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Permitting Plan for Hanford Tanks Initiative

John W. Bloom
Duke Engineering and Services Hanford, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

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Abstract: This plan describes all the possible permitting actions that could be required to implement the Hanford Tanks Initiative Project (HTI). Since the HTI Project Plan has several decision points where possible future activities could be eliminated, not all permitting actions described will be implemented. The cost and schedule for the permitting actions are included.

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PERMITTING PLAN

FOR

HANFORD TANKS INITIATIVE

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EXECUTIVE SUMMARY

This document describes the permitting plan for activities conducted under the Hanford Tanks Initiative (HTI). A comprehensive review of environmental regulations has indicated that several environmental reviews (e.g., *National Environmental Policy Act of 1969*, *State Environmental Policy Act of 1971*), permits, and approvals are required before HTI demonstration and characterization activities begin. The environmental reviews, permits, and approvals, as well the regulatory authority, potentially applicable to the HTI activities are as follows:

National Environmental Policy Act of 1969 - U.S. Department of Energy-Headquarters

- Environmental Assessment
- Categorical Exclusion
- Environmental Impact Statement

State Environmental Policy Act of 1971 - Washington State Department of Ecology

- Determination of Nonsignificance
- Mitigated Determination of Nonsignificance
- Determination of Significance
- *State Environmental Policy Act of 1971* Environmental Checklist

Air Permitting

- National Emission Standards for Hazardous Air Pollutants (40 Code of Federal Regulations 61 Subpart H)
- Prevention of Significant Deterioration standards (40 Code of Federal Regulations 52.21) and (Washington Administrative Code Chapter 173-400)
- Ambient Air Quality Standards for Radionuclides (Washington Administrative Code Chapter 173-480)
- Radiation Protection - Air Emissions (Washington Administrative Code Chapters 246-247)
- Controls for New Sources of Toxic Air Pollutants (Washington Administrative Code Chapter 173-460).

Dangerous Waste Permitting

- Dangerous Waste Permit (Washington Administrative Code Chapter 173-303)

Miscellaneous Reviews, Permits, and/or Approvals

- Preoperation Monitoring of Facilities, Sites and Operations -U.S. Department of Energy, Richland Operations Office
- Cultural and Biological Resource Review Clearance - U.S. Department of Energy, Richland Operations Office
- Excavation Permit - U.S. Department of Energy, Richland Operations Office
- *Endangered Species Act of 1972* Approval - U.S. Department of Energy, Richland Operations Office.

A summary of preliminary cost estimates and schedules is provided by project activity as follows:

AX-104 PROJECTS

AIR PERMITS COST ESTIMATE

It will take approximately 9 months to prepare a permit application and receive regulatory approval. If more than one application is required, the application can (and should) be prepared and submitted in parallel to shorten the overall time it takes to receive all applicable approvals. Expedient preparation of an application depends on timely receipt of the descriptive information and the emissions estimate. A generic permit application schedule is as follows:

AX-104 Air Permit for Characterization

Prepare emissions estimate/calculations (1 month minimum)

Prepare permit application
draft application - 1.5 months
internal review - 2 weeks
resolve/incorporate
comments - 1 month (might be 2 weeks) 560 hours @ $60/hr =$33.6K

DOE-RL review
review - 1 month (RL)
resolve / incorporate
comments - 2 - 4 weeks (internal) 160 hours @ $60/hr = $9.6K

Regulator 30-day completeness notification 1 month (regulator)

Regulator review and approval 3 months.

A preliminary cost estimate of $43.2K has been developed for the activities associated with securing air permits and approvals. If BARCT and T-BACT assessments need to be prepared, each assessment will be an additional $25K.

NEPA PRELIMINARY COST ESTIMATE

The characterization activities are covered under the Waste Tank Safety EA and the retrieval activities at TWRS have been analyzed by the TWRS EIS and the HDW EIS. The retrieval of tank volume down to 1% is covered in the TWRS-EIS. Thus the cost and schedule estimates provided are for the current planning basis, which assumes DOE approval and includes the SEIS for the closure preparation activities associated with AX Tank Farm (refer to Appendix A for the HTI permitting schedule).

Cost and schedule estimates for planning purposes have been developed for SEIS and SA preparation and approval as follows.

AX-104 Activities:

Schedule for SEIS for closure preparation: October 98 - September 99

SEIS Contractor Cost: Approximately 12,600 hours plus direct costs, travel, fees, tax and incidentals ($1.05M).
PHMC Contractor Support Cost: Approximately 860 hours plus travel and other direct costs ($80K).
Total Cost: $1.13M

RCRA PRELIMINARY COST ESTIMATE

Detailed design information will not be available for submittal to Ecology before March 31, 1997. Information that is available will be included in the working draft of the SST-CWP.

AX-104 Activities (if needed for closure preparation)

- SST-CWP revision (supported through separate cost account)
- Preparation of an "postclosure plan" if required by Ecology - 480-960 hours @ $60 per hour is $28.8K - $57.6K depending on work scope (TBD).

There will be additional costs incurred for future submittals associated with as-built drawings, Title II, and design media at a cost of $3K for each submittal.

C-106 PROJECTS

AIR PERMITS COST ESTIMATE

It will take approximately 9 months to prepare a permit application and receive regulatory approval. If more than one application is required, the application can (and should) be prepared and submitted in parallel to shorten the overall time it takes to receive all applicable approvals. Expedient preparation of an application depends on timely receipt of the descriptive

information and the emissions estimate. A generic permit application schedule is as follows:

C-106 Infrastructure Upgrade Air Permit (as needed)

Prepare emissions estimate/calculations (1 month minimum)

Prepare permit application
draft application - 1.5 months
internal review - 2 weeks
resolve/incorporate comments - 1 month 560 hours @ $60/hr =$33.6K

DOE-RL review
review - 1 month (RL)
resolve / incorporate
comments - 2 - 4 weeks (internal) 160 hours @ $60/hr = $9.6K

Regulator 30-day completeness notification 1 month (regulator)

Regulator review and approval 3 months.

A preliminary cost estimate of $43.2K has been developed for the activities associated with securing air permits and approvals. If BARCT and T-BACT assessments need to be prepared, each assessment will be an additional $25K.

C-106 Heel Retrieval Air Permit (as needed)

Prepare emissions estimate/calculations (1 month minimum)

Prepare permit application
draft application - 1.5 months
internal review - 2 weeks
resolve/incorporate comments - 1 month 560 hours @ $60/hr =$33.6K

DOE-RL review
review - 1 month (RL)
resolve / incorporate
comments - 2 - 4 weeks (internal) 160 hours @ $60/hr = $9.6K

Regulator 30-day completeness notification 1 month (regulator)

Regulator review and approval 3 months.

A preliminary cost estimate of $43.2K has been developed for the activities associated with securing air permits and approvals. If BARCT and T-BACT assessments need to be prepared, each assessment will be an additional $25K.

NEPA PRELIMINARY COST ESTIMATE

The characterization activities are covered under the Waste Tank Safety EA and the retrieval activities at TWRS have been analyzed by the TWRS EIS and the HDW EIS. The retrieval of tank volume down to 1% is covered in the TWRS-EIS. Thus the cost and schedule estimates provided are for the current planning basis, which include the Supplement Analysis (SA) for the C-106 1% heel removal activity (refer to Appendix A for the HTI permitting schedule).

Cost and schedule estimates for planning purposes have been developed for SA preparation and approval as follows.

C-106 Activities:

Schedule for SA: January 98-November 98, before deploying heel removal technologies into C-106. Heel removal contracts will be awarded by January 98. Cold demonstration will be in fiscal year 98 and hot demonstration in fiscal year 99.

Cost: .28 FTE or approximately 570 hours @ $60.00 per hour ($34,200).

