RPP-6290
Revision 0

The Remote-Handled Immobilization Low-Activity Waste Disposal Facility Environmental Permits and Approval Plan

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Date Published
August 2000

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

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Contractor for the U.S. Department of Energy
Office of River Protection under Contract DE-AC06-99RL14047

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**THE REMOTE-HANDLED IMMOBILIZED
LOW-ACTIVITY WASTE DISPOSAL FACILITY
ENVIRONMENTAL PERMITS
AND APPROVALS PLAN**

AUGUST 2000

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Richland, Washington**

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EXECUTIVE SUMMARY

The purpose of this document is to revise Document HNF-SD-ENV-EE-003, *Permitting Plan for the Immobilized Low-Activity Waste Project*, which was submitted on September 4, 1997. That plan accounted for the interim storage and disposal of Immobilized-Low Activity Waste at the existing Grout Treatment Facility Vaults (Project W-465) and within a newly constructed facility (Project W-520). Project W-520 was to have contained a combination of concrete vaults and trenches.

This document supersedes that plan because of two subsequent items: (1) A disposal authorization that was received on October 25, 1999, in a U. S. Department of Energy-Headquarters, memorandum, "Disposal Authorization Statement for the Department of energy Hanford site Low-Level Waste Disposal facilities" and (2) "Breakthrough Initiative Immobilized Low-Activity Waste (ILAW) Disposal Alternative," August 1999, from Lucas Incorporated, Richland, Washington.

The direction within the U. S. Department of Energy-Headquarters memorandum was given as follows: "The DOE Radioactive Waste Management Order requires that a Disposal authorization statement be obtained prior to construction of new low-level waste disposal facility. Field elements with the existing low-level waste disposal facilities shall obtain a disposal authorization statement in accordance with the schedule in the complex-wide Low-Level Waste Management Program Plan. The disposal authorization statement shall be issued based on a review of the facility's performance assessment and composite analysis or appropriate CERCLA documentation. The disposal authorization shall specify the limits and conditions on construction, design, operations, and closure of the low-level waste facility based on these reviews. A disposal authorization statement is a part of the required radioactive waste management basis for a disposal facility. Failure to obtain a disposal authorization statement or record of decision shall result in shutdown of an operational disposal facility or disapproval to initiate construction of a new facility."

Without that authorization, the Remote-Handled Immobilized Low-Activity Waste Disposal Facility would not be able to begin design, construction, or operations.

The Breakthrough Initiative supersedes the baseline architecture of the initial program direction of using the four grout vaults and recommends using a more cost-effective alternative. The new alternative meets the regulatory conditions of a *Resource Conservation Recovery Act of 1976*-compliant landfill and is similar in concept to the existing radioactive mixed waste burial trench. The existing trench is a positive model because it is regulatory compliant and has a proven operational record.

This plan addresses only the disposal of immobilized low-activity waste within the Remote-Handled Immobilized Low-Activity Waste Disposal Facility and will describe the environmental permits, approvals, and other requirements that might affect the Remote-Handled Immobilized Low-Activity Waste Disposal Facility for the River Protection Project.

This plan identifies and screens environmental standards for potential applicability, outlines alternatives for satisfying applicable standards, and describes preferred permitting and approval approaches. This approach provides a more complete perspective for assessing environmental issues that affect the Remote-Handled Immobilized Low-Activity Waste Disposal Facility, thus improving the consistency, long-term reliability, and overall relevance of recommended compliance strategies.

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ATTACHMENT

A	ENVIRONMENTAL REQUIREMENTS CHECKLIST AND NARRATIVE FOR RH ILAW DISPOSAL FACILITY	Attachment A-i
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GLOSSARY

AEA	Atomic Energy Act of 1953
ALARA	as low as reasonably achievable
ALARACT	as low as reasonably achievable control technology
ANSI	American National Standards Institute
AOP	air operating permit
BACT	best available control technology
BARCT	best available radionuclide control technology
BCAA	Benton Clean Air Authority
BIA	Bureau of Indian Affairs
BMP	best management practice
CAA	<i>Clean Air Act of 1977</i>
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980</i>
CERR	Cultural/Ecological Resources Review
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
CHG	CH2M HILL Hanford Group Incorporated
CQA	construction quality assurance (plan)
CRR	cultural resource review
CX	categorical exclusion
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy-Headquarters
DOE-ORP	U.S. Department of Energy, Office of River Protection
DOE-RL	U.S. Department of Energy, Richland Operations Office
DST	double-shell tank
EA	environmental assessment
ECO	environmental compliance officer
Ecology	Washington State Department of Ecology
ECR	ecological compliance review
EIS	environmental impact statement
EIS/ODIS	effluent information system/onsite discharge information system
EMP	environmental monitoring plan
EPA	U.S. Environmental Protection Agency
EPCRA	<i>Emergency Planning and Community Right-to-Know Act of 1986</i>
ES&H	environment, safety, and health
200 ETF	200 Area Effluent Treatment Facility
FH	Fluor Hanford
FEMP	facility effluent monitoring plan
FIFRA	<i>Federal Insecticide, Fungicide and Rodenticide Act of 1975</i>
FONSI	finding of no significant impact
FR	Federal Register
FY	fiscal year
GIS	geographical information system

GPS	global positioning system
gpd	gallons per day
GWQC	groundwater quality criteria
HLAN	Hanford Local Area Network
HWMA	<i>Washington State Hazardous Waste Management Act of 1976</i>
ID#	identification number
IEU	insignificant emission units
ILAW	immobilized low-activity waste
ISMS	Integrated Environment, Safety and Health Management System
LDR	land disposal restriction
LERF	Liquid Effluent Retention Facility
LLW	low-level waste
LPD	liters per day
MAP	mitigation action plan
MTCA	<i>Washington State Model Toxics Control Act of 1988</i>
NCO	NEPA Compliance Officer
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
NRC	Nuclear Regulatory Commission
NSR	new source review
OSHA	Occupational Safety Health Administration
PA	performance assessment
PAAA	<i>Price-Anderson Amendment Acts of 1988</i>
PCB	polychlorinated biphenyl
PNNL	Pacific Northwest National Laboratory
PSD	prevention of significant deterioration
RCRA	<i>Resource Conservation and Recovery Act of 1976</i>
RH	remote-handled
ROD	record of decision
RPP	River Protection Project
SEIS	supplemental environmental impact statement
SEPA	<i>Washington State Environmental Policy Act of 1984</i>
SOW	statement of work
SST	single-shell tank
SWDP	State Waste Discharge Permit
TAPs	toxic air pollutants
TEDF	Treated Effluent Disposal Facility
T-BACT	toxics best available control technology
Tri-Party Agreement	<i>Hanford Federal Facility Agreement and Consent Order</i>
TRU	transuranic (material/elements/waste)
TSCA	<i>Toxic Substances Control Act of 1976</i>
TSD	treatment, storage, and/or disposal
UIC	underground injection control

USFWS	U.S. Fish and Wildlife Service
UST	underground storage tanks
WAC	Washington Administrative Code
WCAA	Washington State Clean Air Act
WDFW	Washington State Department of Fish and Wildlife
WDOH	Washington State Department of Health
WMP	Waste Management Project
WTP	waste treatment plant
WTPC	waste treatment plant contractor

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THE REMOTE-HANDLED DISPOSAL FACILITY ENVIRONMENTAL PERMITS AND APPROVALS PLAN

1.0 INTRODUCTION

On the Hanford Site, 177 underground storage tanks (all but 28 of which are well past their design life) store 208-million liters of mixed waste. This volume represents 66 percent of the U. S. Department of Energy's (DOE) mixed waste inventory nationwide. This mixed waste inventory represents a long-term environmental threat to the Hanford Site ecosystem, the Columbia River, and downstream populations.

Sixty-nine of these tanks are leaking and additional tanks are expected to fail over time. Some of the waste already has contaminated Hanford Site groundwaters. It is estimated that mixed waste will reach the Columbia River within 30 years.

Washington's Hazardous Waste Management Act (HWMA) of 1975, the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) (Ecology et al. 1999), require that this tank waste be retrieved, stored, and disposed. Protection of human health and the environment (including the Columbia River) requires that the waste be removed and treated as soon as possible. Tank safety concerns (e.g., threat of explosion, and threats to the groundwater, the Columbia River, and human health) only can be resolved effectively by removing the waste from the tanks and stabilizing the waste as vitrified waste (glass).

Responsibility for meeting these goals lies with the DOE, Office of River Protection (DOE/ORP). The Hanford Site River Protection Project (RPP) and DOE/ORP mission includes retrieval, pretreatment, immobilization, interim storage, and disposal of Hanford Site tank waste. To implement this mission, a waste treatment plant contractor (WTPC) will be selected to immobilize and process the waste. The chosen WTPC will treat the waste, immobilize the waste into low-activity waste packages, which will be disposed in the Remote-Handled (RH) Immobilized Low-Activity Waste (ILAW) Disposal Facility.

The DOE has contracted the CH2M HILL Hanford Group, Inc. (CHG) for receipt and acceptance of ILAW and for safe transportation of the ILAW to the RH ILAW Disposal Facility.

The RH ILAW Disposal Facility will be similar to the Hanford Site mixed waste burial trench (DOE/RL-88-20). This approval plan and checklist covers the key regulatory and other necessary approvals required for licensing and operating this facility.

The RH ILAW Disposal Facility initially will begin with one trench and eventually consist of six RH waste trenches, each approximately 80 meters wide by 260 meters in length by up to 10 meters deep. Each trench will contain three layers of ILAW containers separated vertically by 1 meter of soil. The RH ILAW Disposal Facility currently is planned to be a RCRA-compliant landfill (i.e., double-lined trench with leachate collection system).

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2.0 ENVIRONMENTAL, PLANNING, AND ASSESSMENT

The *National Environmental Policy Act (NEPA) of 1969* was enacted to ensure that potential environmental, social, and other impacts are evaluated, and appropriate mitigative measures considered, before federal actions are initiated that might affect the quality of the human environment. The *Washington State Environmental Policy Act (SEPA) of 1984* is similar in effect to NEPA, and requires evaluation of environmental impacts associated with a project or an agency action before approval of the project or action is granted. In addition to these overarching environmental policy programs, there are several other environmental planning and assessment requirements that could affect the RH ILAW Disposal Facility.

2.1 FEDERAL AND STATE ENVIRONMENTAL POLICY ACTS

Federal and state environmental policy acts are discussed in the following sections.

2.1.1 National Environmental Policy Act of 1969

The U.S. Environmental Protection Agency standards require that environmental considerations be identified and evaluated early in the planning process for all proposed federal actions. All proposed Hanford Site actions must have the EPA determinations completed before actions commence, and the EPA documentation must be completed before starting Title II Design, or long-lead procurements. DOE accomplishes the EPA compliance review by preparing an environmental impact statement (EIS) or an environmental assessment (EA), or by issuing a categorical exclusion (CX) if the proposed action clearly has no significant impact on the quality of the human environment. Only DOE can approve, through the NEPA Compliance Officer (NCO), the correct level of NEPA review on the Hanford Site.

Many of the actions associated with the construction and operations of the RH ILAW Disposal Facility have been anticipated and addressed in existing NEPA documentation, including the following:

- *Tank Waste Remediation System, Hanford Site, Richland, Washington, Final Environmental Impact Statement (DOE/EIS-0189)*
- “Record of Decision for the Tank Waste Remediation System” (62 FR 8693)
- *Supplement Analysis for the Tank Waste Remediation System (DOE /EIS-0189-SA2)*
- *Hanford Site Tank Waste Remediation System Programmatic Environmental Review Report (DOE/RL 98-54).*

Related NEPA documentation exists in various other EAs and EISs, that have been summarized , in the *NEPA Source Guide for the Hanford Site (HNF-SP-0903-5)*.

2.1.2 State Environmental Policy Act

The SEPA standards require evaluation of environmental impacts for a project, before the project can receive state or local permits or approvals. A SEPA checklist is completed to identify potential impacts

and the lead agency (usually the initial permitting authority) decides whether an EIS is required or if a determination of non-significance can be issued. An EIS or EA developed under NEPA could substitute (at the option of the lead agency) for the SEPA checklist, and the lead agency can defer to the existing NEPA documentation in lieu of independent SEPA documentation. Past experience has been that (Ecology) is usually the lead agency for SEPA decisions on the Hanford Site, and that in most cases, Ecology has been comfortable in accepting existing NEPA documentation as sufficient under SEPA.

2.1.3 Alternatives for Satisfying Applicable NEPA and SEPA Requirements

Alternatives to be considered for ensuring NEPA compliance include the following:

- Prepare a new EIS or supplemental environmental impact statement (SEIS). A SEIS is warranted if it is determined that a proposed action would have impacts to the human environment that might be significant and that have not been bounded adequately in previous EIS information.
- Prepare a supplement analysis (SA). A SA is warranted if there are substantial changes or potentially significant new circumstances or information relevant to environmental concerns for an action covered by an existing EIS.
- Prepare an EA. An EA analyzes the environmental consequences of a proposed action and the alternatives to that action, and is prepared when there is uncertainty concerning the need for an EIS. The EA is a precursor to deciding whether an EIS, finding of no significant impact (FONSI), or further study is necessary.
- Issue a CX. If a proposed action falls within a category of actions normally not requiring an EA or an EIS, the action might be eligible for a CX. Sitewide CXs are applied to various types of activities specific to the Hanford Site.
- Rely on existing NEPA documentation. The available body of EISs, EAs, record of decision RODs, and other NEPA documentation can be relied on if the documentation adequately bounds the range of impacts associated with a proposed action.

Alternatives to be considered for ensuring SEPA compliance include the following:

- Prepare a SEPA checklist and an EIS. A SEPA checklist and an EIS might be warranted if the lead agency determines the environmental impacts of a proposed action require further evaluation and mitigation.
- Prepare a SEPA checklist and obtain a determination of non-significance. If a proposed action would have minimal environmental impacts, a SEPA checklist could be submitted with enough information to allow the lead agency to issue a determination of non-significance.
- Rely on existing NEPA documentation. Reliance on NEPA documentation would be warranted as long as the NEPA process considered the range of environmental impacts and mitigative measures for a proposed project to at least the same extent as required by the SEPA standards. Because Ecology was a co-lead preparation agency on DOE/EIS-0189, it is not necessary for Ecology to adopt their own documentation.

2.1.4 Significant NEPA/SEPA Issues

There are no significant NEPA/SEPA issues.

2.1.5 Recommended Approaches for Complying with NEPA and SEPA

The RH ILAW Disposal Facility is a near-surface disposal concept. The current NEPA documentation provides updated ILAW management activities and addresses retrievable disposal of ILAW in engineered subsurface vaults. This facility is consistent with the ILAW activities analyzed in the EIS and the SA. Because the range of impacts associated with the RH ILAW Disposal Facility appear to be covered adequately, the recommended approach is to rely primarily on the existing NEPA record. Existing NEPA documentation will be reviewed periodically in coordination with the RPP Environmental Compliance Officer (ECO) as activities are planned. The adequacy of coverage by the existing NEPA documentation will, if necessary, be confirmed in writing with the DOE-ORP NCO. If the scope of this project is not suitably covered in the existing NEPA documents, it might be necessary to prepare an EA. The expected outcome of the EA either would be FONSI or the need to prepare a SA. All final decisions for actions to satisfy NEPA will require direction and approval by the RPP NCO.

WAC 197-11-600, - **When to use existing environmental documents.** (4) (a) "Adoption", where an agency could use all or part of an existing environmental document to meet its responsibilities under SEPA. Agencies acting on the same proposal for which an environmental document was prepared are not required to adopt the document. Therefore, the compliance for SEPA is no further action required.

