Substances/Chlorofluorocarbons - Release Prevention; Recovery/Recycle; Certification; Labeling - 40 CFR 82

Any person who produces, transforms, destroys, imports or exports a controlled (ozone depleting) substance (e.g., chlorofluorocarbons) must perform the required reporting, training, and operations specified. See HNF-PRO-450 for details.

EVALUATION: To be determined. It is assumed that the HLW Project will not involve use of significant amounts of ozone-depleting substances. A compliance review is recommended during final design, concurrent with a waste-minimization/pollution prevention study to confirm this.

Contact M. L. Deffenbaugh (373-5399) for general environmental project support.
Contact Ms. D. S. Merry (376-9773) for assistance with waste minimization issues.

SOIL-COLUMN WASTE WATER DISPOSAL

State Waste Discharge Permit (SWDP) - WAC 173-216

The SWDP is required before waste materials from industrial, commercial, and municipal operations are discharged into ground and surface waters of the state and into municipal sewerage systems. It is DOE's policy that no new wastes or wastewater will be disposed uncontrolled to the soil column. A monitoring system/plan is needed for this category of disposal. An SWDP is not required for discharges of pollutants into navigable waters already covered by an NPDES permit program.

EVALUATION: Not applicable. The W-464 project will not inject any liquids into the soil. Those liquids generated as a result of maintenance operations will be collected, controlled, designated, and disposed of according to approved procedures.

Contact M. L. Deffenbaugh (373-5399) for general environmental project support.
Contact R. H. Engelmann (376-7485) for wastewater pollution/disposal issues.

Approval of engineering reports, plans, and specifications and operating and maintenance manual - WAC 173-240

Before construction or modification of those domestic or industrial wastewater facilities requiring Ecology wastewater discharge permits, engineering reports, plans, and specifications for the project must be submitted to and approved by Ecology. Operation and maintenance manuals must be submitted before construction is completed.

EVALUATION: Not applicable. The W-464 project will not include modifications to domestic or industrial wastewater facilities.

Underground Injection Control (UIC) Permit/Registration - WAC 173-218

Authorization by Ecology of fluids injected through wells has been restricted to wells operational before February 29, 1984. New discharges of uncontaminated storm water and groundwater return flow, unaltered except for temperature from a ground water heat pump used for heating or cooling, are the only discharges that are not prohibited. These discharges must be registered with Ecology before construction.

EVALUATION: Not applicable. The W-464 project does not plan to allow any of its structures to collect stormwater.

DOMESTIC WASTE WATER DISPOSAL

Septic System approvals/permits (<14,500 gpd design capacity) - WAC 246-272

Plans and specifications for construction of a new sanitary sewer system or modification of an existing system shall be submitted and approved by the DOH before construction or entering into a contract for construction. Once the installation is complete, a professional engineer registered in Washington State must certify that the installation has been installed according to plans and specifications approved by the DOH. In addition, an operation and maintenance manual must be submitted to the DOH.

Septic System approvals/permits (>14,500 gpd design capacity) - WAC 173-216; WAC 173-240

Septic systems with design capacities greater than 14,500 gpd are governed by state Waste Discharge Permits (WAC 173-216) and the engineering report, plan, and specification approval process described in WAC 173-240.

Discharge Standards and Effluent Limitations for Domestic Waste Water Facilities - WAC 173-221

Effluent from domestic wastewater treatment facilities, except subsurface septic tank systems with capacities less than 14,500 gpd, must meet the discharge standards established in this regulation.

Note: The DOH has taken the following position regarding modification or expansion of a drainfield located in the area of a known subsurface chemical hazard that could potentially cause the plume to harm groundwater: No modification or expansion will be allowed, consistent with regulations established for larger on-site sewage systems, preliminary report requirements (WAC 246-272-080).

EVALUATION: Not applicable under scope of Project W-464.

Pretreatment Permit - 40 CFR 403

New wastewater discharges to the city's sewage treatment plant may be required to submit permit applications to the City of Richland before discharging sewage, industrial waste, or other waste. Whether a permit application

is needed depends on whether the activity is considered a Significant Industrial Discharge by the city or fits a national pretreatment category.

EVALUATION: Not applicable under scope of Project W-464.

Operator Certification - WAC 173-230

Every operator in responsible charge of a domestic wastewater treatment plant is required to be certified at a level equal to or higher than the classification rating of the treatment plant being operated. Septic systems are excluded from requiring certified operators.