RCRA PRELIMINARY COST ESTIMATE

Project design concept (PDC) information will not be available for submittal to Ecology before March 31, 1997. Vendor design information will not be available until Fall 1997. Should retrieval rates or design capacity exceed current permits, a review of applicable RCRA permits would be needed. A Notice of Intent (NOI) will not likely be necessary but the cost is included for contingency planning purposes. The planning schedule does include 6 months for a Part A, Form 3, revision, approval, and submittal to Ecology that would be necessary under interim status to continue activities should process or design capacities be exceeded.

C-106 Activities (if needed for retrieval)

- Preparation and processing of an NOI (if required) - 200 hours @ $60 per hour is $12K
- Preparation and submittal of Part A, Form 3, (if required) - 100 hours @ $60 per hour is $6K

A detailed permitting schedule is provided in Appendix A. The schedule was a collaborative effort between project and permitting team members and resulted in the development of a permitting schedule in an electronic format. The electronic format included the permitting logic ties and is being provided to the projects as part of this permitting plan for incorporation into their overall project plan.

CONTENTS

EXECUTIVE SUMMARY iii

GLOSSARY x

1.0 INTRODUCTION 1

2.0 NATIONAL ENVIRONMENTAL POLICY ACT 3
2.1 INTRODUCTION 3
2.2 SUMMARY OF DATA AND/OR INFORMATION REQUIREMENTS 4
2.3 DISCUSSION OF ALTERNATIVES 4
2.3.1 AX-104 Activities 4
2.3.2 C-106 Activities 5
2.4 NEPA PLANNING BASIS 5
2.4.1 Characterization Activities of AX-104 5
2.4.2 Vadose Zone 6
2.4.3 C-106 Heel Removal Activities 6
2.5 PRELIMINARY SCHEDULE AND COST ESTIMATE 6

3.0 STATE ENVIRONMENTAL POLICY ACT 7
3.1 INTRODUCTION 7
3.2 SUMMARY OF DATA AND/OR INFORMATION REQUIREMENTS 8
3.3 DISCUSSION OF SEPA DOCUMENTATION ALTERNATIVES 8
3.4 SEPA PLANNING BASIS 8
3.5 PRELIMINARY COST ESTIMATE 8

4.0 RESOURCE CONSERVATION AND RECOVERY ACT 8
4.1 INTRODUCTION 9
4.1.1 Notice of Intent 9
4.1.2 Part A 9
4.1.3 Part B 10
4.1.4 Closure Plan 10
4.2 SUMMARY OF DATA/INFORMATION REQUIREMENTS 10
4.3 DISCUSSION OF ALTERNATIVES 10
4.3.1 Alternative 1 10
4.3.2 Alternative 2 11
4.4 RCRA PLANNING BASIS 11
4.5 PRELIMINARY COST ESTIMATE 12

5.0 THE CLEAN AIR ACT 12
5.1 INTRODUCTION 12
5.1.1 Radioactive Emissions 13
5.1.2 Nonradioactive Emissions 14
5.2 SUMMARY OF DATA/INFORMATION REQUIREMENTS 15
5.3 DISCUSSION OF ALTERNATIVES 15
5.4 AIR PERMITTING PLANNING BASIS 15
5.5 PRELIMINARY SCHEDULE AND COST ESTIMATE 17

6.0 MISCELLANEOUS ASSESSMENTS, PERMITS, AND APPROVALS 17
6.1 CULTURAL RESOURCE REVIEW 17
6.2 EXCAVATION PERMIT 18

CONTENTS (cont)

6.3 ENDANGERED SPECIES ACT COMPLIANCE 18
6.4 PRELIMINARY COST ESTIMATE 18

7.0 REFERENCES 19

APPENDICES

A HANFORD TANKS INITIATIVE PERMITTING SCHEDULE . . . . . APP A-i

B SUMMARY OF DATA/INFORMATION REQUIREMENTS FOR HANFORD TANKS INITIATIVE ACTIVITIES . . . . . APP B-i

GLOSSARY

BARCT	best available radionuclide control technology
CAA	*Clean Air Act of 1977*
CDR	conceptual design report
CFR	Code of Federal Regulations
CX	categorical exclusion
DOE-HQ	U.S. Department of Energy-Headquarters
DOE-RL	U.S. Department of Energy, Richland Operations Office
DOH	State of Washington Department of Health
DS	determination of significance
DNS	determination of nonsignificance
DST	double-shell tank
EA	environmental assessment
Ecology	Washington State Department of Ecology
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
FONSI	Finding of No Significant Impact
HVAC	heating, ventilation, and air conditioning
IPM	Initial Pretreatment Module
NAAQS	National Ambient Air Quality Standards
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NEPA	*National Environmental Policy Act of 1969*
NOC	notice of construction
NOD	notice of deficiency
NOI	notice of intent
PDC	project design concept
PNNL	Pacific Northwest National Laboratories
PSD	prevention of significant deterioration
PSE	preliminary safety evaluation
RCRA	*Resource Conservation and Recovery Act of 1976*
ROD	record of decision (EIS)
SA	(EIS) supplement analysis
SEPA	*State Environmental Policy Act of 1971*
SEIS	state environmental impact statement
SQE	small quantity emission
TAPs	toxic air pollutants
T-BACT	best available control technology for toxics
TSD	treatment, storage, and/or disposal
VOCs	volatile organic compounds
WAC	Washington Administrative Code

PERMITTING PLAN FOR HANFORD TANKS INITIATIVE

1.0 INTRODUCTION

This permitting plan provides a preliminary assessment of the permit activities necessary for the successful execution of Hanford Tanks Initiative (HTI). This assessment is intended to provide a planning basis for work scope, schedules, and budgets within HTI. This document has several objectives including the following:

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

Background

The U.S. Department of Energy, Richland Operations Office (DOE-RL) has authorized the HTI to demonstrate characterization and retrieval technologies leading to acceptance of single-shell tank (SST) retrieval performance evaluation criteria. The HTI is a joint effort between Tank Waste Remediation Systems (TWRS) (DOE EM-30) and Tank Focus Area (DOE EM-50). The objectives of the HTI include the following:

- Working with Washington State Department of Ecology (Ecology) and stakeholders to establish a basis for waste retrieval performance evaluation criteria.
- Demonstrating in-situ waste characterization technologies
- Demonstrating waste heel removal from an SST using commercial and national laboratory technology
- Obtaining commercial tank waste removal services through competitive procurement
- Demonstrating leak detection/mitigation technology
- Looking for methods to reduce cost and schedule for TWRS waste disposal.

The HTI activities are scheduled to begin in fiscal year 1997 and be completed in fiscal year 2000.

This assessment is predicated on an assumption of the technical scope for HTI. This early definition of scope assumes that two SSTs [241-C-106 (C-106) and 241-AX-104 (AX-104)] will be used for deployment and evaluation of technology options. The C-106 tank will be used to demonstrate the technologies necessary to remove hard heel material following a sluicing campaign. The AX-104 tank will be used to demonstrate post-sluicing waste characterization technologies.

An alternative tank is being considered for the hard heel removal technology demonstrations for waste, should sluicing activities in C-106 (Project 320) not be completed on time. This permitting plan is based on use of C-106 and activities would be impacted significantly should a decision be made to use an alternate tank.

Additional background information on characterization of AX-104 and C-106 tanks can be found in *Hanford Site Tank Farm Facilities Interim Safety Basis* (WHC 1994).

Planned C-106 activities include the following:

- Rotary core sampling and characterization of the hard heel
- Use of a light duty utility arm (LDUA) for waste characterization
- Modifications to tank risers, ventilation, and transfer lines to service vendor retrieval needs
- Deployment of one vendor retrieval system in the tank
- Transfer of the hard heel waste from C-106 to a double-shell tank (DST).