2.2 CULTURAL RESOURCES AND ECOLOGICAL COMPLIANCE REVIEWS

A cultural resources review (CRR) is needed for any project involving excavation, demolition, modification, or deactivation near or at a facility or structure with potential historic, archaeological, or other cultural significance. This could include any artifacts that have importance for Native American preservation, materials that have interpretive or educational value as exhibits within local, state, or national museums, or any facility with the potential for inclusion on the National Register of Historic Places.

An ecological compliance review (ECR) is needed if planned activities could disturb plant or animal species or their habitats. The objective of the review is to determine the occurrence of any plant and animal species protected under the *Endangered Species Act of 1973*. Candidates for such protection, and species listed as threatened, endangered, candidate, sensitive, or monitored by Washington State, and species protected under the *Migratory Bird Treaty Act*. The review also is conducted to evaluate and quantify the potential impacts of disturbance on priority habitats and protected plant and animal species identified in the survey. This includes species that are or might be threatened, endangered, candidate, sensitive, or are otherwise protected under federal and state laws and regulations. This also includes taking, possession, transportation, sale, purchase/barter, export, or import of special status plants and animals (both living and dead).

2.2.1 Alternative for Satisfying Applicable Cultural/Ecological Requirements

The only alternative for consideration is to request an independent review of the area.

2.2.2 Significant Cultural/Ecological Issues

There are no significant cultural/ecological issues.

2.2.3 Recommended Approaches for Complying with Cultural/Ecological Requirements

The recommended approach is to request a review. That request was made with Pacific Northwest National Laboratory (PNNL) and the survey was completed on May 23, 2000. The following survey results and the results and considerations are taken directly off the PNNL letter report 2000-200-016 supplied by PNNL on May 26, 2000.

Survey Results. Most of the proposed project area is within mature sagebrush steppe habitat. Sagebrush (*Artemisia tridentata*) is the dominant species with approximately 20 to 30 percent cover. Principal understory species are Sandberg's bluegrass (*Poa sandibergii*) and cheatgrass (*Bromus tectorum*). The northwest corner of the proposed site is highly disturbed, and includes a large coal ash pile. Migratory bird species observed within the project area include western meadowlark, brewer's blackbird, mourning dove, Wilson's warbler, and Sage sparrow, a Washington State candidate species.

Considerations and Recommendations. No plant or animal species protected under the federal *Endangered Species Act*, candidates for such protection, or species listed by Washington State as threatened or endangered were observed in the vicinity of the proposed site.

Depending on the final project design, it is anticipated that the proposed project will result in the loss of between 25 and 33 hectares (62 to 82 acres). This level of impact will require compensatory mitigation via habitat replacement as described within the *Hanford Site Biological Resources Mitigation Strategy Plan* (DOE/RL 96-88). It is recommended that project planners contact the PNNL ecological compliance staff during the early project preparation phases to develop an appropriate mitigation action plan.

The proposed project area is used for nesting by numerous migratory birds. Therefore, no vegetation removal or disturbance should occur during the nesting and fledging seasons (i.e., between April 1 and July 31).

No adverse impacts to species, habitats, or other biological resources are expected to result from the proposed actions.

This ECR is valid until April 15, 2001. However, the proposed project area is surveyed annually. Therefore, project planners should contact the Ecological Compliance staff to identify significant changes in the local resources before initiation of construction activities.

The adequacy of this review will be reviewed periodically in coordination with the facility operations manager as other activities are planned. Supplemental information would be developed as necessary to update the initial review.

2.3 ENVIRONMENTAL MONITORING OF FACILITIES, SITES, AND OPERATIONS

An evaluation of baseline environmental conditions (pre-operational monitoring) must be conducted before startup of a site, facility, or process that has the potential for significant adverse environmental impact or for emissions of hazardous materials or radioactive substances. The basic monitoring required includes radionuclide concentrations in the ambient air, background radiation levels at the project site and in surrounding areas, and radionuclides present in flora, fauna, soil, wildlife, and water. Baseline levels of hazardous chemicals present in the environment also could be of interest. Pre-operational monitoring should begin not less than 1 year (preferably 2 years) before startup, so seasonal changes can be evaluated. This information can be used for comparative purposes during periodic near-facility monitoring to determine if facility operations and emissions are affecting the environment.

As referred to in the introduction, the DOE has determined that the performance assessment (PA) developed for this facility was acceptable with certain conditions. One of the conditions stated, was—**MONITORING**: “the monitoring plan for the Immobilized Low-Activity Tank Waste Disposal Facility shall be written and approved by ORP. The monitoring plan shall be implemented within one year of the issuance of this disposal authorization. This plan shall be updated at least every five years to reflect the changing facility conditions. The plan shall include monitoring frequencies and protocols for all the data collection required to assess the continued performance of the disposal facilities. These plans shall also include a requirement for comparison with the performance assessment results and development of any corrective action necessary.”

During the preparation of this document, preparations began on an environmental monitoring plan for the RH ILAW Disposal Facility. Work in fiscal Year (FY) 2000 will satisfy the DOE Order 435.1 requirements as well as accomplish the beginning environmental monitoring baseline for the facility.

A substantial amount of information is available regarding environmental conditions and operational monitoring in and near the proposed site for the RH ILAW Disposal Facility. This information is relevant to the facility, and is provided in various documents, including but not limited to the following:

- *Environmental Monitoring Plan - United States Department of Energy, Richland Operations Office* (DOE/RL-91-50)
- *Facility Effluent Monitoring Plan for the Facilities* (HNF-EP-0479-4)
- *Environmental Releases for Calendar Year 1998* (HNF-EP-0527-9)
- *Hanford Site Near-Facility Environmental Monitoring Annual Report, Calendar Year 1998* (HNF-EP-0573-7)
- *Hanford Site Environmental Report for Calendar Year 1998* (PNNL-12088).

2.3.1 Alternatives for Satisfying Environmental Monitoring Requirements

There are no other alternatives that warrant consideration at this time.

2.3.2 Significant Environmental Monitoring Issues

No significant issues have been identified that require resolution at this time.

2.3.3 Recommended Approach for Environmental Monitoring

CHG project personnel in conjunction with the Fluor Hanford (FH) Project personnel have developed a statement of work (SOW) identifying the deliverables for the RH ILAW Disposal Facility.

During the life of the project, the deliverables could include, but not limited to, a pre-operational environmental monitoring and baseline characterization plan and a sampling and analysis plan.

Some of the field work could include, but not be limited to, mapping of the site using global positioning systems (GPS) to locate objects/anomalies, and input to the geographic information system (GIS) with the GPS data for providing detailed maps of the site. The field work also might include the setting up of a 100 meter by 100 meter sampling grid, using the GPS. Field work also might include the use of the COUGAR (computerized off-road radiation detection vehicle) to conduct a radiation survey of the site on 10 meter transects. Hand-held surveys using health physics technicians at selected locations also might be made.

2.4 EXCAVATION PERMIT

An excavation permit is required before initiating any potential surface-disturbing onsite activities. The review and approval process will consider proposed locations for all underground piping, pits, pads, and support structures. The process should evaluate for possible intrusion into radiation control areas, underground contamination areas, and buried tanks to avoid unanticipated exposures. The excavation permit also will provide a final checkpoint for the ECO to ensure that the required cultural, ecological, pre-operational monitoring, permitting, and other environmental compliance actions adequately have been completed. Detailed information needed for excavation permits is the responsibility of each project or activity performing organization. The excavation permit must be approved by the ECO.

2.4.1 Alternatives for Satisfying Excavation Permits

There are no alternatives to be considered for this approval requirement.

2.4.2 Significant Excavation Permit Issues

No significant issues have been identified that require resolution at this time.

2.4.3 Recommended Approach For Excavation Permit Compliance

The RH ILAW Disposal Facility management or designated personnel will develop the necessary information required for the processing of an excavation permit. It is assumed that initial planning discussions between the RH ILAW Disposal Facility representatives and the facility ECO will have identified and addressed any significant cultural resource or ecological compliance issues before completion of excavation permits, and that necessary approvals will not be delayed for cultural or

ecological causes. It also assumed that other environmental compliance issues will be resolved before and will not be causes of delay for the RH ILAW disposal facility excavation permit.

2.5 DOE ACQUISITION/ENVIRONMENT, SAFETY AND HEALTH MANAGEMENT

As a condition of DOE acquisition regulations, RPP contractors must ensure that actions are integrated through the sitewide Integrated Environment, Safety and Health Management System (ISMS). Each project and activity that supports the RH ILAW Disposal Facility must ensure that ISMS is implemented in their work. The ECO will ensure that applicable environmental requirements are identified and implemented for the RH ILAW Disposal Facility, consistent with the requirements and objectives of the ISMS.

2.5.1 Alternatives For Satisfying ISMS

There are no alternatives that warrant consideration for this requirement.

2.5.2 Significant ISMS Issues

No significant issues have been identified that require resolution at this time.

2.5.3 Recommended Approach For Implementation of ISMS

The ECO in conjunction with the RH ILAW Disposal Facility management will ensure that ISMS is integrated and implemented from the inception of the design work throughout the operation of the facility. ISMS must be ingrained into the minds of all facility personnel and the appropriate requirements identified for a successful ISMS implementation.

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3.0 AIR EMISSIONS

The purposes of the federal *Clean Air Act* (CAA) of 1977 and the *Washington State Clean Air Act* (WCAA) of 1967 are to protect public health and welfare by safeguarding air quality, bringing polluted air into compliance, and protecting clean air from degradation. The CAA and WCAA provide the authority for monitoring and controlling emissions of radioactive and nonradioactive constituents to the air. In Washington State, the EPA, Ecology, Washington State Department of Health (WDOH), and local air authorities implement air quality standards.

3.1 HANFORD SITE AIR OPERATING PERMIT

State regulations establish a comprehensive Washington State Air Operating Permit (AOP) program that meets federal requirements. A single sitewide permit, the Hanford Site AOP, is required and will cover both radioactive and nonradioactive airborne emissions. The Hanford Site AOP is nearing final approval, and procedures for maintaining and updating the Hanford Site AOP are under development. Signatories to the Hanford Site AOP will include DOE Richland Operations Office (DOE/RL), Ecology, WDOH, and the Benton Clean Air Authority (BCAA).

3.1.1 Alternatives for Satisfying Hanford Site Air Operating Permit Conditions

There are no other alternatives that warrant consideration at this time.

3.1.2 Significant Hanford Air Operating Permit Issues

No significant issues have been identified that require resolution at this time.

3.1.3 Recommended Approach for Hanford Site Air Operating Permit Compliance

CONSTRUCTION: The northwest corner of the proposed site is highly disturbed and contains a large coal ash pile. The construction of the trench greatly will disturb the barren ground and the coal ash pile. The coal ash pile has been characterized and is believed to contain minute traces of arsenic. Because arsenic is a regulated constituent, a new source review (NSR) will have to be completed and the findings submitted to Ecology. This could constitute a minor modification to the Hanford Site AOP. It is recommended that the minor modification application request be prepared in parallel with other needed Notices of Construction (NOCs) and submitted at the same time as the final applications are transmitted to the applicable regulatory agencies.

OPERATIONS: If the sealed source exemption is allowed by Ecology and WDOH, it will not be necessary to do any further Hanford Site AOP modifications.

3.2 RADIOACTIVE AIR EMISSIONS

Any new stationary source of radionuclide emissions is subject to a preconstruction review and approval by the EPA for compliance with the *National Emission Standards for Hazardous Air Pollutants*

(NESHAPs). Also, any new physical or operational activity that will provide any increase in potential emissions of radionuclides is defined as a modification and might require approval. Approval is obtained by submitting a NOC to the EPA for approval to construct or modify. The RH ILAW Disposal Facility will involve an operation that will not emit, or have the potential to emit, radionuclides to the air. It is expected that this project will need to evaluate their work scope for NESHAPs applicability, and will make a submittal for a sealed source exemption approval from the proper regulatory agencies.

In addition to the EPA, WDOH regulates radioactive air emissions in Washington State under authority delegated by the Nuclear Regulatory Commission (NRC). Any new activity (including any new construction work), process, or equipment that will involve potential emissions of radionuclides to the air is subject to a pre-construction review and approval, which is initiated by submittal of a NOC to WDOH. WDOH requires the use of best available radionuclide control technology (BARCT) for all significant modifications or the use of as low as reasonably achievable (ALARA) control technology (ALARACT) for all nonsignificant modifications. Because the RH ILAW Disposal Facility involves components that will not emit, or might not emit, radionuclides to the air, it is expected that this project will evaluate work scope and submit a sealed source exemption request.

3.2.1 Alternatives for Satisfying Radioactive Air Emission Requirements

There are no other alternatives that warrant consideration at this time.

3.2.2 Significant Radioactive Air Emission Issues

No significant issues have been identified that require resolution at this time.

3.2.3 Recommended Approach for Radioactive Air Emissions Compliance

The RH ILAW Disposal Facility will seek a sealed source exemption based on WAC 246-247-020 -- "Exemptions. (1) The following types of facilities or sources of radiation are exempt from the requirements of this chapter because they release no airborne radioactivity, or they prima facie comply with the standards in WAC 246-247-040, or they are already adequately regulated under other requirements: (b) Sealed sources." This application will be consistent with the 40 CFR 61. As defined within WAC 246-247-030 --Definition (24): "Sealed source means radioactive material that is permanently bonded or fixed in a capsule or matrix, or radioactive material in airtight containers, designed to prevent release and dispersal of the radioactive material under the most severe conditions encountered in normal use and handling." The ILAW packages will be sealed in metal containers that are leak tight, as defined in American National Standards Institute (ANSI) N14.5. Each container will be decontaminated and surveyed, to meet the requirements specified in 49 (CFR) 173.443(a), before being accepted at the RH ILAW Disposal Facility. The recommended approach is to pursue a sealed source exemption from the regulatory agencies by submitting a letter coupled with the most up-to-date design information available from the WTPC.

3.3 NONRADIOACTIVE AIR EMISSIONS

Ecology implements a program for prevention of significant deterioration (PSD) to existing air quality from emissions of criteria pollutants (e.g., particulates, carbon monoxide, and nitrogen oxides).

Pre-construction approval could be required by Ecology, which would be initiated by submittal of a NOC application. Project and activity representatives should coordinate with the facility ECO during initial planning stages to ensure RH ILAW Disposal Facility compliance with the PSD requirements and to coordinate the PSD determination with the NSR process (refer to following discussion). A PSD permit probably will not be required for the RH ILAW Disposal Facility, but this will need to be confirmed and documented for projects and activities as these are defined.

Any new activity, project, process, or equipment that will involve potential emissions of contamination to the air potentially also is subject to a NSR and pre-construction approval by Ecology. Information concerning the new or modified source is submitted to Ecology in a NOC, which must include an assessment of BACT to be used. Constructing and operating the RH ILAW Disposal Facility is not expected to modify existing sources of air emissions, nor add new sources that currently do not exist, so this project should not be subject to the NSR requirements. Project representatives will coordinate with the facility ECO during initial planning stages to determine if a NSR and Ecology approval will be required for their scope of work. Final determination will be documented in a letter to file (including possible confirmatory correspondence with Ecology) indicating a NSR and approval are not required.

Any new or modified sources of air emissions must be assessed for possible emissions of toxic air pollutants (TAPs). If emissions exceed certain thresholds, dispersion modeling must be performed to determine if the offsite concentration for each constituent could exceed regulatory limits. In most cases, the TAPs regulations require the use of best available control technology for toxics (T-BACT).