EVALUATION: Not applicable under scope of Project W-464.

SURFACE WASTE WATER DISPOSAL

NPDES Permit - 40 CFR 122

Any discharge of pollutants to waters of the United States is required to have a National Pollutant Discharge Elimination System (NPDES) permit before operation. The regulatory agency responsible for issuance of this permit is the EPA.

Ecology Certification of an EPA NPDES Permit - 40 CFR 121

EPA may not issue an NPDES permit until a certification is granted or waived by Ecology. Ecology must certify that conditions necessary to ensure compliance with applicable federal and state water quality standards.

EVALUATION: Not applicable. The W-464 Project does not include any NPDES discharges.

Storm Water Discharge under EPA NPDES General Permit - 57 Federal Register 175

The Hanford Site is covered under two storm water permits. Permit WA-R-00-000F covers storm water runoff for the Hanford Site as a whole. Permit WA-R-10-000F covers storm water runoff from construction projects. If there is a potential for storm water to reach the river from construction activities, an NOI for authorization under the EPA general permit and a storm water disposal permitting plan (SWDPP) must be in place at least two days before discharge from new construction sites (those begun after October 1, 1992).

EVALUATION: Not applicable. The CSB design has already been evaluated for applicable stormwater controls, before accepting SNF. Project W-464 assumes that there will be no environmental compliance issues inherited from SNF. This assumption should be verified by the project as part of final definitive design for the CSB modifications to accept the HLW canisters.

Contact M. L. Deffenbaugh (373-5399) for general environmental project support.
Contact L. P. Diediker (373-1716) for NPDES issues.

U.S. Army Corps of Engineers (USACE) Permit - 33 CFR 325

Discharging dredge and fill material into waters of the United States requires a permit from the USACE, before initiating the activity.

Wild and Scenic Rivers: Section 10 Permit - 33 CFR 322

Permits are required before the construction of structures and the performance of other activities in or adjacent to navigable waters. Certain activities are covered by nationwide permits rather than individual Section 10 permits. However, any work in an area designated as a "study river" for possible inclusion in the Wild and Scenic River System, such as the Hanford Reach, must obtain an individual Section 10 permit.

Nationwide Waterway Permits - 33 CFR 330

Nationwide Permits are general permits issued by the USACE designed to regulate with little, if any, delay or documentation, certain waterway activities having minimal impacts. These permits are not applicable for projects within a Wild and Scenic River study area.

EVALUATION: Not applicable. The W-464 Project does not plan any such activity.

Hydraulic Projects Permit - WAC 220-110

Any construction or other work that will change the natural flow of a river, including the addition of treated effluent waste water that will increase the natural flow, is required to obtain a hydraulic project approval from Washington State Department of Fisheries.

Shoreline Development Permit - WAC 173-14 to -20

A permit for developing the shoreline is required before construction for shorelines not federally owned, but under lease, easement, license, or other similar federal property rights short of fee ownership.

Aquatic Lands Lease - WAC 332-30

Aquatic land activities that interfere with the general public's use of state-owned tidelands, shorelands, and beds of navigable waters, require authorization before construction from the State of Washington Department of Natural Resources by way of agreement, lease, permit, or other instrument(s).

EVALUATION: Not applicable. The W-464 Project does not plan any such activity.

Hanford Reach Study Act Notification - PL 100-605

Proposed construction within one-quarter mile of the Columbia River shoreline inside the Hanford Reach Area is subject to consultation and coordination with the National Park Service.

EVALUATION: Not applicable.

Water Quality Modification Approval - WAC 173-201

A permit, directive, or order, as appropriate, must be obtained from Ecology before undertaking an activity that will temporarily reduce water quality below the criteria and classifications established for the stream.

EVALUATION: Not applicable.

Categorical Standards

Effluent Guideline and Standards - 40 CFR 405 to 471

These regulations list industry categories associated with the NPDES permit program. The regulations prescribe effluent limitation guidelines for existing sources, standards of performance for new sources, and pretreatment standards for new and existing sources.

EVALUATION: Not applicable.

DRINKING WATER SUPPLY

Approval of Engineering Reports, Plans and Specifications - WAC 246-290

Approval of engineering reports, plans, and specifications for a drinking water supply system is required before construction.

Drinking Water System Identification - WAC 246-290

New drinking water systems must obtain an identification number from the DOH before operation.