Planned AX-104 activities include the following:

- Photogrammetry surveys and measurements of waste thickness to quantify volume of remaining residual waste materials in the tank
- Deployment of the LDUA for waste sampling
- Possible deployment of a crawler system for waste samples
- Deployment of a crawler gamma scanner for in situ waste characterization
- Use of a cone penetrometer in the tank farm soil column for soil/plume characterization
- Dismantle internal tank hardware as necessary to prepare for closure option determination.

2.0 NATIONAL ENVIRONMENTAL POLICY ACT

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

2.1 INTRODUCTION

If a proposed action appears to be covered under an existing approved environmental impact statement (EIS) or environmental assessment (EA), the relevant record of decision (ROD) or finding of no significant impact (FONSI) should be examined to ensure the proposed action is adequately bounded by existing documentation.

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

If the proposed action is not covered by a CX, a decision whether or not the project warrants an EA or EIS must be made by DOE-RL.

Following a determination that an EA is warranted by the DOE-RL, an EA is developed to discuss the environmental consequences of the proposed action and the alternatives to that action, including the consequences of accidents and routine operations and the cumulative and long-term impacts. The relationship of the proposed action to federal, state, and local land use plans, policies, and regulations also is discussed in the EA. The EAs are submitted to the DOE-RL for final determination. This determination will result in a decision that the proposed action is a major action significantly affecting the environment, requiring an EIS, or issuance of a FONSI.

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

In the case of the HTI, an existing EIS has been approved for TWRS activities and a ROD is pending. The characterization activities are covered

under the Waste Tank Safety EA and the retrieval activities at TWRS have been analyzed by the TWRS EIS and the Hanford Defense Waste (HDW) EIS. The scope of the TWRS EIS did not include tank closure or the removal of the remaining 1% tank waste heel. The NEPA strategies for addressing tank closure and waste heel removal are discussed in Section 2.3 and the strategy to be used as the NEPA planning basis is discussed in Section 2.4.

2.2 SUMMARY OF DATA AND/OR INFORMATION REQUIREMENTS

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

2.3 DISCUSSION OF ALTERNATIVES

Various NEPA compliance alternatives are available in an effort to support HTI activities. The alternatives open for consideration are as follows.

2.3.1 AX-104 Activities

NEPA coverage for characterization activities is as follows.

- Activities are covered by Waste Tank Safety Program EA.
- Vadose zone activities are covered by categorical exclusion.

Should there be a determination to proceed with closure actions for AX-104, NEPA coverage options are as follows.

- A supplemental EIS (SEIS) is planned for AX Tank Farm closure. The objective of this activity is to develop retrieval performance criteria that would permit specification of allowable residual waste at completion of retrieval, and allowable leakage, and to define how AX Tank Farm would be closed if performance criteria are satisfied.

- A programmatic closure EIS for Tank Farms would combine all tank closure analysis into one document. This would eliminate the need for a supplemental EIS but would require collection of cost and risk data for all of the tank farms.

- A demonstration EA could be considered for the HTI to include characterization and closure activities focusing on demonstration for AX-104. This would be at the lowest initial cost and shortest schedule and would allow time to gather more specific information for use in the EIS development.

- Combine the demonstration EA and the programmatic closure EIS in lieu of a supplemental EIS and a separate closure EIS.

- Combine the SST RCRA closure plan and a Tank Farms closure EIS into one NEPA/RCRA integrated document. Though outside of the HTI scope, combining this with a RCRA closure plan and having a single closure

document for all Tank Farm closure activities for RCRA could eliminate multiple conflicting and redundant documents.

2.3.2 C-106 Activities

Characterization activities are covered by Waste Tank Safety Program EA.

Removal activities are as follows.

- A SA is being considered by DOE-RL for the removal activities not covered in the TWRS EIS, which analyzed down to 1% of heel. The SA would analyze activities on the remaining 1%.
- A demonstration EA for HTI activities also could be considered for a near-term option and to cover all of the HTI activities (e.g., characterization, removal, and closure).

Closure activities and alternatives are the same as described for AX-104.

2.4 NEPA PLANNING BASIS

Characterization activities (AX-104), vadose zone characterization, and heel removal activities (C-106) are discussed in the following sections.

2.4.1 Characterization Activities of AX-104

Characterization activities for AX-104 are covered under the Waste Tank Safety Program Hanford Site EA. Specifically, this EA addresses sampling to meet RCRA analytical data requirements and to meet commitments in the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al. 1996). Under the proposed action, activities (related to AX-104) included: "installation, operation, maintenance, and removal of in-tank and external monitoring devices and mitigation equipment (including thermocouples, multifunction instrument trees, liquid observation wells, various types of probes, surface level detectors, video cameras, infrared scanners, sludge weights; sampling for waste characterization; cone penetrometer system; rotary and push mode sampling; minor modifications to ventilation systems and other portions of the tank farm infrastructure..." (Ecology et al. 1996).

Before the proposed activities at AX-104 are conducted, appropriate safety and environmental documentation is scheduled to be conducted ensuring that the activities will be conducted safely and that the proposed risks fall within those evaluated in the Waste Tank Safety Program EA.

Based on a comparison of the inventory in AX-104 and other tanks sampled under the subject EA, environmental safety and health risks are well within the envelope established by the EA. Correspondingly, a letter documenting the fact that activities proposed at AX-104 are covered should meet NEPA obligations for the characterization phase of the HTI program.

2.4.2 Vadose Zone

Vadose zone characterization is categorically excluded under 10 CFR 1021 Subpart D (B3.1). Therefore, no additional NEPA documentation will be required for characterization activities in the AX Tank Farm.

2.4.3 C-106 Heel Removal Activities

There have been several recent NEPA activities for SST programs, including an EA developed for waste characterization and an EA for C-106 sluicing. The sluicing EA did not cover heel removal activities. The recent TWRS EIS covered retrieval down to 1% of tank volume using sluicing and application of the LDUA (or a similar remote controlled arm). Heel removal was not analyzed using private sector (vendor) technologies; however, waste removal using various technologies was addressed.

Should DOE-RL indicate a SA is needed, a SA would be conducted to determine if the heel removal technologies fall within the "risk envelope" presented in the TWRS EIS. Given the conservative nature of the risk analyses in the TWRS EIS, it is highly likely that the analyses will indicate that the C-106 actions fall within the TWRS retrieval analyses. If the supplemental analyses indicate that the actions fall outside of the activities covered under the TWRS EIS, an EA will be required.

2.5 PRELIMINARY SCHEDULE AND COST ESTIMATE

The characterization activities are covered under the Waste Tank Safety EA and the retrieval activities at TWRS have been analyzed by the TWRS EIS and the HDW EIS. The retrieval of tank volume down to 1% is covered in the TWRS-EIS. Thus the cost and schedule estimates provided are for the current planning basis, which include the SEIS for the closure activities associated with AX Tank Farm and a SA for the post-sluicing heel removal activity in C-106 tank (refer to Appendix A for the HTI permitting schedule).

Cost and schedule estimates for planning purposes have been developed for SEIS and SA preparation and approval as follows.

AX-104 Activities:

Schedule for SEIS: October 98 - September 99

SEIS Contractor Cost: Approximately 12,600 hours plus direct costs, travel, fees, tax and incidentals ($1.05M).
PHMC Contractor Support Cost: Approximately 860 hours plus travel and other direct costs ($80K).
Total Cost: $1.13M

Note: The schedule in Appendix A for the preparation of the SEIS has been provided by Jacobs Engineering and assumes a start date after completion of the risk assessment, which is illustrated as a single item on the proposed schedule and the detailed schedule will be provided by Jacobs. The schedule includes the public scoping process, transport modeling and risk analysis, a

draft SEIS, a final SEIS, and preparation of the Record of Decision (ROD). A Notice of Intent would need to be issued by DOE-RL before beginning a draft SEIS. The approval and issuance of the ROD in the Federal Register should take place before continuing with post-30% design activities or assume potential risk in possible changes to design as a result of the ROD.