3.3.1 Alternatives for Satisfying Nonradioactive Air Emission Standards

There are no alternatives that warrant consideration for this requirement.

3.3.2 Significant Nonradioactive Air Emission Issues

No significant issues have been identified that require resolution at this time.

3.3.3 Recommended Approach for Nonradioactive Air Emissions Compliance

Based on the applicability of the following requirement, the approach will be to seek a sealed source exemption for nonradioactive air emissions. One letter to both Ecology and WDOH should be an acceptable approach.

WAC 173-460-030 "Requirements, applicability and exemptions." "(2) Exempt sources. (a) Containers such as tanks, barrels, drums, cans, and buckets are exempt from the requirements of this chapter. Buckets are exempt from the requirements of this chapter unless equipped with a vent other than those required solely as safety pressure release devices."

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4.0 WATER AND WASTEWATER MANAGEMENT

Work associated with development and operation of the RH ILAW Disposal Facility could directly or incidentally affect the Hanford Site potable water system. The RH ILAW Disposal Facility currently is planned to be a RCRA-compliant landfill complete with a double liner and leachate control system. The facility also might need to dispose of wastewater from hydrotesting, cooling, condensation, and/or stormwater collection. Water quality protection requirements that potentially are applicable to the RH ILAW Disposal Facility are summarized in this section.

4.1 DRINKING WATER SYSTEMS

The Hanford Site drinking and fresh water supply systems are overseen by the Hanford Site Water Purveyor, who ensures that the systems are installed, maintained, and operated in accordance with applicable WDOH regulations for drinking water systems. The Water Purveyor must review and approve equipment, facilities, and activities that connect to or could otherwise affect the drinking water system on the Hanford Site. Modification of existing water supply systems to extend service is assumed to be within normal maintenance activity and should not require WDOH approval.

The RH ILAW Disposal Facility will rely on the existing Hanford Site drinking water supply and major expansions (to an extent that could require WDOH approval) are not expected. Projects and activities to support the RH ILAW Disposal Facility will include tie-ins to fresh water supplies (e.g., drinking water in new buildings, fire suppression, dilution and flush water), and probably will have constructed or use equipment near water supply systems (e.g., excavation near water lines, installation of structures above water systems, waste transfer lines crossing over or under water lines). The Water Purveyor will need to review this work to ensure that connections and facilities are installed and operated in compliance with the WDOH standards and approved Hanford Site plans and specifications.

4.1.1 Alternatives for Satisfying Drinking Water System Standards

There are no other alternatives that warrant consideration at this time.

4.1.2 Significant Issues for Drinking Water Systems

There are no significant drinking water issues identified for resolution at this time.

4.1.3 Recommended Approach for Drinking Water Systems

Project representatives will coordinate with the Water Purveyor and the facility ECO during initial planning stages to evaluate proposed work for consistency with the applicable water system requirements. Early involvement of the Water Purveyor during facility design particularly will be important when tie-in to the water supply system is expected. The Water Purveyor review and approval typically would be obtained on a project-specific basis as the need for tie-ins or work locations near water lines are identified. It is recommended that the RH ILAW Disposal Facility use the existing drinking water systems under the WDOH 200 East Water System ID# 41866V.

4.2 DOMESTIC WASTEWATER DISPOSAL

Septic System Approvals/Permits (<54,882 liters per day design capacity) – WAC 246-272, WDOH

Plans and specifications for construction of a new sanitary septic system or modification of an existing system must be reviewed and approved by WDOH before construction or before entering into a contract for construction. The WDOH current position is not to allow modification or expansion of a drainfield located in the area of a known subsurface chemical hazard that potentially could cause the plume to harm groundwater. Once an approved system is complete, a professional engineer registered in Washington State must certify that the installation was done according to the plans and specifications approved by WDOH. In addition, an operation and maintenance manual must be submitted to WDOH.

The existing sanitary sewer collection system is approximately 500 meters from the RH ILAW Disposal Facility and currently is operating at about 40 percent of maximum capacity for 54,882 liters per day (lpd). This system has adequate capacity to treat additional wastewater flows from the RH ILAW Disposal Facility. The RH ILAW Disposal Facility will be designed for occupant loads estimated at 7 days, 24 hours, on 3-work shift operations. The flows are estimated to be 1.1 liters per second, for an average and 2.2 liters per second for peak periods.

4.2.1 Alternatives for Satisfying Domestic Wastewater Disposal Standards

There are no other alternatives that warrant consideration at this time.

4.2.2 Significant Issues for Domestic Wastewater Disposal

There are no significant issues that require resolution at this time.

4.2.3 Recommended Approach for Domestic Wastewater Disposal

The project will adhere to WAC 246-272 and DOE Order 6430.1A for design and construction of the modification to the existing system. Plans will be submitted to WDOH and, after approval by WDOH, a registered Washington State professional engineer will certify that the installation was in accordance with the plans and specifications approved by WDOH. In addition, an operation and maintenance manual will be submitted to the WDOH.

4.3 STATE WASTE DISCHARGE PERMIT

A SWDP is required for any industrial, commercial, or municipal operations that might discharge waste materials in a manner that could pollute the groundwaters of the state and into municipal sewerage systems. A SWDP is not required for discharges of pollutants into navigable or surface waters already covered by a NPDES permit.

Before construction or modification, wastewater discharge facilities requiring a SWDP permit must submit an application to Ecology, and must provide engineering reports, plans, and specifications for the project in accordance with WAC 173-216 and WAC 173-240. Ecology must approve the SWDP

application and accompanying materials before construction begins. Operation and maintenance manuals must be submitted before construction is completed. A monitoring system and plan usually are required, which might include effluent testing, vadose zone measurements, and/or groundwater sampling and analysis.

Activities covered by an existing SWDP must comply with the conditions of the permit or the permitted facility waste acceptance criteria. Effluent control systems typically include a combination of best management practices (BMPs) to minimize effluent and pollutant generation, and use of all known, available, and reasonable treatment for effluent streams before discharge.

Ecology has issued several SWDPs for the Hanford Site that might affect the RH ILAW Disposal Facility. The permits include SWDP ST 4500 for the 200 Area Effluent Treatment Facility (200 Area ETF) and three categorical SWDPs that regulate miscellaneous stream discharges. Wastewater discharges to the 200 Areas ETF will be required to meet the facilities wastewater acceptance criteria. Each of these categorical SWDPs includes conditions on the rate and quantities of discharges, sources of water, BMPs that must be developed and implemented, and recordkeeping and reporting. These categorical permits include the following.

1. **SWDP ST 4508: Hydrotest, Maintenance, and Construction Locations on the Hanford Site.** The types of activities covered by this permit include: hydrotesting discharges (including hydrotesting of a system or component and development testing), maintenance discharges (including drainage and flushing activities), and, construction discharges (including concrete curing and pressure washing activities).
2. **SWDP ST 4509: Cooling Water and Condensate Discharge Locations on the Hanford Site.** The types of activities covered by this permit include: cooling water discharges (including from air compressors, diesel engines air conditioning, ventilation, evaporative cooling and ice machines); condensate discharges (including steam lines, steam heating systems, air compressors, air conditioning, ventilation, and ice machines); and, other miscellaneous discharges (including pump leaks, valve wastewater, water tank overflows, and quench tanks).
3. **SWDP ST 4510: Industrial Stormwater Discharges to Engineered Land Disposal Structures on the Hanford Site.** The types of activities covered by this permit include industrial stormwater discharges to ground that are collected in engineered structures (e.g., lined trenches, basins, retention structures, secondary containment structures, tanks, sumps, roofs, parking lots, other impervious surfaces) and discharged to engineered disposal structures (e.g., injection wells, dry wells, catch basins, infiltration basins, infiltration trenches).

The conditions in the SWDPs are self-implementing. Affected RH ILAW Disposal Facility activities should not require prior agency approval as long as permit conditions are met.

4.3.1 Alternatives for Satisfying SWDP Requirements

There are no other alternatives that warrant consideration at this time.

4.3.2 Significant SWDP Issues

No significant SWDP issues have been identified that require resolution at this time.

4.3.3 Recommended Approach for SWDP Strategies

The RH ILAW Disposal Facility is planned to be a RCRA-compliant landfill that includes a double-lined trench and a leachate collection system. The leachate collected will be hard piped to the Liquid Effluent Retention Facility (LERF), for treatment in the 200 Area ETF. The RH ILAW Disposal Facility will have to meet the ETF waste acceptance criteria.

If the RH ILAW Disposal Facility does any hydrotesting of water systems, in accordance with SWDP ST 4500, Condition S4.F, the water could have to be sent to the 200 Area Treated Effluent Disposal Facility (TEDF). That could occur provided that the discharge is near a TEDF connection and that the discharge meets the TEDF waste acceptance criteria.

If subject to the 200 Area ETF waste acceptance criteria, the RH ILAW Disposal Facility should plan on designing for a composite sampler and a pH meter, and also for a constant readout flow meter with a strip chart. With these attributes designed and built into the water system, the RH ILAW Disposal Facility could easily stay within the parameters of the 200 Area ETF waste acceptance criteria and water permit.

Project representatives should coordinate with the ECO during initial planning stages to determine whether their work scope could be subject to the categorical SWDPs, and if so, to evaluate potential compliance requirements and permit conditions that must be satisfied in the facility design and operation. Compliance with the SWDPs typically will be established on a specific basis as applicability to the expected work scope is identified.

5.0 RADIOACTIVE MATERIALS AND WASTE MANAGEMENT

DOE Orders provide standards and guidelines for limiting public and environmental exposures to radionuclides, and require a written environmental monitoring plan (EMP) for each site, facility, or process that uses, generates, releases, or manages significant pollutants or hazardous materials. The effluent monitoring portion of each EMP must verify compliance with applicable regulations and DOE Orders. An EMP has been prepared for all DOE activities on the Hanford Site and is updated every 3 years to include new or modified facilities and projects (DOE/RL-91-50). Effluent monitoring is documented for each major facility on the Hanford Site through a specific facility effluent monitoring plan (FEMP).

5.1 ALTERNATIVES FOR RADIOACTIVE MATERIALS AND WASTE MANAGEMENT

There are no alternatives that warrant consideration at this time.

5.1.1 Significant Issues for Radioactive Materials and Waste Management

No significant issues have been identified that require resolution at this time.

5.1.2 Recommended Approach for Radioactive Materials and Waste Management

The requirements of a FEMP are not expected to be relevant to the RH ILAW Disposal Facility. The RH ILAW Disposal Facility will generate and submit an EMP and project representatives should coordinate with the facility ECO during initial planning stages to evaluate potential compliance requirements. However, because the facility will not be a source of air emissions, and because the facility will not discharge anything to the soil, a FEMP will not be required.

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6.0 RESOURCE CONSERVATION AND RECOVERY ACT

RCRA, enacted as a comprehensive national program, was implemented by the EPA to ensure that hazardous waste will be treated, stored, and disposed so as to minimize the present and future threat to human health and the environment.

The Dangerous Waste Management Act of 1976 authorized Ecology to conduct an equivalent state program. Although the state program operates in lieu of, and in some cases exceeds, the federal requirements, dual jurisdiction by the EPA and Ecology continues for a few provisions (e.g., land disposal restrictions (LDR) and corrective action).

The EPA identified vitrification as the specified method for the corrosive and toxic characteristic heavy metals associated with high-level waste (HLW) as promulgated in the Federal Register (FR) on June 1, 1990. This provision does not address the treatment of ILAW by vitrification; the ILAW remains subject to the concentration-based standards.

The RH ILAW Disposal Facility will dispose ILAW treated by vitrification. The treated ILAW is considered a treatment residue because ILAW is derived from a listed hazardous waste. Because ILAW carries the same listed waste numbers as the RPP tank waste (F001 through F005), ILAW is subject to all the LDR that are imposed on listed waste. The RH ILAW Disposal Facility will be subject to the landfill design requirements as specified in 40 CFR 264, Subpart N, and WAC 173-303-665. The primary design features mandated by these regulations are the leachate collection system and trench liner system (primary and secondary).

6.1 Alternatives for Satisfying Applicable RCRA Requirements

- **Obtain RCRA Compliance.** The RH ILAW Disposal Facility organization will follow the standard RCRA permitting guidelines as provided by the EPA and Ecology.
- **Variance from a Treatment Standard.** The RH ILAW Disposal Facility organization will pursue a Variance from a Treatment Standard by petitioning the EPA if the resultant waste form does not meet concentration-based standards published in 40 CFR 268. The administrative process includes: a petition by DOE to the EPA to modify or amend 40 CFR 268, EPA evaluation of the petition, EPA publication of its tentative decision in the FR and issuance of a request for public comment, EPA evaluation of the public comments, and EPA arrival at a final decision. The EPA will publish the final decision in the FR.
- **Rulemaking Petition.** The RH ILAW Disposal Facility organization could pursue a Rulemaking Petition by petitioning the EPA to amend 40 CFR Part 268 to obtain approval of the vitrification process as the specific method for treatment of Hanford Site tank waste. If approved, Hanford Site tank waste once treated per the specified method would not require further testing and could be disposed to a Subtitle C landfill. The administrative process to petition the EPA and amend 40 CFR 268 to obtain approval of the vitrification process as the specified method for ILAW is contained in 40 CFR 260.20. The administrative process includes a petition by DOE to the EPA to modify or amend 40 CFR 268, the EPA evaluation of the petition, the EPA publication of its tentative decision in the FR and issuance of a request for public comment, the EPA evaluation of the public comments, and the EPA arrival at a final decision. The EPA will publish its final decision in the FR.

- **Delisting Petition.** The RH ILAW Disposal Facility organization could pursue a delisting petition to allow disposal in a Subtitle D or *Atomic Energy Act (AEA) of 1953* (nonhazardous, radioactive) landfill. The administrative process to petition the EPA to amend 40 CFR 261 to exclude a waste (that is, delisting) is contained in 40 CFR 260.20 and 40 CFR 260.22. The administrative process includes a petition by DOE of the EPA to modify or amend 40 CFR 261, the EPA evaluation of the petition, the EPA publication of a tentative decision in the FR and issuance of a request for public comment, the EPA evaluation of the public comments, and the EPA arrival at a final decision. The EPA publishes its final decision in the FR and, if the petition is approved, will issue a regulatory amendment. Successful petitions to amend 40 CFR 261 can be found in 40 CFR 261, Appendix IX, and Table 1.

NOTE: The last three bullets represent alternatives that would allow the RH ILAW Disposal Facility to avoid RCRA compliance costs for permitting, operations, and closure. The Hanford Facility successfully has delisted the treated effluent from the LERF, allowing the effluent to be disposed to a surface impoundment.

6.1.1 Significant RCRA Issues

During preparation of the final status permit application for the RH ILAW Disposal Facility, it might not be possible to provide information for the planned RH ILAW Disposal Facility at the level of detail required by Ecology. If all of the RH ILAW Disposal Facility work is not described sufficiently in the final status permit when issued, the permit might need to be modified before new unapproved work could proceed. This poses a risk of construction and operation delays while agency negotiations and public review are conducted. It would be preferable if the final status permit could be negotiated and written to approve the overall scope of RH ILAW Disposal Facility work, and to allow at least initial procurement and construction for particular upgrades to begin while the permit is being modified.

Implementing regulations promulgated pursuant to RCRA require dangerous waste treatment, storage, and disposal (TSD) facilities to comply with numerous design and operating requirements and to obtain a permit. Facilities in existence when the regulations were adopted were allowed to qualify for and continue operating under interim status. Eventually, all dangerous waste TSD facilities must either close or receive a final status permit.