Drinking Water System Operator Certification - WAC 246-292

Operators in direct responsible charge of certain public water systems must be examined and certified for their competency on state requirements and standards before operating the system. Systems requiring certified operators include systems with 100 services at any one time; or systems serving 25 or more persons where the water is supplied from a stream, lake, or other surface water source and the systems are required by law to use a water filtration system.

EVALUATION: The CSB will use existing Hanford Site drinking water systems. Modification of existing sanitary water lines to existing use areas is assumed to be within normal maintenance activity, and should not require state approval.

Contact M. L. Deffenbaugh (373-5399) for general environmental support.
Contact J. S. Hill (372-1617) for water delivery issues.

HIGH-LEVEL WASTE**Reprocessing of Spent Nuclear Fuel - Atomic Energy Act, DOE Order 5820.2A, 10 CFR 962
Design Criteria - DOE Order 6430.1A**

High-level waste is a source designation, for the first stage of waste separated from processing irradiated nuclear fuel and other similar materials. High-level waste must not be confused with high-activity waste; handling/design requirements apply differently. Requirements for HLW management, handling, packaging, treatment, transport, and storage are summarized in DOE Order 5820.2A, and its associated references. Facilities whose primary function is that of management of HLW must be designed in accordance with special requirements in DOE Order 6430.1A and its references. Very small quantities of HLW may be exempted from some of these requirements, through a "de minimus" exemption. In general, HLW will have both a radioactive component (controlled by the Atomic Energy Act) and a hazardous material component (controlled by RCRA). Congress (10 CFR 962) decided that both sets of controls must be applied to HLW projects.

DOE policy requires that all HLW will be safely stored, treated, and disposed of in accordance with all applicable requirements, particularly those of the EPA (40 CFR 191) and the applicable state(s).

Most HLW is also classified as transuranic (TRU) waste if the wasteform exceeds the activity level of 100 nanocurie/gram from TRU elements, at the time of final stage processing, and before dilution for pumping. Most TRU processes must also meet criticality safety controls, but these are not part of the environmental compliance issues. Facility permits will incorporate all applicable compliance criteria.

Treatment, storage, and disposal processes must meet applicable standards for clean air, clean water, and protection of the environment just as if they were general RCRA controlled wastes. Facilities that have formerly treated and/or stored HLW may be decontaminated under either RCRA or CERCLA authority. A special review of environmental requirements for the D&D, plus final closure must be made in a closure plan, which is outside the scope of this checklist.

EVALUATION: The W-464 Project will include transfer and storage of HLW and associated activities that will be done in accordance with 10 CFR 962 and DOE Orders 5820.2A and 6430.1A.

Contact M. L. Deffenbaugh (373-5399) for project data identification needs.

Contact D. W. Fritz (372-2206) for guidance in defining high-level waste issues.

SOLID WASTE**Solid Waste Handling Facility Permit - WAC 173-304
Pollution Prevention/Waste Minimization**

Solid waste TSD sites or facilities (i.e., landfills, land spreading, piles, surface impoundments, and recycling facilities) must obtain approval from Ecology via the comprehensive solid waste plan, and from the jurisdictional county health department before construction. Benton and Franklin County Health Departments will be notified, because they may also provide emergency response capability.

All facilities are covered by the Hanford Site Waste Minimization and Pollution Prevention program plan (DOE/RL-91-31). New facilities must also develop a pollution prevention/waste minimization strategy, and incorporate guidelines from HNF-PRO-462 into any operations before startup. Legislative drivers are in the referenced procedure.

EVALUATION: It is assumed that the only solid waste that W-464 handles, will be that of a secondary generation nature (e.g., retrieved items from the tanks, decontamination of same, personal protective equipment, etc.). A compliance review for waste-minimization/pollution prevention should be made by the individual supporting projects during final design, to identify issues and evaluate methods to minimize the impacts.

Contact M. L. Deffenbaugh (373-5399) for general environmental project support.
Contact Ms. D. S. Merry (376-9773) for assistance with waste minimization issues.

DANGEROUS WASTE

Dangerous Waste Permit - WAC 173-303; 40 CFR 264, 265, 270
Resource Conservation and Recovery Act (RCRA) Part A - WAC 173-303-805,
Part B - WAC 173-303-806

Facilities that treat, store, or dispose (TSD) of regulated dangerous waste must obtain the necessary permits. Whether a waste is a regulated dangerous waste must be determined in accordance with WAC 173-303-070 designation procedures. Existing Hanford Facility TSD units are in process of obtaining permits in accordance with schedules and procedures identified in the Tri-Party Agreement.