C-106 Activities:

Schedule for SA: May 97 - November 97 before deploying heel removal technologies into C-106. Heel removal contracts will be awarded by January 98. Cold demonstration will be in fiscal year 98 and hot demonstration in fiscal year 99.

Cost: .28 FTE or approximately 570 hours @ $60.00 per hour ($34,200).

3.0 STATE ENVIRONMENTAL POLICY ACT

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

3.1 INTRODUCTION

One regulatory agency will be identified as lead agency for activities at each tank. The lead agency is responsible for ensuring that SEPA compliance is completed before approving the proposed project. The SEPA compliance is required for any project or proposal that meets the definitions of "action" in the SEPA Rules (WAC 197-11-704), and includes projects that require a permit (e.g., dangerous waste permit, building permit) or other approval from a governmental agency before operation. On the Hanford Site, Ecology is the lead agency for projects ("Actions") involving permitting of dangerous waste treatment, storage, and/or disposal (TSD) units.

The SEPA compliance is required, in addition to other permits or approvals, for a project and is completed before the lead agency makes a decision to approve the project. On the Hanford Site, a SEPA environmental checklist is prepared and submitted to Ecology. The permit and/or approval could be conditional or denied based on information contained in the SEPA environmental checklist.

When SEPA compliance is required for a project, the responsible official of the lead agency must make a threshold determination by deciding if a project is likely to have probable significant adverse impacts on the environment. If a project might have significant adverse impacts, a determination of significance (DS) will be issued and a SEIS would be required. If the project will not have significant adverse impacts, or if the impacts could be mitigated, a determination of nonsignificance (DNS) or mitigated DNS will be issued. The threshold determination normally is based

on the environmental checklist completed for the project and any information the lead agency has on file.

The lead agency may adopt a NEPA EA or EIS in lieu of doing a SEPA checklist or additional review under SEPA (WAC 197-11-610) to satisfy SEPA compliance. A DNS or mitigated DNS will be issued.

3.2 SUMMARY OF DATA AND/OR INFORMATION REQUIREMENTS

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

3.3 DISCUSSION OF SEPA DOCUMENTATION ALTERNATIVES

Various SEPA avenues might be evaluated in an effort to support the HTI activities. The alternatives open for consideration are as follows.

1. A DNS following adoption of NEPA documentation (SEIS) by Ecology for the HTI activities.

2. A mitigated DNS from Ecology.

3. A DS from Ecology and a requirement to prepare separate SEISs.

3.4 SEPA PLANNING BASIS

It is expected that Ecology will adopt the Waste Tank Safety EA in lieu of doing additional reviews to satisfy SEPA compliance for characterization and retrieval in AX-104 and C-106 except for the 1% heel removal activity in C-106, and a DNS or mitigated DNS would be issued. Should a determination be made to proceed with a SA for C-106 or a SEIS for AX-104, it is expected that Ecology would adopt them in lieu of doing additional reviews.

This will meet the requirements of SEPA and the appropriate level of documentation needed. (Refer to Appendix A for the HTI NEPA permitting schedule.)

3.5 PRELIMINARY COST ESTIMATE

No additional cost is expected to be incurred for SEPA documentation. The cost is to be incorporated within the NEPA documentation.

4.0 RESOURCE CONSERVATION AND RECOVERY ACT

The RCRA (42 USC 6901 et seq.) was enacted as a comprehensive national program to mandate that hazardous waste be treated, stored, and disposed to minimize the present and future threat to human health and the environment. Washington State implements RCRA through WAC 173-303. The RCRA Part A

requirements apply to both AX-104 and C-106 activities. The RCRA requirements for closure as discussed in this plan apply to AX-104 activities.

4.1 INTRODUCTION

The WAC 173-303 regulations apply to all facilities that treat, store, and/or dispose of dangerous waste. These regulations are equivalent to, or more stringent than, the federal hazardous waste regulations. Under the dangerous waste program, all TSD units must obtain a permit. Facilities that were in existence on November 19, 1980, were granted an interim status permit with the submittal of a Part A, Form 3, permit application identifying the intent to TSD of dangerous waste. Interim status ends after final administrative disposition of Part B permit application documentation is completed, and a final status permit is granted or denied. The SSTs are classified as RCRA TSDs operating under interim status. A closure plan will be prepared and approved before initiating closure activities.

An application for a TSD unit permit consists of three collective submittals. Each submittal consists of various levels of detailed information concerning the unit. The three submittals are the NOI, the Part A permit application (Part A, Form 3), and the Part B permit application documentation (Part B).

4.1.1 Notice of Intent

A NOI is required for proposed TSD units and expansion at an existing TSD unit. Expansion includes enlargement of land surface area, the addition of new dangerous waste process, or an increase in overall design capacity. The NOI contains preliminary information concerning the proposed TSD unit and/or expansion (WAC 173-303-281). The NOI requires a general process description, operating capacities, waste type, a topographic map, a statement of environmental conditions, and could include a SEPA environmental checklist.

In accordance with WAC 173-303-281, the NOI must be submitted to Ecology and the public (public reading rooms). A public notification is published in a local daily newspaper for 14 consecutive days. The NOI process normally requires approximately 11 months to complete. A Part A, Form 3, is submitted no earlier than 150 days following submittal of the NOI to Ecology and the public.

An NOI would be prepared if a new Part A, Form 3, is required to specifically address the TSD boundaries of the AX Tank Farm or as a means of isolating the AX-104 SST. It is not anticipated that an NOI would be required at this time.

4.1.2 Part A

The Part A, Form 3, includes process design capacity, process description, dangerous waste numbers (WAC 173-303) and estimated annual quantity, description of dangerous waste, facility diagrams, photographs, geographic location, and facility owner, operator/co-operator certification.

It is proposed that the SST Part A, Form 3, permit application be revised after completion of the HTI demonstration.

4.1.3 Part B

The Part B permit application documentation provides a detailed definition of the processes to be used for the TSD of dangerous waste; the design capacity of such processes; and the specific dangerous waste types to be managed. This detailed information is used by Ecology to prepare a final status permit for the operation of the TSD unit. Because the SST System is scheduled to be closed under interim status, a Part B permit application will not be prepared.

4.1.4 Closure Plan

All TSD units will be closed in accordance with WAC 173-303-610. As discussed in the Tri-Party Agreement, the three options available for closure are: clean closure, closure as a landfill, and procedural closure. Each of these options are discussed in Section 4.4.

4.2 SUMMARY OF DATA/INFORMATION REQUIREMENTS

No special data/information needs are required to support RCRA activities, and preparation of the closure plan if required.

4.3 DISCUSSION OF ALTERNATIVES FOR AX-104

The alternatives open for consideration are discussed in the following sections. The following discussion applies only in the event a determination is made to proceed with closure activities for AX-104.

4.3.1 Alternative 1

The SSTs would be closed in accordance with WAC 173-303 and Chapter 6.0 of the Tri-Party Agreement. As discussed in Section 6.3, three options are available for closure: clean closure, closure as a landfill, and procedural closure.

- Clean Closure: if all dangerous waste and constituents associated with the TSD unit can be removed at the time of closure, the TSD unit could be clean closed. A determination will be made by Ecology. A determination on clean closure will include an evaluation on the nature and extent of any leakage from the TSD unit and that the soil and groundwater have not and will not be impacted by the TSD unit, as described in WAC 173-303-645.