Interim status is a regulatory provision that allows a TSD facility to conduct waste management operations in full regulatory compliance (i.e., exempt from fines and penalties) before obtaining a final status permit. Interim status is gained by meeting the requirements of WAC 173-303-805 and the requirements of the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement), and Section 6.2 of the Action Plan.

For the purposes of RCRA and the *Hazardous Waste Management Act (HWMA) of 1976*, the Hanford Site is considered to be a single facility as identified in the Action Plan (Section 6.2) of the Tri-Party Agreement.

6.1.2 Recommended Approach for RCRA Compliance

The recommended approach is to follow the normal RCRA permitting process. That entails the preparation of a NOI to expand disposal on the Hanford Site for disposal of ILAW at the RH ILAW

Disposal Facility. This approval also will require the preparation of a Part A, Form 3, permit application. The expansion of dangerous waste TSD units on the Hanford Facility is being pursued to ensure compliance with WAC 173-303-281 and the federal RCRA requirements.

After acceptance and approval of the NOI and the Part A from Ecology, a Part B permit application should be prepared and submitted to DOE-RL for certification. During preparation of the Part B permit application, stakeholder and public information meetings should be conducted. Once the permit is certified, the technical information should be shared with the stakeholders and public. The application could be transmitted to Ecology for comment, after Ecology comments have been resolved, incorporated, and the text revised through a series of workshops, DOE-RL would certify Revision 1 the Part B and submit to Ecology. At this point, Ecology would process the permit application and issue a permit.

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7.0 HAZARDOUS SUBSTANCES

Work associated with the development and operation of the RH ILAW Disposal Facility is not expected to handle or encounter a wide range of non-radioactive hazardous substances subject to federal and state regulations. In general, sitewide procedures already exist and are implemented as needed by projects and activities. The hazardous substance programs that potentially are applicable to the RH ILAW Disposal Facility are summarized in this section.

7.1 OZONE DEPLETING SUBSTANCES

The EPA regulates the use of ozone depleting substances, such as chlorofluorocarbons (CFCs). These compounds are to be recovered and recycled to the maximum extent practical, and their eventual use phased out. Ancillary systems (e.g., chillers and air conditioners) that support tank farm operations might be using ozone-depleting substances and projects or activities that affect these systems could be required to satisfy the applicable regulations. Project representatives should coordinate with the facility ECO during initial planning stages to determine potential compliance requirements.

7.1.1 Alternatives for Satisfying Ozone Depleting Substances

There are no alternatives that warrant consideration at this time.

7.1.2 Significant Ozone Depleting Issues

No significant issues relative to this environmental requirement have been identified.

7.1.3 Recommended Approach for Ozone Depleting Substances

The RH ILAW Disposal Facility will not be generating or handling any ozone depleting substances. Therefore, the facility will not be subject to these requirements.

7.2 ASBESTOS

Asbestos is a controlled respiratory carcinogen and trained and certified personnel must do all work involving asbestos-containing materials. Any proposed reconstruction, repair, or demolition involving asbestos must be reviewed for possible pre-project notification to the Benton Clean Air Authority.

7.2.1 Alternatives for Satisfying Asbestos Abatement

There are no alternatives that warrant consideration at this time.

7.2.2 Significant Asbestos Abatement Issues

No significant issues have been identified that require resolution at this time.

7.2.3 Recommended Approach For Asbestos Abatement

The RH ILAW Disposal Facility is not expected to use or install equipment or materials that contain asbestos. However, an approximate 616 meter section of the abandoned 400 millimeter steam line between the east and the west boundary lines (together with its asbestos insulation and pipe supports) will be removed and disposed. The asbestos material will be removed in accordance with the EPA and Occupational Safety and Health Administration (OSHA) regulations, 40 CFR 61.150 and 29 CFR 1926.1101, and disposed in an approved landfill. Project representatives will coordinate with the facility ECO during initial planning stages and use certified asbestos removal personnel.

7.3 POLLUTION PREVENTION WASTE MINIMIZATION AND COMMUNITY RIGHT-TO-KNOW NOTIFICATION AND REPORTING

Various federal and state standards require implementation of pollution prevention and waste minimization practices. All Hanford Site facilities are covered by the Hanford Site waste minimization and pollution prevention plan. New facilities must develop a pollution prevention/waste minimization strategy and incorporate relevant guidelines into any operations before startup. Plan and report information is submitted to Ecology and other agencies as required.

Regulations adopted pursuant to the federal *Emergency Planning and Community Right-to-Know Act* (EPCRA) of 1986 require that information concerning the types, locations, and hazards of specified substances be provided to state and local emergency response authorities. EPCRA also requires that annual reports be submitted to the EPA to document releases to the environment of chemicals used in excess of established threshold quantities. State and local notices and annual reporting are coordinated through a single office for the entire Hanford Site.

Pollution prevention, waste minimization, and EPCRA requirements are implemented through various tank farm and Hanford sitewide procedures. Projects and activities that support the RH ILAW Disposal Facility will be expected to satisfy the applicable planning and reporting requirements for their scope of work.

7.3.1 Alternatives for EPRCA

There are no alternatives that warrant further consideration at this time.

7.3.2 Significant EPRCA Issues

No significant issues have been identified that require resolution at this time.

7.3.3 Recommended Approach for EPCRA Compliance

The RH ILAW Disposal Facility will develop a pollution prevention/waste minimization strategy and incorporate the relevant guidelines into any operations procedures before startup. Plan and report

information will be coordinated with the Hanford Site EPRCA point-of-contact so that information can be forwarded to the proper regulatory agencies.

7.4 NOTIFICATION AND REMEDIATION OF ENVIRONMENTAL RELEASES

Unpermitted environmental releases of petroleum products and hazardous substances are subject to notification and remediation requirements under the federal *Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980* and the *Washington State Model Toxics Control Act (MTCA) of 1988*. Notification is required if a release exceeds a reportable quantity (or other regulatory threshold) for the released compound. Remediation could be required if the EPA or Ecology determine the release poses a threat to human health or the environment and cleanup is not adequately addressed under some other regulatory program (e.g., RCRA).

For unanticipated spills and releases, Hanford Site notification and reporting procedures would be followed and coordinated through a central office. Hanford Site emergency response procedures would be implemented to contain and remove spilled materials. Hanford Site cleanup and remediation contractors would be involved in addressing past-practice releases and abandoned disposal sites that are not within, or extend outside of, tank farm boundaries.

It is reasonable to expect that the project and activities associated with the RH ILAW Disposal Facility will not encounter circumstances under which the notification and remediation requirements of CERCLA and MTCA would be applicable. However, project representatives will coordinate with the facility ECO during initial planning stages to ensure that applicable notification, reporting, and response instructions are addressed in fieldwork orders and procedures, as necessary.

7.4.1 Alternatives for CERCLA/MTCA

There are no environmental release alternatives that warrant further consideration.

7.4.2 Significant CERCLA/MTCA Issues

No significant issues have been identified that require resolution at this time.

7.4.3 Recommended Approach for CERCLA/MTCA Compliance

It is unlikely that the RH ILAW Disposal Facility will experience any spills of petroleum products or chemical reagents during facility operations. However, during construction, the construction forces could encounter contamination from past practices (e.g., transfer line construction through an old waste disposal unit). It also is possible that the construction forces might have a gas tank rupture, etc. If any unanticipated spill or release occurs, the construction forces will follow the Hanford Site notification and reporting procedures, and will coordinate those actions through their ECO and a central reporting office.

Project/facility representatives should anticipate and coordinate with the facility ECO during the initial planning stages to ensure that applicable notification and reporting requirements are addressed in construction and operation procedures.

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8.0 MITIGATION ACTION PLAN

Through the NEPA process, DOE intends to implement reasonable measures to minimize the impacts to the environment. A mitigation action plan (MAP) will be prepared in compliance with the Council on Environmental Quality Implementing Regulations (40 CFR 1500-1508) for NEPA and DOE NEPA regulations 10 CFR 1021.

The DOE ROD, [62 FR 8693] -- the section on mitigation measures mentions these measures for mitigation: " All newly disturbed areas will be recontoured to conform with the surrounding terrain and revegetated with locally derived native plant species consistent with Sitewide biological mitigation plans. Potential impacts to shrub-steppe habitat and cultural resources will be among the factors considered in a NEPA analysis to support the site selection process for facilities and earthen borrow sites. Consultation with Tribal Nations and government agencies also will be performed throughout the planning process to address potential impacts to shrub-steppe habitat, religious sites, natural resources, and medicinal plants. Mitigation measures will be refined and presented in a MAP. Tribal Nations and agencies will be consulted, as appropriate, during preparation of the mitigation action plan."

The Washington State Department of Fish and Wildlife (WDFW) considers the primary impact from the construction of the RH ILAW Disposal Facility to be the removal of the shrub-steppe habitat. This habitat is dominated by big mature sagebrush and is recognized as a Priority Habitat by WDFW.

8.1 ALTERNATIVES FOR SATISFYING MITIGATION

The following are alternatives for satisfying mitigation:

- Amend the MAP
- Develop a standalone RH ILAW Disposal Facility MAP.

8.2 SIGNIFICANT MITIGATION ISSUES

No significant issues have been identified that require resolution at this time.

8.3 RECOMMENDED APPROACH FOR MITIGATION COMPLIANCE

Because the disposal site is located on approximately 90 acres of vacant, uncontaminated, and undisturbed land, a standalone MAP should be developed that establishes plans and procedures by which the facility representatives can mitigate the impacts to this site. Examples of existing documents that could be used for reference are: (1) DOE/RL 96-88 "Hanford Site Biological Resources Mitigation Strategy Plan", and (2) DOE/RL 96-32 "Draft Biological Resources Management Plan"..

There does not appear to be a prescriptive formula or specific requirements to mitigate or rectify the loss of shrub-steppe habitat that will be destroyed with the construction of this facility. DOE will have to enter negotiations with the Tribal Nations and WDFW to establish the specific remedial actions. Preliminary discussions indicate that the revegetation of the site would be based on a 2 for 1 ratio. In other words, the site would require 1,440 mature shrubs and 72,000 tublings. These sagebrush plantings

would have to occur at a compensation site that has a native grass understory, so that planting grasses will not be necessary.

9.0 TOXIC SUBSTANCE CONTROL ACT

Agreement has been reached between DOE-ORP and EPA that at least some of the DSTs contain waste that is classified as remediation waste under the *Toxic Substance Control Act (TSCA) of 1976*. The ramifications of this agreement are still being evaluated but EPA and ORP have agreed that there should be no substantial increase in requirements. It was further agreed that in most cases meeting other regulatory requirements such as those of RCRA, CAA and the AEA, regulations will be sufficient to meet TSCA requirements. Irrespective of the TSCA regulation of waste in the DST System and the vitrification plant, the vitrified waste is expected to contain <50 ppm PCBs and qualify for the radioactive waste exemption and not require further treatment to address TSCA concerns.

9.1 ALTERNATIVES FOR SATISFYING TSCA

If TSCA requirements are triggered, there are various options for complying with requirements. Some of these options are a risk-based approval, self-implementing requirements, and obtaining a coordinated approval. Issues associated with the vitrified waste are expected to be resolved along with resolution of the TSCA issues in the DST System and in the vitrification plant.

9.2 SIGNIFICANT TSCA ISSUES

TSCA contains specific storage, labeling and treatment requirements. Most of these are similar to those contained in RCRA and AEA. None of these are expected to be significant.

9.3 RECOMMENDED APPROACH FOR COMPLYING WITH TSCA

The recommended approach is to wait and see how the TSCA issues are resolved for the vitrification plant and for the DST System. Once these issues have been resolved, an evaluation to determine if there are any remaining issues that require further action should be conducted.

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10.0 REFERENCES

62 FR 8693, "Record of Decision for the Tank Waste Remediation System,"
Federal Register, Vol. 62.

60 FR 61687, "Record of Decision for Safe Interim Storage of Hanford Tank Wastes,"
Federal Register, Vol. 60.

ANSI N 14.5, American National Standards Institute

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

DOE/EIS-0189-SA1, *Supplement Analysis for The Proposed Upgrades to The Tank Farm Ventilation, Instrumentation, and Electrical Systems Under Project W-314 in Support of Tank Farm Restoration and Safe Operations*, U.S. Department of Energy, Richland, Washington.

DOE/EIS-0189-SA2, *Supplement Analysis for the Tank Waste Remediation System*, U.S. Department of Energy, Richland, Washington.

DOE/EIS-0212, *Safe Interim Storage of Hanford's Tank Waste Final Environmental Impact Statement*, U.S. Department of Energy, Richland, Washington.

DOE ORDER 435.1, *Radioactive Waste Management*.

DOE ORDER 451.1A, *National Environmental Policy Act Compliance Program*.

DOE ORDER 1230.2, *American Indian Tribal Policy*.

DOE ORDER 5400.1, *General Environmental Protection Program*.

DOE ORDER 5400.5, *Radiation Protection of the Public and the Environment*.

DOE ORDER 6430.1A, *General Design Criteria*.

DOE/RL-88-20, *Low-Level Burial Grounds Dangerous Waste permit Application*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-91-31, Rev. 4, *Hanford Site Waste Minimization and Pollution Prevention Awareness Program Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-91-50, *Environmental Monitoring Plan United States Department of Energy Richland Operations Office*, Rev. 2, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-96-32, *Hanford Site Biological Resources Mitigation Strategy*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL 96-88, *Hanford Site Biological Resources Mitigation Strategy Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL 96-92, *Hanford Strategic Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-98-54, *Hanford Site Tank Waste Remediation System Programmatic Environmental Review Report*, U.S. Department of Energy, Richland, Washington.

Ecology, the EPA, and DOE, 1999, *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.

HNF-1901, *River Protection Project Tank Waste Retrieval and Disposal Mission Technical Baseline Summary Description*, Rev. 1, Fluor Hanford, Richland, Washington.

HNF-EP-0479-4, *Facility Effluent Monitoring Plan for the Facilities*, Fluor Hanford, Richland, Washington.

HNF-EP-0527-9, *Environmental Releases for Calendar Year 1998*, Fluor Hanford, Richland, Washington.

HNF-EP-0573-7, *Hanford Site Near-Facility Environmental Monitoring Annual Report, Calendar Year 1997*, Fluor Hanford, Richland, Washington.

HNF-SP-0903-5, *NEPA Source Guide for The Hanford Site*, prepared by Fluor Hanford, Richland, Washington.

PNNL-12088, *Hanford Site Environmental Report for Calendar Year 1998*, prepared by Pacific Northwest National Laboratory, Richland, Washington.

PNNL, 2000, "Cultural/Ecological Survey", Letter report, PNNL 2000-200-016, Richland, Washington.

ATTACHMENT - APPENDIX A

**THE REMOTE-HANDLED IMMOBILIZED LOW-ACTIVITY WASTE DISPOSAL
FACILITY ENVIRONMENTAL REQUIREMENTS CHECKLIST**

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APPENDIX A

**SCOPE OF WORK/ENVIRONMENTAL SUMMARY FOR
THE RH ILAW
DISPOSAL FACILITY**

INTRODUCTION

The RH ILAW Disposal Facility will be designed and constructed to provide disposal space for the ILAW packages, receipt of ILAW packages in transport containers on a transport vehicle, loading and unloading of ILAW packages from the transport container, package handling for placement of RH ILAW within the disposal area, and monitoring of the RH ILAW packages. The RH ILAW Disposal Facility is a part of the Storage and Disposal Program and will provide infrastructure, a control/administration building, and a disposal trench.