New Hanford Facility TSD units that are not identified in the Tri-Party Agreement will require development of a permitting plan to detail the strategies and schedules to be used for developing the necessary dangerous waste permits. This plan must be developed early in the project development phase, strategies and schedules to be used for developing the necessary dangerous waste permits for new TSD units will need to be discussed with the appropriate regulatory agencies to gain their concurrence.

EVALUATION: The path forward strategies to reach RCRA decision agreements with Ecology are currently being defined. At present, vitrification has been determined to be "best demonstrated technology" for corrosivity and some toxicity characteristics. A strategy is proceeding to allow all DOE HLW to exit RCRA under the HWIR guidance. Should agreements waiving RCRA requirements not be reached, then the recommendation is to prepare a new Part B application for the CSB and a modification to the Hanford Facility RCRA Permit..

Contact M. L. Deffenbaugh (373-5399) for general environmental support.
Contact W. E. Toebe (372-2359) for dangerous waste requirement issues.
Contact R. H. Engelmann (376-7485) for permit modification issues.

Notice Of Intent (NOI) - WAC 173-303-281

An NOI is required for proposed RCRA TSD facilities or expansion at an existing RCRA facility. Expansion includes enlargement of land surface area, the addition of new dangerous waste processes, or an increase in overall design capacity. The NOI contains preliminary information concerning the proposed facility and/or expansion. The NOI requires a general process description, operating capacities, waste type, a topographic map, and a statement of environmental conditions, which could include a SEPA environmental checklist or a SEPA adoption letter.

EVALUATION: To be determined. If the vitrified waste form and hermetically sealed canisters can be designated as a radioactive source only, then the CSB would be waived from RCRA requirements. However, if this designation strategy is not acceptable to EPA/ Ecology, then further characterization must be done on the waste to demonstrate that it meets stricter disposal standards. Waste acceptance guidelines state that no RCRA components will be accepted in waste intended for disposal at the current national geologic repositories per DOE directive.

If it is determined that an NOI will need to be prepared for the CSB, it would need to be submitted to the public (public reading rooms) and Ecology, in accordance with WAC 173-303-281. A notification is published in a local daily newspaper for 14 consecutive days. The NOI process normally requires approximately 11 months to prepare and submit.

Contact M. L. Deffenbaugh (373-3599) for general environmental project support.

Contact R. H. Engelmann (376-7485) for assistance in preparing the NOI.

Construction or Expansion of Surface Impoundments, Waste Piles, or Landfill Units - WAC 173-303-335

A construction quality assurance (CQA) program is required for all surface impoundment, waste pile, and landfill units required to comply with dangerous waste requirements in WAC 173-303-650, -660, and -665. The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the RCRA permit. The program must be developed and implemented under the direction of a CQA officer who is a registered professional engineer. Waste will not be received in a unit subject to this section until the owner or operator has submitted to Ecology by certified mail or had delivered a certification signed by the CQA officer that the plan has been carried out and that the unit meets the WAC 173-303-650, -660, -665; and the procedure in WAC 173-303-810 (14) has been completed.

Waste may be disposed in landfills or near surface disposal units only if they meet the land disposal restrictions presented in 40 CFR 264 and 265. Wastes must be packaged to meet special air, vapor, or particulate release restrictions. Waste packaging must also be sufficient to protect groundwater. The disposal unit must also be managed as an RCRA compliant TSD unit per WAC 173-303.

Waste liquids may be accepted for temporary storage in surface impoundments if the requirements of 40 CFR 265, Subpart K and 40 CFR 268.4 are met.

Non-Standard Methods, RD&D Permit, Modification and Waivers - WAC 173-303-500 to 607, 809 & 830.

The Research, Development & Demonstration permit is intended to provide flexibility for TSD units that propose to use an innovative and experimental technology for RCRA wastes. The RD&D permit is similar to the Part B, and is prepared according to WAC 173-303-809, if the proposed process is not covered in WAC 173-303 sections 500-670 (inclusive).

Permit modifications and waivers from existing RCRA TSD operations are allowed. Modification/waiver applications are covered in WAC 173-303-830, and HFN-PRO-454, for RCRA waste handling guidelines.