- Closure as a Landfill: if clean closure cannot be achieved, the TSD unit will be closed as a land disposal unit. Closure as a land disposal unit will require the approval of a postclosure permit. If a

TSD unit is to close as a landfill unit before issuance of a permit for closure, an interim status postclosure plan will accompany the closure plan.

- Procedural closure: not applicable as the TSD unit treated, stored, or disposed of dangerous waste.

The strategy as outlined in Section 6.3 of the Tri-Party Agreement assumes that a closure plan will be prepared and submitted before initiating closure activities. If the TSD unit is closed as a landfill, the closure plan would be amended to include a postclosure monitoring plan. Ecology would review the revised plan and when approved would issue a postclosure permit.

4.3.2 Alternative 2

Alternative 2 is to modify the Tri-Party Agreement if necessary. Because Ecology has been designated the lead regulatory agency for SSTs, all negotiations will be through Ecology. In any event, all agencies are required to work within existing laws and regulations.

Any waste removed from either the C-106 or AX-104 will be classified as newly generated mixed waste and must be handled as such. It is assumed that this waste will be placed in permitted facilities and will require no additional RCRA permitting. However, if this waste is not placed in a RCRA-permitted facility, the waste will need to comply with the generator requirements contained in the dangerous waste regulations.

4.4 RCRA PLANNING BASIS

The RCRA permitting documentation will need to be reviewed as changes in the HTI demonstration and characterization work scope are specifically defined. The initial preferred permitting strategy is to reflect the activities in the application documentation currently being prepared [e.g., SST Closure Work Plan (SST-CWP)] for final submittal to Ecology.

It is assumed that changes to TSD capacity or process capabilities will require a revision to the Part A, Form 3, permit application. It is assumed that a closure plan would be prepared before initiating any closure activities. Closure activities include the removal of waste, the characterization of residual waste, and treatment activity, etc. If the waste unit were 'clean closed', no postclosure permit would be required. If the waste unit were closed as a landfill, a postclosure permit application would be required in the event that a decision is made to proceed with closure activities. It is recommended that HTI representatives meet with Ecology to discuss the strategy for closure, the need for defining tank farm boundaries, and the possible creation of a separate TSD to accommodate planned activities. This discussion should be held before initiating work that might be construed as closure activity.

4.5 PRELIMINARY COST ESTIMATE

The PDC information will not be available for submittal to Ecology before March 31, 1997. Information that is available will be included in the working draft of the SST-CWP.

C-106 Activities

- Preparation and processing of an NOI (if required) - 200 hours @ $60 per hour is $12K and includes:
  - Preparation of an NOI - 100 hours
  - Review, DOE-RL approval, and submittal - 100 hours.

- Preparation and submittal of Part A, Form 3, (if required) - 100 hours @ $60 per hour is $6K and includes:
  - Preparation or modification of Part A - 80 hours
  - Operations certification and transmittal to Ecology - 20 hours.

AX-104 Activities (if needed for closure preparation)

- SST-CWP revision (supported through separate cost account)

- Preparation of an "postclosure plan" if required by Ecology - 480-960 hours @ $60 per hour is $28.8K - $57.6K depending on work scope (TBD).

There will be additional costs incurred for future submittals associated with as-built drawings, Title II, and design media at a cost of $3K for each submittal.

5.0 THE CLEAN AIR ACT

The *Clean Air Act* (42 USC 7401 et seq.) was enacted in 1970, amended in 1977, and overhauled and expanded in 1990. The air permitting requirements discussed in this section apply to both AX-104 and C-106 activities.

5.1 INTRODUCTION

The HTI activities [waste characterization, modification to or use of new heating, ventilation, and air conditioning (HVAC) systems, operation of retrieval systems and transferring waste] will require several permits and approvals before commencement of activities. These permits and approvals will be issued by several regulatory agencies, including the EPA, Ecology, and the Washington State Department of Health (WDOH).

Coordination between vendor and management contractors, responsible for different aspects of the project, is essential for complete descriptions of activities and their resulting emissions. This permit plan assumes that the Project Hanford Management Contractor (PHMC) will have responsibility for HVAC design, construction, modification, and permitting. The private retrieval vendors are assumed responsible for design and adaption of their retrieval

process to the tank and HVAC systems. The PHMC will assume responsibility to coordinate the request for proposal, permits, and operations.

Permitting and emission standards administered by regulatory agencies are contained in the following regulations:

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

These regulations establish standards and rules applicable to the control and/or the prevention of the emission of air contaminants. Three main requirements to be met are: use of best available control technology; quantification of air pollutant emissions; and demonstration of human health and environmental protection. Detailed information on the treatment process (HTI methodology and application), the emissions abatement system, the gaseous effluent monitoring system, and the nature of all emissions to the atmosphere are required for submissions made pursuant to the *Clean Air Act*.

5.1.1 Radioactive Emissions

Radioactive air emissions currently are regulated by the WDOH, pursuant to WAC 246-247, and the EPA, pursuant to 40 CFR 61 Subpart H. Both agencies require an approval to construct if the planned activity causes a new source of radioactive air emissions or if there is a modification to an existing source that causes any increase in emissions (increase is calculated without the benefit of emissions control equipment) as a result of the planned activity. The HTI will need approval from both agencies because the planned decommissioning activities constitute a modification of the tanks' process that potentially could increase air emissions at the respective tanks and because the emissions control systems may be changed. One application, with all information required by both agencies, can be prepared and submitted to both agencies.

The WDOH requires the use of best available radionuclide control technology (BARCT) for all significant modifications or the use of as low as reasonably achievable control technology (ALARACT) for all nonsignificant modifications. A BARCT assessment evaluates the universe of available control technologies and selects the most effective control technology from all known feasible alternatives. The ALARACT assessment requires the use of radionuclide emission control technology that achieves emissions levels that are consistent with the philosophy of ALARA. This is demonstrated by evaluating the control system in relation to applicable technology standards and other control technologies that have been operated successfully in similar

applications. A significant modification is one where the potential-to-emit airborne radioactivity is at a rate that could increase the total effective dose equivalent to the maximally exposed offsite individual by 1.0 millirem per year or more (assuming normal operations and no emissions control equipment in place).

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

5.1.2 Nonradioactive Emissions

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

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

Ecology requires the submittal and subsequent approval of a Notice of Construction (NOC) for the construction of new sources of toxic air pollutants; the modification of an existing source that increases its emissions (increase is calculated assuming emissions control equipment is in place); or the replacement or substantial alteration of the emissions control technology at an existing source. The need for HTI to obtain Ecology's approval will have to be determined when data are available to estimate any increase in emissions. The HTI will likely be able to take advantage of a set of conditions under which Ecology does not require an NOC. That is, if the activity is a minor process change and the emissions are below the SQERs, a NOC would not be required. A permit would be required however, even if these conditions were met, if the emissions control technology on the tank was replaced or substantially altered.

Criteria pollutants are subject to the PSD program. Ecology has incorporated, by reference, most of the federal PSD requirements. If emissions resulting from HTI activities exceed the trigger levels of any of the 14 criteria pollutants, a PSD permit application must be prepared and approved before construction. The HTI emissions, however, are not expected to exceed any trigger levels because the target tanks will have had almost all waste removed and only small amounts of residual waste will be dealt with; therefore, any criteria pollutant expected to be emitted can be addressed in the NOC submitted for TAPs emissions without preparing a separate PSD application.

5.2 SUMMARY OF DATA/INFORMATION REQUIREMENTS

A summary of the data/information needs for the various permit applications is provided in Appendix B. The appropriate regulations and administrative guidance should be consulted for detailed requirements.

5.3 DISCUSSION OF ALTERNATIVES

Various avenues could be evaluated in an effort to support the air permitting for HTI activities. The length of the permitting process depends on the quantity of emissions and the availability of necessary information. The alternatives open for consideration are as follows.