The following are issues identified at this time:

- Compliance with NEPA
- Compliance with SEPA
- Compliance with CAA
- Compliance with TSCA
- Development of facility operational parameters
- Completion and submittal of applicable federal, state, and local permit applications
- Development of suitable onsite and offsite transportation requirements and strategy
- Incorporation of suitable operational controls in the general RH ILAW Disposal Facility administrative documents
- Incorporation of suitable interface controls with secondary criteria to permit secondary objectives.

A RH ILAW Disposal Facility monitoring strategy and emissions monitoring plan will need to be developed and/or incorporated into the existing sitewide environmental monitoring program. Other environmental issues might need to be addressed as the RH ILAW Disposal Facility is carried through the design phase and operation. After the activities at the RH ILAW Disposal Facility are complete, a final closure plan will be developed. This is beyond the scope of the present checklist.

1.0 EXPLANATION OF ENVIRONMENTAL REQUIREMENTS AND NARRATIVE

The following table identifies environmental permits, approvals, and/or requirements applicable to the RH ILAW Disposal Facility. Any 'Yes' answer in the applicability column is described further in the narrative following the table. Some 'No' answers might require special explanation and narratives. 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. The primary contact for identifying all environmental issues and defining strategy processes is the RPP RH ILAW Disposal Facility environmental personnel who will interface with other subject matter experts as the situation dictates.

Note that environmental requirements often are subject to change, particularly as the RH ILAW Disposal Facility proceeds toward final design. The checklist represents a snapshot in time, which usually is based on preliminary planning data, e.g., functional criteria. RPP environmental personnel strongly recommend that the criteria identified in this checklist be re-evaluated after the final design is complete, is that the appropriate data are included in final permits.

Because the RH ILAW Disposal Facility will interface with the waste treatment plant (WTP) personnel, additional efforts will be needed for interfacing. As the RH ILAW Disposal Facility becomes more defined, especially as the facility moves through the detailed design portion and into actual construction, further review for environmental issues is recommended.

The RH ILAW Disposal Facility Environmental Requirements Checklist

ENVIRONMENT OR MEDIA	PERMIT, APPROVAL, or REQUIREMENT	CITATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
National Environmental Policy Act and Related Reviews	NEPA Documentation	40 CFR 1500-1508 10 CFR 1021 DOE Order 451.1A	DOE	Title II Design (RH ILAW Disposal Facilities), Procurement	YES
	NEPA 216 Process/External Procurement	10 CFR 1021.216	DOE	Environmental critique before letting external contract	YES
Washington State Environmental Policy Act	SEPA Documentation	WAC 197-11	Ecology	Actions requiring issuance of permits, licenses, or other approvals by state or local authorities	YES
Other Tribal, Cultural, Historic, and Environmental Planning and Assessments	American Indian Policies Review	42 USC 1966, DOE Order 1230.2	DOE	Actions impacting tribal interests, culture, environment, or resources	YES
	Cultural Resource Review	10 CFR 1021, 36 CFR 63, 36 CFR 800, 43 CFR 7, 16 USC, 461-470a a, 42 USC 1996, 42 USC 4321	DOE, State Historic Preservation Office	Any surface disturbance, building modifications, or other actions affecting areas of archaeological or historic significance; facility changes affecting Historic Register eligibility	YES

ENVIRONMENT OR MEDIA	PERMIT, APPROVAL, or REQUIREMENT	CITATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
	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	Surface disturbances, construction, excavation, or other actions that modify habitats or could affect threatened or endangered species	YES
	Pre-operational monitoring of facility or site	DOE Order 5400.1	DOE	Determination of baseline environmental conditions before to new operations	YES
	Excavation Permit	36 CFR 800	DOE	Any surface disturbance or excavation	YES
	DOE Acquisition/ES &H Management	48 CFR 915 and 970	DOE	Integration RH ILAW Disposal Facilities with ISMS	YES
<i>Other Tribal, Cultural, Historic, and Environmental Planning and Assessments (cont.)</i>	Price-Anderson Amendments Act	10 CFR 708, 10 CFR 820, 10 CFR 830, 10 CFR 835,	DOE	Facility corrections and operational readiness	YES
<i>All Air Emissions</i>	Air Operating Permit	WAC 173-401	Ecology, EPA, WDOH	Construction or operations with potential to emit regulated compounds to air	YES
<i>Radioactive Air Emissions</i>	Source Review/NOC; NESHAPS	40 CFR 61, Subpart H	EPA	Construction or operations with potential to emit radionuclides	YES
	Source Review/NOC; Radionuclides and BARCT/ ALARACT	WAC-246-247	WDOH	Construction or operations with potential to emit radionuclides	YES

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ENVIRONMENT OR MEDIA	PERMIT, APPROVAL, or REQUIREMENT	CITATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
Nonradioactive Air Emissions	Prevention of Significant Deterioration and BACT	WAC 173-400	Ecology	Construction or operations with potential to degrade existing air quality	YES
	New Source Review	WAC 173-400	Ecology	Construction of new sources and modification of existing sources of air emissions	No
	Toxic Air Pollutants, NOC, and T-BACT	WAC 173-460	Ecology	Construction or operations with potential to emit TAPs	No
	Outdoor/ Unconfined Burning; Burn Permit	WAC 173-425, BCAA Reg. 1, Article 5	Hanford Fire Department, BCAA	Open Burning	YES
Drinking Water Supply	Approval of engineer reports, plans and specifications.	WAC 246-290	WDOH	Construction or operation of a source for public or worker drinking water	No
Domestic Wastewater Disposal	Septic Systems Design Approval	WAC 246-272	WDOH	Construction or operation of septic disposal systems with <54,882 liters per day capacity	No
	Septic System Design Approval	WAC 173-216 and 240	Ecology	Construction or operation of septic disposal systems with >54,882 liters per day capacity	No

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ENVIRONMENT OR MEDIA	PERMIT, APPROVAL, or REQUIREMENT	CITATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
<i>Domestic Wastewater Disposal (cont.)</i>	Pretreatment Permit	40 CFR 403, WAC 173- 220, City Ordinance	Ecology City of Richland	Discharge of wastewater to public sanitary sewage treatment system	No
	Wastewater Treatment Facility Permit; discharge standards; operator certification	40 CFR 122, WAC 173-216, 221, 230, and 240	Ecology, EPA	Construction or operation of facility for treatment and disposal of sanitary sewage	No
<i>Wastewater Disposal to Ground and Soil Column</i>	Groundwater Quality Standards	WAC 173-200	Ecology	Disposal of pollutants that could affect groundwater	No
	State Waste Discharge Permit	WAC 173-216 and -240	Ecology	Construction or operation of facilities that discharge wastewater to ground	YES
	Underground Injection Control	WAC 173-218	Ecology	Construction or operation of facilities that dispose of wastewater in underground wells	No

ENVIRONMENT OR MEDIA	PERMIT, APPROVAL, or REQUIREMENT	CITATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
Radioactive Materials and Waste Management	General Radiation Protection and Monitoring Programs	DOE Order 5400.1, DOE Order 5400.5, DOE Order 490	DOE	Construction or operations with potential emit radionuclides	YES
	Reprocessing of Spent Nuclear Fuel	Atomic Energy Act, DOE Order 5820.2A, DOE Order 6430.1A,	DOE, EPA, NRC	Construction or operation of facilities for storing, treating, processing, and managing spent nuclear fuel	No
	Management of High-Level and Low-Level Radioactive Wastes	10 CFR 962, 40 CFR 191, DOE Order 5820.2A, DOE Order 6430.1A,	DOE, EPA, NRC	Construction or operation of facilities for storing packaging, transporting and disposing of high- level and low-level wastes	No
Solid and Dangerous Waste Management	Solid Waste Facility Permit	WAC 173-304 and-351	Ecology Benton Franklin Health Department	Construction and operation of facilities that manage solid and municipal wastes	YES
	Waste Oils	WAC 173-304 and-351	Ecology	Receipt, storage, transport, recycling, blending, or burning of waste oils	YES
Solid and Dangerous Waste Management (cont.)	Dangerous Waste Notice of Intent	WAC 173-303-281	Ecology and public	Expansion, construction, or modification and operation of dangerous waste TSD unit	No
	Interim Status and Final Status Standards	WAC 173- 303, 40 CFR 264, 265, and 270	Ecology, EPA	Construction, expansion, or modification of dangerous waste TSD unit	YES

ENVIRONMENT OR MEDIA	PERMIT, APPROVAL, or REQUIREMENT	CITATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
	Permits for Trials and Demonstrations	WAC 173- 303-807,808 and -809	Ecology	Trial burns, land treatment demonstrations, and research involving dangerous waste	No
	Miscellaneous Requirements for Dangerous Waste Management	WAC 173- 303-071; 140; -335; 610; -645, and 646 40 CFR 268	Ecology EPA	Exclusions for treatability test samples; land disposal restrictions; construction quality assurance for dangerous waste impoundment, pile or landfill; partial or final closure of TSD unit; monitoring and corrective actions for dangerous waste releases	YES
Hazardous Substances and Petroleum Products	Toxic Substances	40 CFR 720	EPA	Activities that produce toxic substances must submit pre- manufacturing notification	No
	Polychlorinate d Biphenyls	40 CFR 761	EPA	Generation and management of waste containing regulated PCB's	YES
	Ozone Depleting Substances; Spent Fluorocarbons; Volatile Organic Compounds	40 CFR 82, WAC 173- 303-506, WAC 173-490	EPA Ecology	Facilities or operations which handle or recycle spent fluorocarbons, handle or might release ozone depleting substances, or store volatile organic compounds	No

ENVIRONMENT OR MEDIA	PERMIT, APPROVAL, or REQUIREMENT	CITATION(S)	REGULATORY AGENCY	RESTRICTION	APPLY? (Y or N)
Hazardous Substances and Petroleum Products (cont.)	Asbestos	40 CFR 61, Subpart M, BCAA Reg. 1, Article 8	EPA BCAA	Removal, management, and disposal of asbestos containing material	No
	Bulk Fertilizers, Insecticides, Pesticides, Rodenticides, Fungicides, Herbicides	WAC 16-201, WAC 16-228 to-232	State Department of Agriculture	Bulk storage of fertilizers; use, application, storage and disposal of insect, pest, and vegetation control chemicals	YES
	Oil Spill Prevention Planning and Response	40 CFR 112, WAC 173- 180A to - 181	EPA, Ecology	Construction and operation of facilities that store or handle bulk oils and hazardous chemical products	YES
	Pollution Prevention, Waste Minimization, and Community Right-to-Know Notification and Reporting	DOE Order 5400.1, DOE Order 5820.2A, 40 CFR 355 and 372, WAC 173-307	DOE, EPA, Ecology	Facilities and operations that use hazardous substances, generate or manage solid and hazardous wastes, in excess of threshold quantities	No
	Notification and Remediation of Environmental Releases	40 CFR 300 and 302, WAC 173- 303-145, WAC 173-340	EPA Ecology	Unpermitted releases of oils and hazardous substances to the environment in excess of threshold quantities	No
	Dangerous/ Hazardous waste, RCRA air emis- sions	WAC 173-303 -120(4)(e), -400(3), -690, and - 691, 40 CFR 264/265 Subpart CC	Ecology and EPA	Operations	
USTs	Tank Permit	WAC 173-360	Ecology	Operation	No

National Act Environmental Policy Act Documentation -10 CFR 1021, 40 CFR 1021,
DOE Order 451.1A

NEPA requires federal agencies to examine ALL activities for impacts on the environment. DOE does this by preparing an EIS or an EA. A NEPA compliance review is required for all proposed actions on the Hanford Site to determine the appropriate level of environmental documentation. A CX is issued by DOE/ORP if the proposed action clearly has no significant impact on the quality of the human environment. However, even those actions qualifying for a CX still must be documented.

A NEPA Documentation Request Checklist is completed and forwarded to a DOE/ORP 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 RPP-PRO-452.

Note: All cultural and ecological surveys also must be completed before NEPA documentation is submitted to DOE/ORP.

EVALUATION: The DOE in cooperation with Ecology issued an EIS entitled "Tank Waste Remediation System, Hanford Site, Richland, Washington, Final Environmental Impact Statement" (TWRS EIS) (DOE/EIS-0189, August 1996). On February 26, 1997, DOE issued a [62 FR 8693] ROD for TWRS, Hanford Site, Richland, WA. Subsequent to the ROD, DOE issued, SA2, May 1998. This supplement analysis provides updated ILAW management activities, as originally described in the TWRS EIS, and also addresses retrievable disposal of ILAW in engineered subsurface vaults. The present concept is consistent with the ILAW activities analyzed in SA2.

The DOE currently is undergoing another supplement analysis (SA3). When SA3 is complete (in conjunction with previous NEPA documentation), it is expected to adequately bound the range of environmental impacts associated with the RH ILAW Disposal Facility. The SA3 will be completed in time to support the planned design, procurement, and construction schedules for the RH ILAW Disposal Facility. At a minimum, the NEPA documentation would have to be reviewed by the ORP NCO. Results of that effort will be evaluated and applied appropriately to the permit planning for the RH ILAW Disposal Facility.

In SA3, page 3-15, Section 3.2.2.7 **Immobilized Low-Activity Waste Retrievable Disposal:**

"The modification of the existing grout vaults and the construction of new vaults is the currently documented baseline approach. However, in a letter dated November 23, 1999 (Boston 1999), a new path forward is recommended. Instead of using the grout vaults, a recommendation to use a remote-handled trench concept for ILAW disposal was developed. This disposal concept is similar to the existing Hanford Site Radioactive Mixed Waste burial Trench (DOE/RL-88-20), although operational aspects of the design would be slightly modified to accommodate the increased frequency at which ILAW packages must be received and emplaced. According to Taylor (1999), this recommendation would save approximately 250 million dollars over the life of the ILAW disposal program. Based on the data received as

of December 1999, the surface area required for the trenches is approximately the same as for the vaults, so no increase in land disturbance would be seen. The surface barrier for the proposed concept would likely be a modified RCRA type C barrier, as opposed to the currently proposed Hanford Barrier. If a modified RCRA type C barrier is used, there would be a reduction in the amount of onsite borrow material required to construct the barrier during closure. Another advantage to using the remote-handled trench concept is that the potential for a cross-program mission between the ILAW and solid waste disposal projects could be created, yielding a potential economy-of-scale cost reduction. This recommendation was approved by the ORP Decision Board and documented via Letter 99-DPD-066 (Taylor 1999) on December 1, 1999. This letter requests that the tank farms operations contractor prepare and submit a change request to rebaseline the ILAW disposal program by changing the scope of Project W-520 to incorporate the remote-handled trench concept. More detail regarding the remote-handled trench concept may be found in *Breakthrough Initiative -- Immobilized Low-Activity Waste Disposal Alternative* (Lucas Incorporated 1999)."

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact K. S. Tollefson on 373-3035, RPP NEPA/SEPA representative.

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 before final contract. The DOE/ORP NCO also must approve evaluation results. These evaluations become part of the formal procurement documentation and could be published as part of the public record.

EVALUATION: It is assumed that existing and future NEPA documentation sufficiently will cover the range of services for which contractor support might be procured. The NEPA 216 and Environmental Critique process are not expected to apply to the current scope of the RH ILAW Disposal Facility activities.

Contact B.G. Erlandson on 372-2678 for general environmental support.
Contact K. S. Tollefson on 373-3035, RPP NEPA/SEPA representative.