EVALUATION: The W-464 project assumes that all HLW canisters received from the vitrification contractor(s) will be considered "sealed sources," and will meet the geologic repository acceptance criteria, having no hazardous components controlled under RCRA. Responsibility to meet these criteria is assumed to be that of the vitrification contractor. Implications of these assumptions have been discussed earlier.

It is assumed that the HLW project will not use any unproven technologies or methods; an evaluation for waivers should be made. It is expected that modifications to existing facilities will be made; the impacts of which will need to be quantified, before seeking approvals.

Contact M. L. Deffenbaugh (373-5399) for general environmental project support.
Contact W. E. Toebe at (372-2359) for RCRA Waste Regulation interpretations.
Contact R. H. Engelmann (376-7485) for permit application assistance.

UNDERGROUND STORAGE TANKS

Underground Storage Tank (UST) Permit - WAC 173-360

After July 1, 1991, no UST system, as defined in WAC 173-360 (miscellaneous underground tanks), shall be operated without a valid permit from the regulatory agency.

EVALUATION: Not applicable under Project W-464 scope.

REFERENCES

- 10 CFR 835, "Occupational Radiation Protection," *Code of Federal Regulations*, as amended.
- 10 CFR 962, "Byproduct Material," *Code of Federal Regulations*, as amended.
- 10 CFR 1021, "Compliance with the National Environmental Policy Act," *Code of Federal Regulations*, as amended.
- 10 CFR 1022, "Floodplain Wetland Assessment," *Code of Federal Regulations*, as amended.
- 33 CFR 320, "Wild and Scenic River," *Code of Federal Regulations*, as amended.
- 33 CFR 322, "Permits for Structures of Work in/or Affecting Navigable Waters of the United States," *Code of Federal Regulations*, as amended.
- 33 CFR 325, "Processing of Department of the Army Permits," *Code of Federal Regulations*, as amended.
- 33 CFR 330, "Nationwide Permit Program," *Code of Federal Regulations*, as amended.
- 36 CFR 63, "Determinations of Eligibility for Inclusion in the Register of Historic Places," *Code of Federal Regulations*, as amended.
- 36 CFR 800, "Cultural Resource Review," *Code of Federal Regulations*, as amended.
- 40 CFR 52, "Approval and Promulgation of Implementation Plans," *Code of Federal Regulations*, as amended.
- 40 CFR 60, "Standards of Performance for New Stationary Sources," *Code of Federal Regulations*, as amended.
- 40 CFR 61, "National Emission Standards for Hazardous Air Pollutants," *Code of Federal Regulations*, as amended.
- 40 CFR 82, "Protection of Stratospheric Ozone," *Code of Federal Regulations*, as amended.
- 40 CFR 121, "State Certification of Activities Requiring a Federal License or Permit," *Code of Federal Regulations*, as amended.
- 40 CFR 122, "EPA Administered Permit Programs: The National Pollutant Discharge Elimination System," *Code of Federal Regulations*, as amended.
- 40 CFR 191, "Environmental Radiation Protection St "EPA-Administered Permit Programs: The Hazardous Waste Permit Program," *Code of Federal Regulations*, as amended.

- 40 CFR 262, "Standards Applicable to Generators of Hazardous Waste," *Code of Federal Regulations*, as amended.
- 40 CFR 263, "Standards Applicable to Transporters of Hazardous Waste," *Code of Federal Regulations*, as amended.
- 40 CFR 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," *Code of Federal Regulations*, as amended.
- 40 CFR 265, "Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," *Code of Federal Regulations*, as amended.
- 40 CFR 268, 1986, "Land Disposal Restrictions," *Code of Federal Regulations*, as amended.
- 40 CFR 270, "Standards for Management and Disposal of Spent Nuclear Fuel High-Level and Transuranic Radioactive Wastes," *Code of Federal Regulations*, as amended.
- 40 CFR 300, "National Oil and Hazardous Substances Pollution Contingency Plan," *Code of Federal Regulations*, as amended.
- 40 CFR 302, "Designation, Reportable Quantities, and Notification," *Code of Federal Regulations*, as amended.
- 40 CFR 355, "Emergency Planning and Notification," *Code of Federal Regulations*, as amended.
- 40 CFR 372, "Toxic Chemical Release Reporting: Community Right-To-Know," *Code of Federal Regulations*, as amended.
- 40 CFR 403, "General Pretreatment Regulations for Existing and New Sources of Pollution," *Code of Federal Regulations*, as amended.
- 40 CFR 405 to 471, "Categorical Standards," *Code of Federal Regulations*, as amended.
- 40 CFR 471, "Nonferrous Metals Forming and Metal Powders Point Source Category," *Code of Federal Regulations*, as amended.
- 40 CFR 720, "Toxic Substances," *Code of Federal Regulations*, as amended.
- 40 CFR 761, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions," *Code of Federal Regulations*, as amended.
- 40 CFR 1500-1508, "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act," *Code of Federal Regulations*, as amended.
- 43 CFR 7, "Cultural Source Review," *Code of Federal Regulations*, as amended.