1. Obtain WAC 246-247, 40 CFR 61 Subpart H (NESHAPs), and WAC 173-460 (TAPs) approvals when information necessary to complete the applications is available.

2. Obtain WAC 246-247, 40 CFR 61 Subpart H (NESHAPs), and WAC 173-460 (TAPs) approvals separately as information to complete the applications becomes available.

3. Obtain WAC 246-247 and WAC 173-460 (TAPs) approvals in a phased approach. Permit applications are prepared for and represent a comprehensive project that affects an individual emission point. Obtaining separate approvals, by segmenting a project into separate NOCs, is not allowed under the *Clean Air Act*. To receive the required approvals for preconstruction or preliminary activities early in the project's schedule, a phased approach could be implemented.

   The NESHAPs regulations do not allow phased permitting; therefore, an application for the entire project must be submitted and approved before any construction. It is still possible to phase the other applications because the NESHAPs application does not require the same level of detail of information for approval.

5.4 AIR PERMITTING PLANNING BASIS

The recommended strategy for the HTI activities is to secure the air permits (for applicable activities and affected facilities) before construction. It is expected that an application for approval to construct will be submitted for WAC 246-247, 40 CFR 61 Subpart H (NESHAPs), and WAC 173-460 (TAPS). It is assumed that the activities will not result in emissions exceeding significance levels for any criteria pollutants under the PSD program. Installation of BARCT will be required by WAC 246-247 and T-BACT will be required by the TAPs program.

Because of the difference between the activities planned for each tank and the extended period of time between those activities, air permit applications should be prepared separately for each tank.

The AX-104 will require permitting for the decontamination and decommissioning (D&D) and closure preparation activities, and some of the characterization activities. Several in-tank characterization methods and equipment have already undergone air permitting, such as the cone penetrometer, the LDUA, and the rotary mode core sampler. A crawling gamma scanner/sampler has not been permitted but will have to be before deployment of the equipment. The permitting schedule for the crawler appears under the AX-104 activities because it is the first tank to need use of the equipment. The permit application will be set up to cover use of the equipment in any single-shell or double-shell tank, therefore, the approval will also cover its use for C-106 activities.

Use of a cone penetrometer for soil characterization around the AX-104 tank will not need air permitting because the activity will not increase air emissions. Concurrence for not increasing emissions during cable-tool drilling was granted by the DOH on August 8, 1995. The cone penetrometer enters the ground through push-drilling without bringing borings back up to the surface. This is less disruptive than cable-tool drilling and therefore, it is believed the activity will not require air permitting.

The air permitting schedule for AX-104 reflects the preparation and approval of two 'full-blown' permit applications. It is possible that emissions from these activities will be low enough to warrant a 'short-form' application and approval process. This would substantially shorten the permitting schedule but can only be determined once an emissions estimate has been completed. (Refer to Appendix A for the HTI air permitting schedule.)

At this time retrieval of the AX-104 heel is not in the planning basis. Therefore, no provisions for preparing an air permit application have been included in this permitting plan. Should AX-104 heel retrieval be added to the planning basis some time in the future, air permitting will be needed for the activity. The cost and schedule provided for the C-106 heel retrieval activity could be incorporated for the AX-104 heel removal activity.

Two applications will have to be prepared for C-106. The activities requiring permitting are the infrastructure modifications and the heel retrieval activities. These activities are scheduled approximately 1 year apart. The design data needed to submit an application for the retrieval system will not be available in time to submit with the application for the infrastructure modifications; therefore, the applications will be phased into two submittals.

The air permitting schedule for C-106 reflects the preparation and approval of two 'full-blown' permit applications. It is possible that emissions from these activities will be low enough to warrant a 'short-form' application and approval process. This would substantially shorten the permitting schedule but can only be determined once an emissions estimate has been completed.

5.5 PRELIMINARY SCHEDULE AND COST ESTIMATE

It will take approximately 9 months to prepare a permit application and receive regulatory approval. If more than one application is required, the application can (and should) be prepared and submitted in parallel to shorten the overall time it takes to receive all applicable approvals. Expedient preparation of an application depends on timely receipt of the descriptive information and the emissions estimate. A generic permit application schedule is as follows:

Prepare emissions estimate/calculations (1 month minimum)	
Prepare permit application draft application - 1.5 months internal review - 2 weeks resolve/incorporate comments - 1 month	560 hours @ $60/hr = $33.6K
DOE-RL review review - 1 month (RL) resolve / incorporate comments - 1 month (internal)	160 hours @ $60/hr = $9.6K
Regulator 30-day completeness notification	1 month (regulator)
Regulator review and approval	3 months.

A preliminary cost estimate of $43.2K has been developed for the activities associated with securing one activity's air permits and approvals. If BARCT and T-BACT assessments need to be prepared, each assessment will be an additional $25K.

6.0 MISCELLANEOUS ASSESSMENTS, PERMITS, AND APPROVALS

In addition to the major regulatory programs, several miscellaneous assessments, permits, and approvals are addressed in the following sections.

6.1 CULTURAL RESOURCE REVIEW

A cultural resource review will be performed before initiating any potential onsite surface disturbing activities (36 CFR 800). The regulatory agency is the DOE-RL. The cultural resource review will be submitted to the DOE-RL.

6.2 EXCAVATION PERMIT

An excavation permit will be required before initiating any potential onsite surface disturbing activities (36 CFR 800). The regulatory agency is the DOE-RL.

6.3 ENDANGERED SPECIES ACT COMPLIANCE

A site assessment should be made to determine whether any planned activities have the potential to disturb any habitat used by wildlife before construction or habitat modification (50 CFR 402.6). The regulatory agency is the State or Federal Fish and Wildlife Service. For onsite construction, a biological survey will be is performed. The survey report must accompany the EA when submitted to the DOE-RL.

The regulatory strategy is that the "1995 Blanket Biological Review of the 200 West and 200 East Tank Farms, 200 West and East Areas" (PNL 1995) will encompass the activities within the 200 East Tank Farm boundary. This survey report will be required before securing an excavation permit.

6.4 PRELIMINARY COST ESTIMATE

It is assumed that there will be no additional cost associated with preparation of the cultural resource review or the *Endangered Species Act* compliance assessment (blanket assessments already approved).

7.0 REFERENCES

Ecology, EPA, and DOE, 1996, *Hanford Federal Facility Agreement and Consent Order*, as amended, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Olympia, Washington.

EPA, 1996, "A Computerized Methodology for Estimating Environmental Concentrations and Dose to Man from Airborne Releases of Radionuclides", *AIRDOS-EPA*, EPA-5201-79-009, updated periodically, U.S. Environmental Protection Agency, Washington, D.C.

PNL, 1995, *1995 Blanket Biological Review of the 200 West and 200 East Tank Farms, 200 West and East Areas*, PNL-95-200-073, Pacific Northwest Laboratory, Richland, Washington.