SEPA Documentation – WAC 197-11

SEPA Rules are promulgated and managed by Ecology. SEPA requires evaluation by a state or local agency (the lead agency) of environmental impacts associated with a proposed action under its jurisdiction before approving or disapproving the action. The SEPA review process usually is

triggered whenever a state or local action is required, such as issuing or modifying a state or local permit. SEPA encourages the grouping of similar, related actions (e.g., all necessary permits and approvals) within a single SEPA review so that all associated impacts can be considered at once.

The typical method addressing SEPA requirements is to complete a SEPA environmental checklist that provides information necessary for the lead agency to make a threshold determination on the significance of the proposed action. If the proposed action categorically is 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 no further action, because the lead agency is not required to adopt their own NEPA documentation to satisfy SEPA regulations.

On the Hanford Site, the SEPA process begins when approval(s) or modification(s) (e.g., license, or permit) must be obtained for a proposed action to proceed. A SEPA checklist could be prepared and submitted with the license or permit application. Alternatively, when a proposed action has been addressed under NEPA documentation, such as an approved EIS/ROD or EA/FONSI, the lead agency could be asked to adopt the NEPA documentation in lieu of the SEPA checklist. The lead agency (if it is not Ecology) could request Ecology's determination on the adequacy of the NEPA documentation to satisfy the SEPA requirements. The DOE/ORP NCO will forward copies of the NEPA documentation and/or SEPA checklist to the lead agency. If the agency concurs, a separate Determination of Nonsignificance and Statement of Adoption are published under SEPA to correspond with the NEPA ROD or FONSI.

EVALUATION: Ecology is the lead agency for SEPA determinations regarding the Hanford Site RH ILAW Disposal Facility. Ecology also was the lead State Agency in the preparation of DOE/EIS-0189. That document, its ROD, DOE/EIS-0189-SA2, and the SA3 (currently being produced) had Ecology's concurrence. Past experience with Ecology indicates a willingness to accept existing NEPA documentation as sufficient under SEPA, as long as the NEPA process bounded the range of environmental impacts that SEPA covers. It is expected that an independent SEPA process will not be required for the RH ILAW Disposal Facility and that Ecology agrees that the existing NEPA documentation is adequate for satisfying SEPA requirements. It is expected that this position might need to be corroborated, through occasional information letters from the DOE/ORP NCO to Ecology. If the scope is defined further, the need for corroborative documentation will depend on the scope and extent of each RH ILAW Disposal Facility or activity, and will be the decision of the DOE/ORP NCO. It is anticipated that the RH ILAW Disposal Facility will require no further documentation because (Ecology) is not required to adopt their own NEPA documentation to satisfy the SEPA regulations.

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact K. S. Tollefson on 373-3035, RPP NEPA/SEPA representative.

❖ **OTHER TRIBAL, CULTURAL, HISTORIC, and ENVIRONMENTAL PLANNING and ASSESSMENTS**

American Indian Policies Review – 42 USC 1966, DOE Order 1230.2

American Indian Tribal Governments have special and unique legal relationships with the U.S. Federal Government and its agencies. These are defined in numerous treaties, statutes, historical precedents, and the U.S. Constitution. In addition, the state of Washington has agreements respecting current and future use of the lands surrounding the Hanford Site. The DOE/RL must approve all actions on the Hanford Site, which might impact these agreements, for Native American interests. The CRR will be the mechanism for identifying any such potential impacts.

EVALUATION: It is assumed that all activities and actions associated with the RH ILAW Disposal Facility will be consistent with existing Native American Tribal agreements. This will be confirmed with future periodic CRR. Mr. K.V. Clarke has been contacted and informed of this future facility.

Contact B G. Erlandson on 372-2678 for general environmental support.
Contact K. V. Clarke on 376-6332, DOE/ORP liaison for Indian Affairs.

Cultural Resources Review-10 CFR 1021, 36 CFR 63, 36 CFR 800, 43 CFR 7, 16 USC 461-470aa, 42 USC 1996, 42 USC 4321

A CRR is needed for any RH ILAW Disposal Facility excavation, demolition, modification, or deactivation near or at a facility or structure with potential historic, archaeological, or other cultural significance. This could include any artifacts that have importance for Native American preservation, materials that have interpretive or educational value as exhibits within local, state, or national museums, or any facility with the potential for inclusion on the National Register of Historic Places.

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

An ECR is needed if planned activities could disturb plant or animal species or their habitats. This includes species that are or might be threatened, endangered, candidate, sensitive, or are otherwise protected under federal and state laws and regulations. This also includes taking, possession, transportation, sale, purchase/barter, export, or import of special status plants and animals (both living and dead).

EVALUATION: An ecological/biological review was conducted by PNNL on May 23, 2000. The results of the review will be documented and presented to RH ILAW Disposal Facility Management.

Contact B. G. Erlandson on 372-2678 for general environmental support.

Contact L. L. Hale on 376-6098 for Cultural Resource questions, and M. R. Sackschewsky directly for Ecological Resource questions.

**Pre-operational Monitoring of Facilities, Sites, and Operations Mitigation Action Plan
DOE Order 5400.1, DOE Order 5820.2A and DOE Order 5400.5**

A pre-operational environmental study will 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 1 year (preferably 2 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.

As a result of the NEPA evaluation, or other regulatory-driven agreements, a MAP might be required. Such plans are used to enhance equivalent offsetting impacts (e.g., for threatened or endangered species), or when a RH ILAW Disposal Facility cannot be made fully compliant with the cultural/ecological resources survey or the preoperational baseline.

EVALUATION: The RH ILAW Disposal Facility organization will prepare an environmental monitoring baseline and characterization plan, and a sampling and analysis plan will be prepared. Included within these plans will be a data assessment, surface radiation surveys, ground penetrating radar and electromagnetic induction surveys, surface and subsurface soil sampling, soil sampling grid, logging of existing wells and boreholes, air monitoring, biotic sampling, and thermoluminescent dosimeter readings. This monitoring will provide facility-specific monitoring to protect the environment adjacent to nuclear facilities and TSD sites, and will ensure compliance with contractor requirements and federal, state, and local environmental regulations. A MAP will be written at a later date that will include replacing and replanting two times the area of sagebrush removed from this site.

Contact B. G. Erlandson on 372-2678 for general environmental support.

Contact R. M. Mitchell on 376-5122 for pre-operational monitoring and biological resource issues interpretations.

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 Hanford Local Area Network (HLAN), under Site Forms, [A-7400-373, "Hanford Excavation Permit"]. The facility ECO

could review and approve excavation permits before the excavation begins to ensure that all environmental, cultural, and ecological resource reviews have been completed.

EVALUATION: An excavation permit will be required for the RH ILAW Disposal Facility. Developing the information needed to support excavation permit approval is the responsibility of the RH ILAW Disposal Facility manager or designated representative. It is assumed that initial planning discussions between the RH ILAW Disposal Facility/activity representatives and the facility ECO will have identified and addressed any significant cultural resource or ecological compliance issues before completion of excavation permits, and that necessary approvals will not be delayed for cultural or ecological causes. It also is assumed that other environmental compliance issue will be resolved before and will not be causes of delay for the RH ILAW Disposal Facility excavation permits.

Contact B. G. Erlandson on 372-2678 for general environmental support

Contact D. A. Nawarynsky on 376-6173 for assistance with sitewide excavation permits.

DOE Acquisition/ES&H Management 48-CFR 915 and 970 Integration Projects with ISMS

As a condition of the DOE acquisition regulation, RPP contractors must ensure that actions are integrated through the sitewide ISMS. This facility and all of the activities that support the facility must ensure that applicable environmental requirements are identified, implemented, and are consistent with the requirements and objectives of ISMS.

EVALUATION: The RH ILAW Disposal Facility ECO will ensure that environmental requirements are identified, and the ORP NEPA organization will ensure that the NCO has accepted suitable NEPA documentation. RH ILAW Disposal Facility management will ensure that actions are integrated through the sitewide ISMS.

Contact B. G. Erlandson on 372-2678 for general environmental support

Contact N. D. Lake on 373-1506 for specific ISMS support.

Price-Anderson Amendments Act Review - 10 CFR 708, 820, 830, 835

All DOE contractors are expected to have a *Price-Anderson Amendment Acts (PAAA) of 1988* program in place and implemented to monitor and evaluate nuclear/radiological safety performance. The procedural rules for PAAA are described in 10 CFR 820. Specific requirements within the scope of PAAA include the following: 10 CFR 830, "Nuclear Safety Management" (including 10 CFR 830.120-, Quality Assurance); 10 CFR 708, "Contractor Employee Protection"; and 10 CFR 835, "Occupational Radiation Protection". Subcontractors performing work for a DOE contractor are expected to ensure that their PAAA activities are integrated with the contractor's PAAA system.

EVALUATION: The RH ILAW Disposal Facility understands that the facility is subject to PAAA from the inception of design to the closure of the facility. The organization understands the obligations to identify, evaluate, and report noncompliances in accordance with nuclear safety requirements. Corrective actions will adhere to the procedures and intent of the PAAA to ensure that noncompliance is not created by accident early on in the activities.

Contact B. G. Erlandson on 372-2678 for general environmental support.

Contact S. H. Gilmore on 372-0701 for PAAA compliance issues.

❖ ALL AIR EMISSIONS

Air Operating Permit (AOP) - WAC 173-401 Ecology, EPA, and WDOH

The purposes of the federal CAA and the WCAA are to protect public health and welfare by safeguarding air quality, establishing clean air standards, bringing no-attainment areas into compliance, and protecting clean air from degradation. The CAA and WCAA provide the authority for monitoring and controlling emissions of radioactive and nonradioactive constituents to the air. In Washington State, the EPA, Ecology, WDOH, and local air authorities implement air quality standards.

State regulations establish a comprehensive AOP program that meets federal requirements and has been approved by the EPA. A single sitewide permit, the Hanford Site AOP, will cover both radioactive and nonradioactive airborne emissions from significant emission units. An emissions release source is considered significant if the source has the potential to contribute more than 1 percent of the total Hanford Site exposure to the general public. The Hanford Site AOP is nearing final approval, and procedures for maintaining and updating the Hanford Site AOP are under development. Signatories to the Hanford Site AOP will include DOE, Ecology WDOH, and the BCAA. Once approved, the Hanford Site AOP is expected to cover much of the work associated with the RH ILAW Disposal Facility including construction of new air emission sources, modification of existing air emission sources, or changes in operating practices for permitted sources.

The airborne emissions include, but are not limited to, criteria pollutants and hazardous air pollutants (including radionuclides). In regulations, Ecology also has established thresholds for regulated pollutants below which emissions are considered insignificant [insignificant emission units] (IEUs) for the purposes of the AOP program. IEU items/activities must comply with general standards, but will be exempt from the administrative requirements of the AOP.

EVALUATION: For radioactive air emissions the RH ILAW Disposal Facility will be seeking a sealed source exemption, based on WAC 246-247-020 -- "Exemptions". (1) The following types of facilities or sources of radiation are exempt from the requirements of this chapter because they release no airborne radioactivity, or they prima facie comply with the standards in WAC 246-247-040, or they are already adequately regulated under other requirements: (b) Sealed sources. This application will be consistent with the 40 CFR 61." As defined within WAC 246-247-030 --Definition (24): "Sealed source" means radioactive material that is permanently bonded or fixed in a capsule or matrix, or radioactive material in airtight containers, designed to prevent release and dispersal of the radioactive material under the most severe conditions encountered in normal use and handling. "For nonradioactive air emissions, the exemption will be based on WAC 173-460-030 Requirements, Applicability and Exemptions." (1) (a) Containers such as tanks, barrels, drums, cans, and buckets are exempt from the requirements of this chapter unless equipped with a vent other than those required solely as safety pressure release devices." The ILAW packages will be sealed in metal containers that are leak tight, as defined in ANSI N14.5. Each container will be decontaminated and surveyed, to meet the requirements specified in 49 CFR 173.443(a), before being transferred. If this exemption is granted, the recommendation is that a minor modification will be required to the AOP.

Contact B.G. Erlandson on 372-2678 for general environmental support.

Contact D. L. Dyekman on 373-2007 for specific AOP questions.

RADIOACTIVE AIR EMISSIONS

Source Review/Notice of Construction, NESHAPS 40 CFR 61, Subpart H

Any new stationary source of radionuclide emissions is subject to a preconstruction review and approval by the EPA for compliance with the NESHAPs. Also, any new physical or operational activity that will provide any increase in potential emissions of radionuclides is defined as a modification and could require approval. Approval is obtained by submitting a NOC to the EPA for approval to construct or modify.

In addition to the EPA, WDOH regulates radioactive air emissions in Washington State under authority delegated by the NRC. Any new activity (including any new construction work), process, or equipment that will involve potential emissions of radionuclides to the air is subject to pre-construction review and approval, which is initiated by submittal of a NOC to WDOH. WDOH requires the use of BARCT for all significant modifications or the use of ALARACT for all nonsignificant modifications.

Source Review/ Notice of Construction, Radionuclides, and BARCT/ALARACT WAC 246-247

The NOC must include a description of the new construction or modification activities. The NOC also must include estimates of actual and potential emissions (both hazardous and radioactive contaminants) and an assessment of the applicable best control technology to be used. The need for a NOC also triggers the need for generating and maintaining specific records by the facility. Ecology, and WDOH (or other authority) must review plans, specifications, associated information, and approve the NOC for the new or modified source. Construction must begin within 18 months after this approval.

EVALUATION: The RH ILAW Disposal Facility will be seeking a sealed source exemption based on WAC 246-247-020 -- "Exemptions. (1) The following types of facilities or sources of radiation are exempt from the requirements of this chapter because they release no airborne radioactivity, or they prima facie comply with the standards in WAC 246-247-040, or they are already adequately regulated under other requirements: (b) Sealed sources. This application will be consistent with the 40 CFR 61." As defined within WAC 246-247-030 -- "Definition" (24): "Sealed source" means radioactive material that is permanently bonded or fixed in a capsule or matrix, or radioactive material in airtight containers, designed to prevent release and dispersal of the radioactive material under the most severe conditions encountered in normal use and handling." The ILAW packages will be sealed in metal containers that are leak tight, as defined in ANSI N14.5. Each container will be decontaminated and surveyed, to meet the requirements specified in 49 CFR 173.443(a), before being transferred. If this exemption is fully granted, a NOC will not be filed.

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact J. J. Luke on 376-8629 for NOC preparation.

❖ NONRADIOACTIVE AIR EMISSIONS

Prevention of Significant Deterioration-WAC 173-400

Ecology implements a program for PSD to existing air quality from emissions of criteria pollutants (e.g., particulates, carbon monoxide, and nitrogen oxides). Pre-construction approval could be required by Ecology, which would be initiated by submittal of a NOC application. RH ILAW Disposal Facility representatives should coordinate with the facility ECO during initial planning stages to ensure compliance with the PSD requirements and to coordinate the PSD determination with the NSR process (refer to following discussion).

Any new activity, RH ILAW Disposal Facility process, or equipment that will involve potential emissions of contamination to the air potentially also is subject to a NSR and pre-construction approval by Ecology. Information concerning the new or modified source is submitted to Ecology in a NOC, which must include an assessment of BACT to be used.

The RH ILAW Disposal Facility representatives should coordinate with the facility ECO during the initial planning stages to determine if a NSR and Ecology approval will be required for their scope of work. Final determination would be documented either through a NOC submittal (if NSR and approval are necessary), or else by letter to file (including possible confirmatory correspondence with Ecology) indicating a NSR and approval are not required.