- 49 CFR 172, "Hazardous Materials Tables and Hazardous Materials Communications Requirements and Emergency Response Information Requirements," *Code of Federal Regulations*, as amended.
- 50 CFR 17, "Endangered and Threatened Wildlife and Plants," *Code of Federal Regulations*, as amended.
- 50 CFR 402, "Interagency Cooperation Endangered Species Act of 1973," *Code of Federal Regulations*, as amended.
- 62 FR 8693, "Record of Decision for Tank Waste Remediation System Environmental Impact Statement," *Federal Register*, Vol. 62, pp. 8693.
- Conklin, A.W., 1998, *Air Permitting for Interim Storage of Solidified High Level Tank Waste at the Canister Storage Building*, (internal letter #9852880 to J. E. Rasmussen, March 27), Washington State Department of Health, Lacey, Washington.
- DOE, 1996, *Final Environmental Impact Statement for the Tank Waste Remediation System*, DOE/EIS-0189F, U.S. Department of Energy, Richland, Operations Office, Richland, Washington.
- DOE, 1997, *National Environmental Policy Act*, DOE Order 451.1A, U.S. Department of Energy, Washington, D. C.
- DOE, 1992, *American Indian Tribal Government Policy*, DOE Order 1230.2, U.S. Department of Energy, Washington, D.C.
- DOE, 1990, *General Environmental Protection Program*, DOE Order 5400.1, U.S. Department of Energy, Washington, D.C.
- DOE, 1993, *Radiation Protection of the Public and the Environment*, DOE Order 5400.5, U.S. Department of Energy, Washington, D.C.
- DOE, 1990, *Environmental Protection, Safety, and Health Protection*, Change 7, DOE Order 5484.1, U.S. Department of Energy, Washington D. C.
- DOE, 1988, *Radioactive Waste Management*, DOE Order 5820.2A, U.S. Department of Energy, Washington, D. C.
- DOE, 1989, *General Design Criteria*, DOE Order 6430.1A, U.S. Department of Energy, Washington, D. C.
- DOE/RL, 1991, *Hanford Site Waste Minimization and Pollution Prevention*, DOE/RL-91-31, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Project Hanford Policies and Procedures

HNF-PRO-450, Air Quality Program

HNF-PRO-451, Regulated Substance Management

HNF-PRO-452, NEPA, SEPA, Cultural and Natural Resources

HNF-PRO-453, Environmental Notification and Reporting

HNF-PRO-456, Water Quality

HNF-PRO-457, Environmental Requirements Evaluation

HNF-PRO-462, Pollution Prevention

HNF-PRO-551, Site Location Review

WAC 173-14 to 20, "Permits for Developments on Shorelines of the State; Shoreline Management Act," *Washington Administrative Code*, as amended.

WAC 173-200, "Water Quality Standards for Ground Waters of the State of Washington," *Washington Administrative Code*, as amended.

WAC 173-201, "Water Quality Standards for Waters of the State of Washington," *Washington Administrative Code*, as amended.

WAC 173-216, "National Pollutant Discharge Elimination System Permit Program," *Washington Administrative Code*, as amended.

WAC 173-218, "Underground Injection Control Program," *Washington Administrative Code*, as amended.

WAC 173-221, "Discharge Standards and Effluent Limitations for Domestic Wastewater Facilities," *Washington Administrative Code*, as amended.

WAC 173-230, "Certification of Operators of Wastewater Treatment Plants," *Washington Administrative Code*, as amended.

WAC 173-240, "Submission of Plans and Reports for Construction of Wastewater Facilities," *Washington Administrative Code*, as amended.

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, as amended.