WHC, 1994, *Hanford Site Tank Farm Facilities Interim Safety Basis*, WHC-SD-WM-ISB-001, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

APPENDICES

A HANFORD TANKS INITIATIVE PERMITTING SCHEDULE

B SUMMARY OF DATA/INFORMATION REQUIREMENTS FOR HANFORD TANKS INITIATIVE ACTIVITIES

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APPENDIX A

HANFORD TANKS INITIATIVE PERMITTING SCHEDULE

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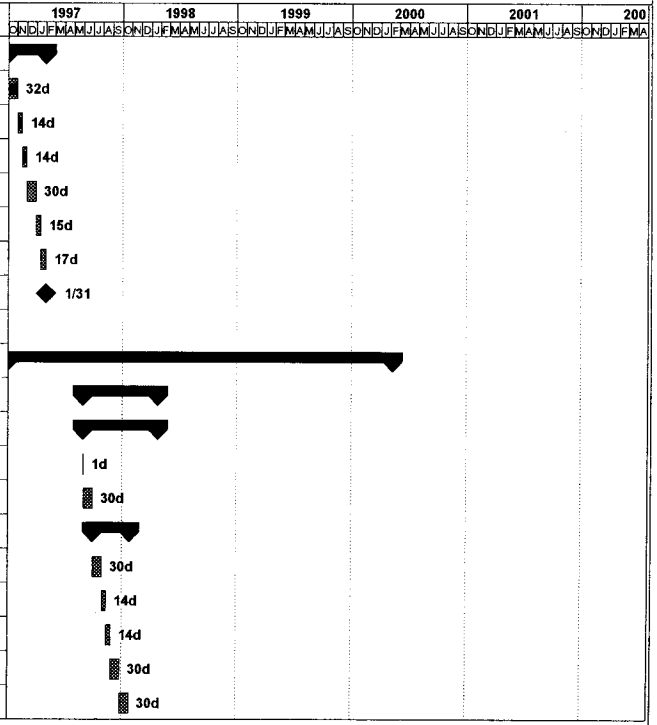
Hanford Tanks Initiative

Permitting Plan

Proposed Schedule

ID	Task Name	Start	Finish
1	**Permitting Plan for C-106/AX-104**	**10/1/96**	**1/31/97**
2	Prepare draft text	10/1/96	11/1/96
3	Author review	11/2/96	11/15/96
4	Incorporate comments	11/16/96	11/29/96
5	External review	11/30/96	12/29/96
6	Incorporate comments	12/30/96	1/13/97
7	Final review and approval	1/14/97	1/30/97
8	Issue Permitting Plan	1/31/97	1/31/97
9			
10	**AX-104 Activities**	**10/1/96**	**2/9/00**
11	**AX-104 Characterization**	**5/30/97**	**1/24/98**
12	**AX-104 Characterization Air Permits**	**5/30/97**	**1/24/98**
13	Crawler System Design Input	5/30/97	5/30/97
14	Prepare Emissions estimates/calculations	5/31/97	6/29/97
15	**Permit Application**	**6/30/97**	**10/25/97**
16	Prepare draft text	6/30/97	7/29/97
17	Internal Review	7/30/97	8/12/97
18	Resolve/Incorporate comments	8/13/97	8/26/97
19	RL Review	8/27/97	9/25/97
20	Resolve/Incorporate comments	9/26/97	10/25/97



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Date: 1/20/97
Lead: GD Cummins

Task | Progress | Milestone | Summary | Optional

* Additional RCRA Permitting needed if retrieval rates may exceed current permit.

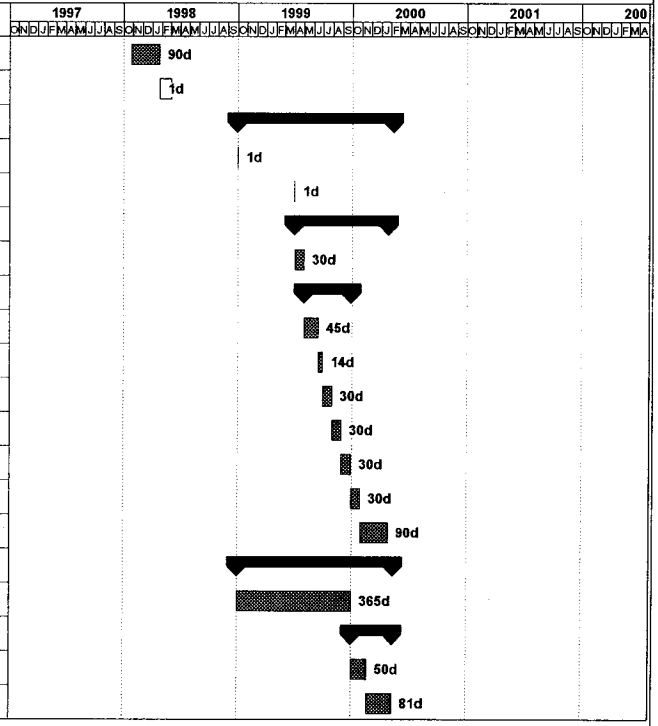
**Based on Historical data and conceptual design.

Hanford Tanks Initiative

Permitting Plan

Proposed Schedule

ID	Task Name	Start	Finish
21	Regulator review and approval	10/26/97	1/23/98
22	Deploy Crawler	1/24/98	1/24/98
23	**AX-104 Closure Preparation**	**9/30/98**	**2/9/00**
24	Complete Closure Risk Assessment	9/30/98	9/30/98
25	Closure Design Input	3/31/99	3/31/99
26	**AX-104 Closure Preparation Air Permits**	**4/1/99**	**1/24/00**
27	Prepare Emissions estimates/calculations	4/1/99	4/30/99
28	**Permit Application**	**5/1/99**	**9/26/99**
29	Prepare draft text	5/1/99	6/14/99
30	Internal review	6/15/99	6/28/99
31	Incorporate comments	6/29/99	7/28/99
32	RL Review	7/29/99	8/27/99
33	Incorporate comments	8/28/99	9/26/99
34	Regulator 30 day completeness notification	9/27/99	10/26/99
35	Regulator review and approval	10/27/99	1/24/00
36	**AX-104 Closure Preparation NEPA**	**10/1/98**	**2/9/00**
37	Produce DSEIS, FSEIS, and ROD (Jacobs Schedule)	10/1/98	9/30/99
38	**Mitigation Action Plan (MAP)**	**10/1/99**	**2/8/00**
39	Produce Draft MAP	10/1/99	11/19/99
40	Produce Final MAP	11/20/99	2/8/00



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Date: 1/20/97
Lead: GD Cummins

Task | Progress | Milestone | Summary | Optional

* Additional RCRA Permitting needed if retrieval rates may exceed current permit.

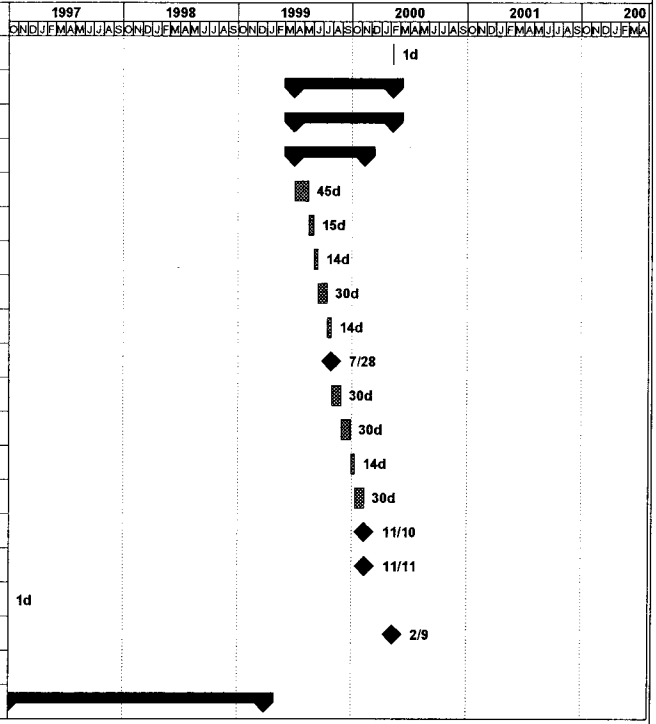
**Based on Historical data and conceptual design.