Any new or modified sources of air emissions must be assessed for possible emissions of TAPS. If emissions exceed certain thresholds, dispersion modeling must be performed to determine if the offsite concentration for each constituent could exceed regulatory limits. In most cases, the TAPs regulations require the use of T-BACT.

EVALUATION: The RH ILAW Disposal Facility will not be emitting any criteria pollutants, therefore the PSD requirements are not applicable. The RH ILAW Disposal Facility will be seeking a sealed source exemption that will exempt the facility from the various regulations governing PSD permits. The project representatives should coordinate with the facility ECO during the initial planning stages to confirm that PSD approval will not be required for their scope of work. The determination regarding PSD compliance should be coordinated with the NSR process and documented with a letter to file.

Contact B. G. Erlandson on 372-2678 for general environmental support.

Contact J. J. Luke on 376-8629 for NOC preparation.

New Source Review WAC 173-400

Any new activity, RH ILAW Disposal Facility process, or equipment that will involve potential emissions of contamination to the air is subject to a pre-construction review and approval by the state. Also, if the activity involves a physical or operational change at an existing source of air emissions, and the change will result in any increase in the rate of contaminant emissions to the ambient air from the existing source, this might be considered a modification.

To determine whether a change constitutes 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 during the previous 2 years of operations. When determining whether increased emissions would occur, additional abatement by any planned emissions control equipment might not be factored in the review.

The impact might 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. Use of BACT often is required.

Information concerning the new or modified source is submitted to Ecology in a NOC, which must include a description of the new construction or modification activities, estimates of actual and potential emissions, and an assessment of best available control technology to be used.

TAPs, NOC, and T-BACT WAC 173-400

Any new or modified sources of air emissions must be assessed for possible emissions of TAPs. If emissions exceed certain thresholds, dispersion modeling must be performed to determine if the offsite concentration for each constituent could exceed regulatory limits. In most cases, the TAPs regulations require the use of T-BACT.

EVALUATION: The RH ILAW Disposal Facility management will be seeking a sealed source exemption from Ecology and WDOH. The exemption will be based on portions of the regulations that allow sealed sources to be exempt from the various requirements. If this exemption is fully granted, WAC 173-400 is not applicable.

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact J. J. Luke on 376-8629 for NOC preparation.

❖ OUTDOOR OR UNCONFINED BURNING

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

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

EVALUATION: There will be no open burning at the RH ILAW Disposal Facility site.

Contact B.G. Erlandson on 372-2678 for general environmental support.
Contact J. L. Luke on 376-8629 for assistance with open burning issues and BCAA notifications.

❖ DRINKING WATER SUPPLY

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

The Hanford Site drinking and fresh water supply systems are overseen by the Hanford Site Water Purveyor, who ensures that the systems are installed, maintained, and operated in accordance with applicable WDOH regulations for drinking water systems. The Water Purveyor must review and approve equipment, facilities, and activities that connect to or could otherwise affect the drinking water system on the Hanford Site. Modification of existing water supply systems to extend service is assumed to be within normal maintenance activity and should not require WDOH approval.

EVALUATION: Potable water service for the Control/Administration Building at the site will be provided through a 3-in. polyvinyl chloride (PVC) pipe. The service pipe will be connected to the main in the existing potable water system at 4th Street and laid at a minimum depth of 3.25 meters below the surface. The service will meet the design criteria requirements of DOE 6430.1A and achieve compliance with regulatory requirements in WAC 246-290. Because the RH ILAW Disposal Facility will use existing drinking water systems, water use will be under the WDOH's 200 East Water System ID# 41866V. Modification of existing sanitary water lines to existing use areas is assumed to be within normal maintenance activity, and should not require any new State approvals. RH ILAW Disposal Facility representatives have been and will continue to stay in contact with the Water Purveyor to ensure that activities are in accordance with the applicable water system requirements. Early involvement of the Water Purveyor during facility design will be particularly important when tie-in to the water supply system is expected.

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact J. S. Hill on 372-1617 for interpretations of water delivery issues.

❖ DOMESTIC WASTEWATER DISPOSAL

Septic System Approvals/Permits (<54,882 liters per day design capacity) - WAC 246-272, WDOH

Plans and specifications for construction of a new sanitary sewer system or modification of an existing system will be submitted and approved by WDOH 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 WDOH. In addition, an operation and maintenance manual must be submitted to WDOH.

The existing sanitary sewer collection system is approximately 500 meters from the RH ILAW Disposal Facility and it currently is operating at about 40 percent of its maximum capacity for 54,882 lpd. This system has adequate capacity to treat additional wastewater flows from the RH ILAW Disposal Facility. The RH ILAW Disposal Facility will be designed for occupant loads estimated at 7 days, 24 hours, on 3-work shift operations. The flows are estimated to be 1.1 liters per second, for average, and 2.2 liters per second, for peak periods.

Septic System Approvals/Permits (>54,882 liters per day design capacity) - WAC 173-216, 240

Septic systems with design capacities greater than 54,882 lpd are governed by State Waste Discharge Permits (WAC 173-216) and the engineering report, plan, and specification approval process described in WAC 173-240.

EVALUATION: The RH ILAW Disposal Facility will be connecting to the existing 200 East Area sewer system. The sanitary sewer system for this facility will be built in accordance with design criteria and construction standards for onsite sewage systems in WAC 246-272 and DOE 6430.1A. A capacity review for the 200 East Area sewer will be made to ensure compliance.

Contact B.G. Erlandson on 372-2678 for general environmental support.
Contact J.S. Hill on 372-1617 for sewer system compliance issues.

Pretreatment Permit-40 CFR 403, WAC 173-220, City Ordinance

New wastewater discharges to the city of Richland sewage treatment plant could require that permit applications be submitted to 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 Richland or fits a national pretreatment category.

Wastewater Treatment Facility Permit; Discharge Standards; Operator Certification, 40-CFR 122, WAC 173-216, 221, 230, and 240

Effluent from domestic wastewater treatment facilities (except subsurface septic tank systems with capacities of 54,882 liters per day and less) must meet applicable effluent limits and discharge standards established by Ecology. Every operator in 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. Operator certification is not required for septic systems.

EVALUATION: The RH ILAW Disposal Facility will be connecting to the existing 200 East Area sewer system. The sanitary sewer collection system for the 200 East Area is located approximately 500 meters from the RH ILAW Disposal Facility. A capacity review for the 200 East Area sewer will be made to ensure compliance. The RH ILAW Disposal Facility will not be disposing industrial wastewater into the sewer system, so the pretreatment standards will not apply. In addition, this facility will not be operating a domestic wastewater treatment facility, so those standards will not apply. This RH ILAW Disposal Facility is not expected to be subject to the permitting and other standards for discharges to or operation of domestic wastewater facilities.

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact J.S. Hill on 372-1617 for sewer system compliance issues.

❖ WASTEWATER DISPOSAL TO GROUND AND SOIL COLUMN

Groundwater Quality Standards-WAC 173-200

These standards establish concentration-based and other limits that must be met to preserve the quality of groundwaters of the state. The parameters and limits for protecting groundwater are referred to as the groundwater quality criteria (GWQC). Discharges of wastewater to the ground must be managed in a manner that will ensure the GWQC are satisfied and groundwater quality is not degraded. Treatment technologies must be selected and implemented to ensure the GWQC are met.

EVALUATION: RH ILAW Disposal Facility will not discharge any liquids into the soil. Therefore, these standards do not apply.

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact R. D. Haggard on 376-3723 for wastewater pollution/Disposal issues.

State Waste Discharge Permit- WAC 173-216, -240

A SWDP is required for any industrial, commercial, or municipal operations that could discharge wastewater in a manner that could pollute the groundwaters of Washington State. Before construction or modification, wastewater facilities requiring an SWDP must submit an application to Ecology, and must provide engineering reports, plans, and specifications. Ecology must approve the SWDP application and accompanying materials before construction begins. Operation and maintenance manuals must be submitted before construction is completed.

EVALUATION: RH ILAW Disposal Facility will not discharge any liquids into the soil. Those liquids generated as a result of maintenance operations will be collected, controlled, designated, and discharged according to onsite methods.

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact R. D. Haggard on 376-3723 for assistance with SWDP issues.

Underground Injection Control 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 stormwater and groundwater return flow, unaltered except for temperature from a groundwater heat pump used for heating or cooling, are the only discharges that are not prohibited. These discharges must be registered with Ecology before construction begins and are subject to various conditions for underground injection.

EVALUATION: There is no current planning for the construction or operation of any underground injection well at the RH ILAW Disposal Facility.

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact R. D. Haggard on 376-3723 for assistance with UIC wastewater issues.

RADIOACTIVE MATERIALS AND WASTE MANAGEMENT

General Radiation Protection Standards and Public/Environmental Monitoring - DOE Order 5400.1, DOE Order 5400.5, DOE Order 490

DOE Orders provide standards and guidelines for limiting public and environmental exposures to radionuclides, and require a written EMP for each site, facility, or process that uses, generates, releases, or manages significant pollutants or hazardous materials. The EMP must include the rationale and design criteria for the monitoring program, as well as describe the extent and frequency of the monitoring. The EMP also must contain quality assurance requirements, program implementation procedures, directions for preparation and implementation of reports, and directions for identification and discussion of effluent monitoring and environmental surveillance. An EMP is prepared for all DOE activities on the Hanford Site and is updated every 3 years to include new or modified facilities.

The effluent monitoring portion of the plan must verify compliance with applicable regulations and DOE Orders. For major facilities on the Hanford Site, this is documented in the form of a facility specific FEMP. Two thresholds are used to determine if a FEMP is required for a facility: (1) if the total projected dose to a member of the public from radionuclides exceeds 0.1 millirem from any one discharge point or (2) if any one regulated material discharged from a facility exceeds 100 percent of a reportable quantity or a permitted quantity. Preparation of a FEMP assesses effluent monitoring systems and evaluates whether these systems are adequate to

ensure public health and safety as specified in applicable federal, state, and local requirements. The FEMP ensures long-range integrity of the effluent monitoring systems by requiring an update whenever a new process or operation introduces new hazardous materials or significant radioactive materials. This document must be reviewed annually even if there are no operational changes, and it must be updated, at a minimum, every 3 years.

EVALUATION: The RH ILAW Disposal Facility will not be handling high-level radioactive waste. DOE Order 5820.2A* provides that only DOE-controlled facilities will be used to dispose of LLW or low-level mixed waste. DOE Order 5820.2A requires all newly generated waste to have a path forward for disposal, or else have DOE/HQ approval to generate, before facility operations. Radiation protection standards are expected to apply to the RH ILAW Disposal Facility and the facility will be consistent and demonstrate compliance with applicable effluent monitoring requirements. RH ILAW Disposal Facility representatives will include these considerations within the initial planning stages of the RH ILAW Disposal Facility.

* being replaced by DOE Order 435.1.

Contact B.G. Erlandson on 372-2678 for general environmental support.

Contact B. G. Erlandson on 372-2678 for assistance in applying the Radiation Protection Standards, and requirements for developing a FEMP.

Reprocessing of Spent Nuclear Fuel - Atomic Energy Act, DOE Order 5820.2A, and DOE Order 6430.1A

HLW is a source designation for the first stage of waste separated from processing irradiated nuclear fuel and other similar materials. HLW 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, where the primary function is that of management of HLW, must be designed in accordance with special requirements in DOE Order 6430.1A and its references. In general, HLW will have both a radioactive component (controlled by the AEA) 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 in accordance with all applicable requirements, particularly those of the EPA (40 CFR 191).

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

TSD processes for HLW must meet applicable standards for clean air, clean water, and protection of the environment just as if the HLW was general RCRA controlled waste. Facilities that formerly treated and/or stored HLW might be decontaminated either under RCRA or CERCLA authority. A special review of environmental requirements for the decontamination and decommissioning, plus final closure, must be made in a closure plan, which is outside the scope of this checklist.

**Management of High-Level and Low-Level Radioactive Wastes-
10 CFR 962, 40 CFR 191, DOE Order 5820.2A, and DOE Order 6430.1A**

All radioactive waste must be managed/stored in a way that prevents uncontrolled release of contaminants to offsite areas. Requirements for HLW and LLW management, handling, packaging, treatment, transport, and storage are summarized in DOE Orders, along with design criteria for facility construction (new or modified) to handle radioactive waste.

DOE policy is that only DOE-controlled facilities will be used to dispose of LLW. DOE policy also requires that all HLW and LLW be stored, treated, and disposed safely in accordance with all applicable requirements, particularly those of the EPA and the jurisdictional state. Because HLW and LLW often contain constituents that are regulated by other federal programs (e.g., hazardous waste), TSD processes must meet applicable standards for clean air, clean water, solid and hazardous waste, and protection of the environment. The requirements of these other environmental programs are addressed in corresponding sections of this narrative.

EVALUATION: RH ILAW Disposal Facility will adhere to all relevant DOE Orders and the federal regulations governing the transporting and disposing of the ILAW packages received.

Contact B. G. Erlandson on 372-2678 for general environmental support and LLW interpretations.

❖ SOLID AND DANGEROUS WASTE MANAGEMENT

Solid Waste Facility Permit - WAC 173-304 and-351

Facilities that dispose of solid waste, including inert waste and construction debris, must be approved for operation by the jurisdictional county health department. Operation must comply with the approval conditions and applicable solid waste management standards, which address practices such as daily cover, run-on and run-off controls, wind and erosion controls, and final closure. Facilities that dispose of household waste are subject to municipal solid waste landfill requirements, which in addition to the basic solid waste management practices, include controls for vectors and pests, leachate and methane gas management, and groundwater monitoring. The Hanford Site disposes of some inert and construction debris onsite but currently does not operate a municipal solid waste landfill; all household waste is sent offsite for disposal.

EVALUATION: The RH ILAW Disposal Facility will comply fully with all of the permitting and compliance requirements for solid waste management.

Contact B. G. Erlandson on 372-2678 for general environmental support.

Contact C. H. Mulkey on 373-0956 for assistance in waste designation under RCRA, and for assistance with waste minimization issues.

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

Waste oil could be subject to special management standards if the used oil could be designated as a dangerous waste. If a waste oil would not be a dangerous waste, or if the oil is sent to a re-refiner, no requirements apply. Uses of dangerous waste used oil that constitute disposal (e.g., road oiling) are prohibited or subject to full dangerous waste standards. Most of the other waste oil requirements only affect marketers or burners of the waste oil. If a waste oil is regulated, and if it is burned for energy recovery, the marketer must ensure that the oil meets certain specifications before burning and records must be maintained showing the oil met the specifications when burned. Marketers and burners also must submit one-time notifications concerning their used oil activities to Ecology. If a waste oil cannot be blended or otherwise treated to meet the specifications, the waste oil must be burned in accordance with more stringent requirements for industrial furnaces or boilers. An exception is made for small space heaters used to burn off-specification waste oils generated onsite.

EVALUATION: The RH ILAW Disposal Facility will not be generating or handling wastes that meet the definition of waste oils. Oil blending and burning for energy recovery will not be conducted at the facility, so it is expected that these standards will not apply. Waste oils generated during routine maintenance of vehicles, construction equipment, hydraulic devices, and other machinery used to build and operate the facility should be dispositioned in accordance with the sitewide used oil management program.

Contact B. G. Erlandson on 372-2678 for assistance with management of hazardous materials.

Dangerous Waste Notice of Intent - WAC 173-303-281

A NOI is required for new or expanding facilities that perform TSD of dangerous waste. 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, including a general process description, operating capacities, waste type, a topographic map, and a statement of environmental conditions, which could include an environmental checklist or a SEPA adoption letter. The NOI is filed with Ecology, published, and submitted to the public for review. Approval of the notice and supporting documentation must be received before new construction or expansion can begin.