WAC 173-304, "Minimum Functional Standards for Solid Waste Handling," *Washington Administrative Code*, as amended.

WAC 173-340, "Model Toxics Control Act-Cleanup," *Washington Administrative Code*, as amended.

WAC 173-360, "Underground Storage Tank Regulations," *Washington Administrative Code*, as amended.

WAC 173-400, "General Regulations for Air Pollution Sources," *Washington Administrative Code*, as amended.

WAC 173-401, "Operating Permit Regulation," *Washington Administrative Code*, as amended.

WAC 173-425, "Open Burn," *Washington Administrative Code*, as amended.

WAC 173-460, "Controls for New Sources of Toxic Air Pollutants," *Washington Administrative Code*, as amended.

WAC 197-11, "SEPA rules and WAC 173-802 SEPA procedures," *Washington Administrative Code*, as amended.

WAC 232-12, "Department of Wildlife; Permanent Regulations," *Washington Administrative Code*, as amended.

WAC 220-110, "Hydraulic Projects Permit," *Washington Administrative Code*, as amended.

WAC 228 to 232, "Pesticide Herbicides," *Washington Administrative Code*, as amended.

WAC 246-247, "Radiation Protection-Air Emissions," *Washington Administrative Code*, as amended.

WAC 246-272, "On-site Sewage System," *Washington Administrative Code*, as amended.

WAC 246-290, "Public Water Supplies," *Washington Administrative Code*, as amended.

WAC 246-292, "Water Works Operator Certification," *Washington Administrative Code*, as amended.

WAC 332-30, "Aquatic Lands Lease," *Washington Administrative Code*, as amended.

WAC 460-040, "Toxic Air Pollutants Air Review," *Washington Administrative Code*, as amended.

APPENDIX B

**SUMMARY OF DATA/INFORMATION REQUIREMENTS FOR
HIGH-LEVEL WASTE INTERIM STORAGE**

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SUMMARY OF DATA/INFORMATION REQUIREMENTS FOR HIGH-LEVEL WASTE INTERIM STORAGE

The following is a summary of information needed to meet the regulatory requirements and documents discussed in this permitting plan.

BI.0 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (NEPA)/ STATE ENVIRONMENTAL POLICY ACT OF 1971 (SEPA)

- Purpose and Need for Action
 - Why action is needed now
 - How this action relates to other actions.
- Design Components
 - Conceptual design or equivalent information to assist in NEPA evaluation of level of NEPA required by critical decision 1
 - 30% design information to assist in a NEPA determination (for example, ROD, FONSI, or CX) supplement analysis determination for adequacy of existing EIS by critical decision 2.
- Alternatives Considered
 - Do nothing different from current storage
 - Pick a disposal method that does not require intermediate storage
 - Use a different type or form of interim waste storage
 - Use a different location for interim storage.
- Environments and Resources Affected
 - Geological, aquatic, atmospheric, biological, cultural, socioeconomic, terrestrial, visual, audio, and natural environments
 - Transportation.

- Environmental Consequences
 - Possible consequences to environments previously listed
 - Anticipated health effects from routine and non-routine operations, including accidents
 - Possibility of disproportionate impacts on minority group(s) identified.
- Statutory and Regulatory Requirements
 - These relate to RCRA and other regulatory permitting requirements addressed in other sections of this permitting plan.
 - Any CERCLA documents that might be relevant to the proposed activity.
- Additional Supporting Documents
 - Additional documents related to safety, engineering, and project planning
 - Waste evaluation documents that might be helpful in the NEPA evaluation and documentation process.

Preparation of appropriate NEPA documentation requires data on natural, biological, or cultural resources used or impacted by the alternatives considered; socioeconomic of the region; land use, both current and future; visual resources impacted; noise and transportation impacts from construction, operation, and decommissioning; and hazardous or toxic substances used or potentially released into the environment.

B2.0 RESOURCE CONSERVATION AND RECOVERY ACT OF 1976

B2.1 NOTICE OF INTENT AND PART A

The following information is required under WAC 173-303-281, -282, and -805 when submitting an NOI for expansion under interim status:

- Facility description
- Explanation of expansion
- Siting criteria
- 10-year summary of formal Notice of Violation and/or Notice of Penalty

- Demonstrated need for expansion
- Comparison of proposed expansion to overall unit capacity
- A SEPA environmental checklist or SEPA Adoption Notice
- 150-day public review of NOI before submittal of Part A, Form 3
- A Tri-Party Agreement milestone for submittal of the initial Part B
- Negotiation with Ecology for submittal of the final status Part B into the Hanford Facility RCRA Permit.

B2.2 PART B

The following are general requirements (WAC 173-303-806) for the Part B. Additional facility information would be provided for information.

- A general description of the facility
- Chemical, biological, and physical analyses of the dangerous waste and hazardous debris to be managed at the facility. At a minimum, these analyses must contain all the information that must be known to treat, store, or dispose of the waste properly in accordance with WAC 173-303-600
- A copy of the waste analysis plan required by WAC 173-303-300(5)
- A description of security procedures and equipment required by WAC 173-303-310, or a justification demonstrating the reasons for requesting a waiver of this requirement
- A copy of the general inspection schedule required by WAC 173-303-320(2) and 173-303-630(6)
- A description of the procedures used to comply with the preparedness and prevention requirements of WAC 173-303-340, or a justification of any request for a waiver(s) from these requirements
- A copy of the contingency plan required by WAC 173-303-350
- A description of the procedures, structures, or equipment used at the facility to:
 - Prevent hazards and contain spills in unloading/loading operations
 - Prevent run-off from dangerous waste handling areas to other areas of the facility or environment, or to prevent flooding

- Prevent contamination of water supplies
- Mitigate effects of equipment failure and power outages
- Prevent undue exposure of personnel to dangerous waste
- Prevent releases to the atmosphere.
- Vehicular traffic pattern, estimated volume, and control
- Seismic risk consideration. The owner or operator must identify the seismic risk zone in which the facility is intended to be located. It must be demonstrated that the facility is designed to resist seismic ground motion and that the design is sufficient to withstand the maximum horizontal acceleration of a design earthquake specified in the demonstration
- An outline of both the introductory and continuing training programs that prepare persons to operate or maintain the TSD facility in a safe manner as required to demonstrate compliance with WAC 173-303-330. A brief description of how training will be designed to meet actual job tasks in accordance with the requirements in WAC 173-303-330(1)(d)
- A copy of the closure plan required by WAC 173-303-610(3) and 173-303-630(10)
- A topographic map meeting all applicable requirements in WAC 173-303-806(4)(a)(xviii).

B2.3 SPECIFIC CONTAINER REQUIREMENTS

- A description of the containment system to demonstrate compliance with WAC 173-303-630(7), showing at least the following:
 - Basic design parameters, dimensions, and materials of construction, including allowance for a 25-year, 24-hour storm
 - How the design promotes positive drainage control or how containers are kept from contact with standing liquids in the containment system
 - Capacity of the containment system relative to the volume of the largest container to be stored
 - Provisions for preventing or managing run-on
 - How accumulated liquids can be analyzed and removed to prevent overflow

- A description of the building or other protective covering for extremely hazardous waste containers.
- For storage areas that store containers holding waste that do not contain free liquids, a demonstration of compliance with WAC 173-303-630(7)(c), including the following:
 - Test procedures and results or other documentation or information to show that the waste does not contain free liquids
 - A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.
- A description of procedures for labeling containers.

B2.4 TRANSPORTATION

The primary information required to proceed with authorization of the packaging system and the transfer campaign is as follows:

- Detailed design of the packaging system
- Description of the transportation system
- Detailed description of the bounding payload, including radioisotopic content, chemical constituents, physical properties, thermal properties, and mechanical properties
- Generator's name, location, and telephone number
- Receiving TSD unit's name, location, and telephone number
- Description of waste
- Number and type of containers
- Total quantity of waste
- Unit volume/weight
- Dangerous waste number(s)
- Any special handling instructions
- Transport mode (highway or rail) and route
- Number and frequency of transfers.

B2.5 RADIATION PROTECTION

- Background radiation levels at the project site and in surrounding areas, including onsite and offsite.
- Radionuclides present in flora, fauna, soil, wildlife, water, vadose and groundwater, agriculture products, and, in some circumstances, members of the public.

B3.0 REFERENCES

CERCLA, 1980, *Comprehensive Environmental Response Compensation, and Liability Act of 1980*, 42 USC 9601 et seq.

National Environmental Policy Act of 1969, 42 USC 4321, et seq.

State Environmental Policy Act of 1971, as amended.

WAC 173-303, 1990, "Dangerous Waste Regulations," *Washington Administrative Code*, as amended.