EVALUATION: The RH ILAW Disposal Facility will prepare a NOI to expand on the Hanford Facility for disposal of vitrified ILAW in the RH ILAW Disposal Facility. The expansion will consist of submitting a new Part A, Form 3, for disposal at the new RH ILAW Disposal Facility with a landfill process designation.

Contact J. S. Hill on 372-1617 for assistance in preparing the NOI.

Interim Status and Final Status Standards WAC 173-303, 40 CFR 264, 265, and 270

Implementing regulations promulgated pursuant to RCRA require dangerous waste TSD facilities to comply with numerous design and operating requirements and to obtain a permit. Facilities that were in existence on November 19, 1980, were granted interim status with the submittal to the EPA (and Ecology) of a Part A, Form 3, describing the dangerous waste TSD activities. The Part A, Form 3, identifies the dangerous waste numbers and estimated annual quantities managed, general process information and design capacity, and provides facility diagrams, photographs, geographic location, and facility owner and operator/co-operator certification. Interim status changes can be requested from Ecology via the Part A, Form 3. Once the revised Part A, Form 3, (and NOI if the change constitutes expansion, refer to previous discussion) is submitted, construction can proceed if Ecology concurs with the proposed change. Otherwise, a final status permit must be issued by Ecology before the modifications and construction can begin.

The process for obtaining a final status permit consists of submitting a Part A, Form 3, and a Part B permit application. The Part B provides much more detailed descriptions of the processes used for managing dangerous waste. The Part B is evaluated by Ecology for completeness and technical adequacy, plausibility, general detail of plans and procedures, and protection of human health and the environment. Resolution of inadequacies can be reached formally by Ecology issuing a notice of deficiency or informally by the use of a workshop or similar process. A final status permit is granted after final administrative dispositions of the permit application and supporting documentation. Under limited circumstances, Ecology might allow construction to commence before final status approval.

For the Hanford Facility, a final status permit has been issued that consists of numerous general conditions that are applicable sitewide (e.g., emergency procedures, personnel training), plus unit-specific chapters that describe physical and operating conditions for particular dangerous waste units (e.g., 242-A Evaporator, Liquid Effluent Retention Facility/Effluent Treatment Facility). Until a particular unit is incorporated into a unit-specific chapter of the Hanford Facility, RCRA Permit, Dangerous Waste Portion, the unit continues to operate under interim status. A schedule has been developed for requesting and processing final status permits for all active Hanford Facility TSD units, and on completion of the unit-specific Part B process, each TSD unit will be added to the Hanford Facility RCRA Permit, Dangerous Waste Portion. .

EVALUATION: The RH ILAW Disposal Facility personnel will negotiate with Ecology regarding interim status for the start of construction. Permit writers will be writing a dangerous waste permit application that includes a Part A, Form 3, and a Part B permit application. The details and scheduling are currently under negotiation with Ecology and DOE. The RH ILAW Disposal Facility ECO plans on following the normal RCRA permitting procedures.

Contact J. S. Hill on 372-1617 for assistance in preparing the NOI.

Miscellaneous Requirements for Dangerous Waste Management-WAC 173-303-071, -140, -335, -610, -645, -646; 40 CFR 268

Other requirements within regulations necessitate submittal of various notifications, certifications, and/or approval requests to Ecology. Significant obligations include the following.

- Notification and reporting for treatability studies involving dangerous waste samples.
- Notification that dangerous waste can be land disposed in accordance with the treatment and other requirements of the LDR land disposal restriction.
- Certification by a professional engineer that all surface impoundment, waste pile, and landfill units have been built in accordance with a construction quality assurance program.
- Notification of intent to begin closing a TSD unit or those portions of a TSD unit will undergo partial closure.
- Notice that unplanned releases of dangerous waste constituents from a TSD unit to the environment have been detected, with submittal of corrective action response plans.

EVALUATION: The RH ILAW Disposal Facility will adhere to these regulations where applicable.

Contact B.G. Erlandson on 372-2678 the RPP TSCA and RCRA manager.

❖ HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS

Toxic Substances-40 CFR 720

The EPA has adopted regulations pursuant to TSCA that require persons who produce chemical products (e.g., paints, solvents, process chemicals) provide a pre-manufacture notification to the EPA. Some research and development activities are exempted from TSCA pre-manufacture notices for “de minimus” quantities. The EPA reviews the notice and supporting information, and could impose restrictions on the distribution and use of a chemical product. A chemical producer is required to prepare and maintain a material safety data sheet for distribution with their products.

EVALUATION: There are no current or future plans within the RH ILAW Disposal Facility operations for the generation of or manufacturing of chemical products that would be subject to notification or preparation of a material safety data sheet applicable to this facility.

Contact B. G. Erlandson on 372-2678 for general environmental support.

Contact C. H. Mulkey 373-0956 for assistance with PCB designation and controls.

Polychlorinated Biphenyls - 40 CFR 761

PCB use, handling, and disposal are subject to requirements established by the EPA under the authority of TSCA. In general, a unit (e.g., transformer, capacitor) or waste could be subject to regulation if the initial concentration of PCB's in the unit or waste was greater than 50 parts per million. (Waste containing PCBs with initial concentrations between 2 and 50 could be regulated as a dangerous waste; refer to dangerous waste requirements discussed previously). TSCA PCB Disposal Amendments, effective on August 28, 1998, incorporated new provisions for the management of certain PCBs. Major changes include the addition of several new PCB waste categories and associated disposal options. Regulated categories include PCB liquids, PCB items, PCB remediation waste, PCB bulk product waste, PCB household waste, PCB research and development waste, PCB/radioactive waste, and porous surfaces.

The PCB Disposal Amendments are applicable to all TSCA-regulated PCBs on the Hanford Site, including any PCBs that might have or will be sent to the DST or Single Shell Tank (SST) Systems. Classification of TSCA-regulated PCBs can be accomplished if adequate knowledge exists regarding the PCB source to determine its category. Once the PCB source is known, the appropriate management approach can be determined. On the Hanford Site, many PCBs have been found for which best efforts have resulted in an inability to identify the sources.

The DOE/EIS-0189-SA3, Draft B page, 3-5, 3.2.1.4 **Other Waste**. “Reviews of waste transfers and activities at T Plant indicated that the PCBs were likely introduced into the 221-T tank system prior to October 1, 1996, and that the storage of the PCBs should be considered a preexisting condition. Transfer records since October 1, 1996 indicate that transfers of waste

from the 221-T tank system to the 204-AR vault have occurred, although no information is available to determine to where the waste was transferred from the 204-AR vault. The environmental impacts in Section 4.0 do not address PCBs because it has not yet been determined that this PCB waste was introduced into the tank waste inventory or at what concentrations it may have been introduced.”

EVALUATION: The project should take a wait and see attitude until the vitrification plant and the DST System issues are worked out. After direction is received, the affects on the RH ILAW Disposal Facility should be reduced substantially.

Contact B. G. Erlandson on 372-2678 for assistance with PCB designation and controls.

**Ozone Depleting Substances, Spent Fluorocarbons, Volatile Organic Compounds –
40 CFR 82, WAC 173-303-506, WAC 173-490**

The EPA has established reporting, training, and operations requirements for any person who produces, transforms, destroys, imports, or exports a controlled (ozone depleting) substance (e.g., CFCs). These compounds are to be recovered and recycled to the maximum extent practical, and the eventual use is to be phased out. In addition, Ecology regulates spent CFCs and hydrochlorofluorocarbon refrigerants as dangerous waste, but imposes less stringent standards if the spent material is recycled in accordance with certain conditions. Finally, Ecology regulations restrict releases of volatile organic compounds to the atmosphere from various operations, and require controls and monitoring to minimize potential releases.

EVALUATION: The RH ILAW Disposal Facility will not generate or handle any ozone depleting substances.

Contact B. G. Erlandson on 372-2678 for general environmental support.

Contact J. L. Luke on 376-8629 for interpretation of ozone-depletion issues.

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

Asbestos is a controlled carcinogen. Trained and certified personnel must do all work. The RPP Environmental Protection Organization, for possible preproject notification to the BCAA, must review any proposed reconstruction, repair, or demolition involving asbestos. These notifications will be handled by RPP.

EVALUATION: An approximate 188 meters of the abandoned steam line between the east and the west boundary lines (together with its asbestos insulation and pipe supports) will be removed and disposed. The asbestos materials will be removed in accordance with the EPA and OSHA regulations, 40 CFR 61.150 and 29 CFR 1926.1101, and disposed in a permitted landfill.

Contact B. G. Erlandson on 372-2678 for general environmental support.

Contact J. L. Luke on 376-8629 for interpretation of asbestos issues and BCAA notifications.

**Bulk Fertilizers, Insecticides, Pesticides, Rodenticides, Fungicides, and Herbicides –
WAC 16-201, WAC 16-228-232**

The Washington State Department of Agricultural has established regulations for the storage and management of bulk volumes (e.g., 208 liters) of fertilizers. Secondary containment and spill response procedures are required.

Miscellaneous poisons are controlled by the FIFRA. Users must comply with requirements for training, use, handling, storage, application, disposal, and record keeping of regulated compounds. The Washington State Department of Agriculture is authorized to implement these regulations.

EVALUATION: The RH ILAW Disposal Facility will not prepare, apply, or dispose of fertilizers, pesticides, or related materials. Some herbicide application occurs to control vegetation growth in and around the 200 East Area, but this work is performed by the facility landlord and maintenance services for the overall Hanford Site. This should not impact the activities or work scope within the RH ILAW Disposal Facility.

Contact B. G. Erlandson on 372-2678 for questions regarding designation and controls for chemicals, pesticides, herbicides, and other toxic substances.

**Pollution Prevention, Waste Minimization, and Community Right-to-Know Notification
and Reporting -DOE Order 5400.1, DOE Order 5820.2A, 40 CFR 355 and 372,
WAC 173-307**

Various regulations and DOE Orders require implementation of pollution prevention and waste minimization practices. In general, these programs include the following features:

- Track material use, waste generation rates, and recycling rates
- Prioritize pollutants and waste streams for reduction
- Conduct process waste assessments or pollution prevention opportunity assessments on priority waste streams and identify cost-effective pollution prevention opportunities

- Implement cost-effective pollution prevention opportunities
- Incorporate pollution prevention into the design of new RH ILAW Disposal Facility
- Report on material usage, waste generation, recycling, and progress made due to implementing pollution prevention practices.
- All Hanford Site facilities are covered by a Hanford Site waste minimization and pollution prevention plan. New facilities must develop a pollution prevention/waste minimization strategy and incorporate relevant guidelines into any operations before startup. Plan and report information is submitted to Ecology and other agencies as required.
- Regulations adopted pursuant to EPCRA require that information concerning the types, locations, and hazards of specified substances be provided to state and local emergency response authorities. EPCRA also requires that annual reports be submitted to the EPA to document releases to the environment of chemicals used in excess of established threshold quantities. State and local notices and annual reporting are coordinated through a single office for the Hanford Site.

EVALUATION: The RH ILAW Disposal Facility will comply with standards for waste minimization and for EPCRA notification and reporting requirements.

Contact B.G. Erlandson on 372-2678 for general environmental support.

Contact D. E. Zaloudek on 372-0918 for notification and reporting requirements.

**Notification and Remediation of Environmental Releases-40 CFR 300 and 302,
WAC 173-303-145, -340**

Unpermitted releases to the environment of petroleum products and hazardous substances are subject to requirements for notification and remediation under CERCLA and MTCA.

Notification is required if a release exceeds the reportable quantity (or other regulatory threshold) for the released compound. Releases, whether reportable or not, also could be subject to remediation requirements if the EPA or Ecology determines the release poses a threat to human health or the environment. Releases from regulated underground storage tanks (UST) or from dangerous waste facilities usually are addressed under their respective programs first. However, CERCLA and MTCA requirements could apply if the responsible party fails to respond, or for calculating acceptable cleanup levels for the regulated constituents.

The Hanford Site has been included on the CERCLA National Priorities List for a number of past-practice operable units at which environmental releases occurred. The Tri-Party Agreement documents how CERCLA operable units are to be remediated, and most CERCLA action is the responsibility of the Environmental Restoration Contractor (Bechtel Hanford, Inc.). While

CERCLA remedial actions generally are exempt from administrative burdens (e.g., permits), actions must satisfy the substantive provisions of applicable or relevant and appropriate requirements. Activities associated with CERCLA operable units could be subject to restrictions intended to minimize further contamination or contaminant migration. .

EVALUATION: These standards do not apply to this facility. The RH ILAW Disposal Facility is not considered to be a CERCLA operable unit. This facility will be permitted as a fully RCRA compliant facility – compliant with the WAC 173-303.

Contact B. G. Erlandson on 372-2678 for general environmental support.
Contact D. E. Zaloudek on 372-0918 for EPCRA reporting requirements.

Dangerous/Hazardous Waste, RCRA Air Emissions-WAC 173-303-120 (4)(e), -400(3), -690, and -691, 40 CFR 264/265, Subpart CC

These requirements apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers. These owners and operators of dangerous waste facilities are subject to these regulatory citations for radioactive air emissions. However, these requirements do not apply to a waste management unit that is used solely for the management of mixed waste in accordance with all applicable regulations under authority of the AEA and the *Nuclear Waste Policy Act*.

EVALUATION: The RH ILAW Disposal Facility will be permitted as a landfill. This facility will not have any process equipment or ventilation systems that will be emitting to the atmosphere. Therefore, these requirements are not applicable.

Contact B. G. Erlandson on 372-2678 for general environmental support and for RCRA air emissions determinations.

Construction/Expansion of Surface Impoundments, Waste Piles, or Landfill Units - WAC 173-303-335 Construction Quality Assurance Program, DOE Order 5700.6C

A construction quality assurance (CQA) program meeting requirements of DOE Order 5700.6C is required for all surface impoundments, waste piles, and landfill units complying with WAC 173-303-650, -660, and -665. The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in a RCRA permit. The program must be developed and implemented under the direction of a CQA officer who is a registered professional engineer. Before any waste is accepted into the unit, the owner/operator must submit a certification to Ecology signed by the CQA Officer, – stating the unit meets WAC 173-303-650, -660, -665, and the procedure in WAC 173-303-810 (14) has been completed.

Waste could be disposed in landfills or near-surface disposal units only if the waste meets LDR in 40 CFR 264 and 265. Waste must be packaged to meet special air, vapor, or particulate

release restrictions. Waste packaging also must be sufficient to protect groundwater. The disposal unit also must be managed as a RCRA-compliant TSD unit per WAC 173-303.

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

EVALUATION: The RH ILAW Disposal Facility will comply with WAC 173-303-335 and have a CQA program fully integrated into the design and approval processes.

Contact B. G. Erlandson on 372-2678 for general environmental support.

Contact J.S. Hill on 372-1617 for permit application assistance.

UNDERGROUND STORAGE TANKS

Underground Storage Tank Permit - WAC 173-360

After July 1, 1991, no UST system, as defined in WAC 173-360 (miscellaneous underground tanks), will be operated without a valid permit from the regulatory agency, unless regulated under other more stringent federal guidelines. This section covers any tank for managing regulated substances, which is not specifically regulated by other sets of either federal or state guidelines. Inspections, leak detection, recordkeeping, reports, and notifications are similar to those of other tanks. The tank system also includes any ancillary piping or equipment needed to fully operate the tank.

EVALUATION: The RH ILAW Disposal Facility will not be constructing or operating any USTs.

Contact B. G. Erlandson on 372-2678 for general environmental support.

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