Hanford Tanks Initiative

Permitting Plan

Proposed Schedule

ID	Task Name	Start	Finish
41	Start Maintaining Administrative Record	2/9/00	2/9/00
42	**AX-104 Closure Preparation RCRA**	**4/1/99**	**2/8/00**
43	**Closure Preparation Plan**	**4/1/99**	**2/8/00**
44	**Submit Closure Preparation Plan**	**4/1/99**	**11/10/99**
45	Revise Closure Work Plan	4/1/99	5/15/99
46	Author review	5/16/99	5/30/99
47	Comment incorporation	5/31/99	6/13/99
48	Contractor review	6/14/99	7/13/99
49	Comment incorporation	7/14/99	7/27/99
50	Transmit to RL	7/28/99	7/28/99
51	RL review	7/29/99	8/27/99
52	Comment incorporation	8/28/99	9/26/99
53	Contractor approval	9/27/99	10/10/99
54	RL approval	10/11/99	11/9/99
55	Transmit to Ecology	11/10/99	11/10/99
56	Ecology transmit approval letter	11/11/99	2/8/00
57	Start 70% Final Design (Title II)	10/1/96	10/1/96
58	Start AX-104 Closure Preparation (in Tank) Activities	2/9/00	2/9/00
59			
60	**C-106 Activities**	**10/1/96**	**12/27/98**



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Date: 1/20/97
Lead: GD Cummins

Task | Milestone | Optional
Progress | Summary

* Additional RCRA Permitting needed if retrieval rates may exceed current permit.

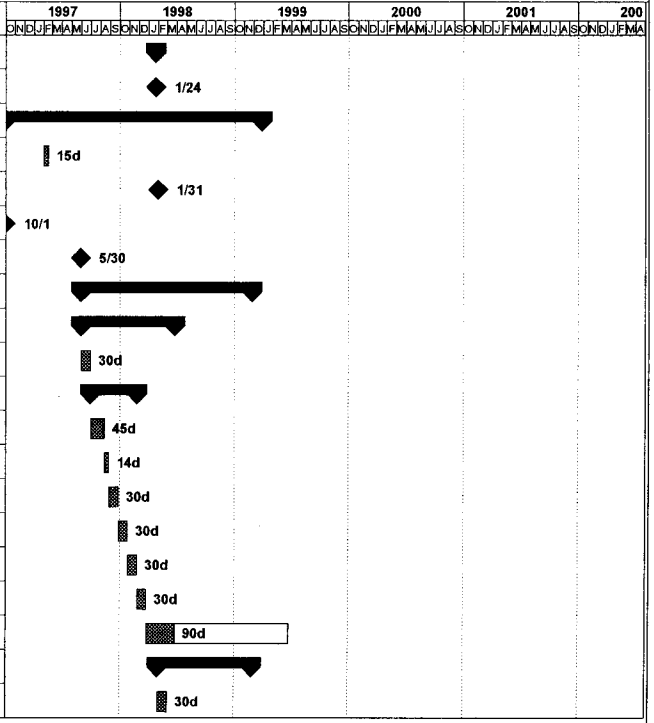
**Based on Historical data and conceptual design.

Hanford Tanks Initiative

Permitting Plan

Proposed Schedule

ID	Task Name	Start	Finish
61	**C-106 Characterization**	**1/24/98**	**1/24/98**
62	Verify Completion of AX-104 Characterization Air Permit	1/24/98	1/24/98
63	**C-106 Retrieval/Characterization**	**10/1/96**	**12/27/98**
64	Review Historical Tank Characterization Data	2/1/97	2/15/97
65	Complete Analysis of Hard Heel Sample	1/31/98	1/31/98
66	Complete New Riser Design	10/1/96	10/1/96
67	Complete Infrastructure (HVAC) Upgrade Design Concept	5/30/97	5/30/97
68	**C-106 Retrieval Air Permits**	**5/31/97**	**11/26/98**
69	**C-106 Infrastructure (HVAC) Upgrade Air Permits**	**5/31/97**	**3/25/98**
70	Prepare Emissions estimates/calculations	5/31/97	6/29/97
71	**Permit Application**	**6/30/97**	**11/25/97**
72	Prepare draft text	6/30/97	8/13/97
73	Internal review	8/14/97	8/27/97
74	Incorporate comments	8/28/97	9/26/97
75	RL Review	9/27/97	10/26/97
76	Incorporate comments	10/27/97	11/25/97
77	Regulator 30 day completeness notification	11/26/97	12/25/97
78	Regulator review and approval**	12/26/97	3/25/98
79	**C-106 Heel Retrieval Air Permits**	**2/1/98**	**11/26/98**
80	Prepare Emissions estimates/calculations	2/1/98	3/2/98



File: HTI-PP3.MPP Sheet 4 of 7
Date: 1/20/97
Lead: GD Cummins

Task Milestone Optional
Progress Summary

* Additional RCRA Permitting needed if retrieval rates may exceed current permit.

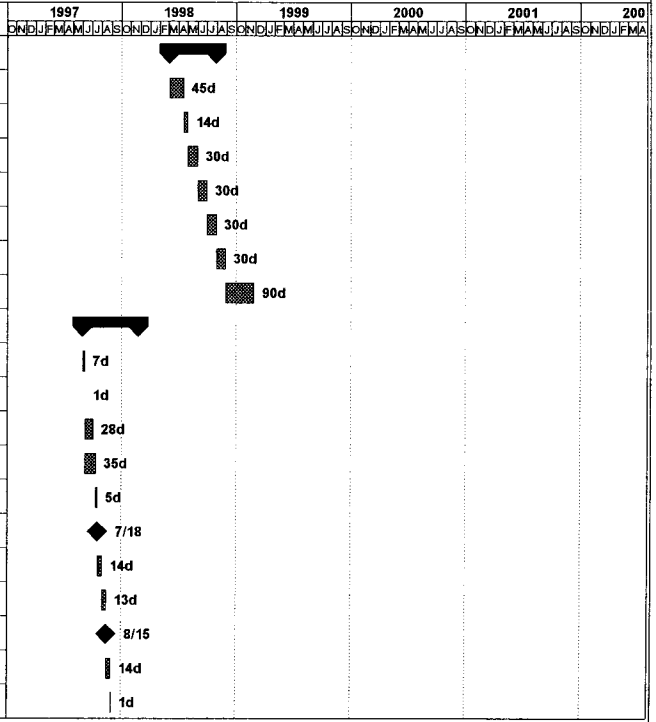
**Based on Historical data and conceptual design.

Hanford Tanks Initiative

Permitting Plan

Proposed Schedule

ID	Task Name	Start	Finish
81	**Permit Application**	**3/3/98**	**7/29/98**
82	Prepare draft text	3/3/98	4/16/98
83	Internal review	4/17/98	4/30/98
84	Incorporate comments	5/1/98	5/30/98
85	RL Review	5/31/98	6/29/98
86	Incorporate comments	6/30/98	7/29/98
87	Regulator 30 day completeness notification	7/30/98	8/28/98
88	Regulator review and approval	8/29/98	11/26/98
89	**C-106 Retrieval NEPA**	**5/31/97**	**11/24/97**
90	Internal Pre-scoping	5/31/97	6/6/97
91	Start Supplement Analysis for C-106 Heel	6/7/97	6/7/97
92	Collect Technical Data	6/7/97	7/4/97
93	Prepare Draft SA	6/8/97	7/12/97
94	Document Production & Transmittal Preparation	7/13/97	7/17/97
95	Transmit Draft to Project	7/18/97	7/18/97
96	Contractor Review	7/19/97	8/1/97
97	Incorporate Comments	8/2/97	8/14/97
98	Transmit Draft to RL	8/15/97	8/15/97
99	RL Review	8/16/97	8/29/97
100	RL Panel Review	8/30/97	8/30/97



File: HTI-PP3.MPP Sheet 5 of 7
Date: 1/20/97
Lead: GD Cummins

Task | Progress | Milestone | Summary | Optional

* Additional RCRA Permitting needed if retrieval rates may exceed current permit.

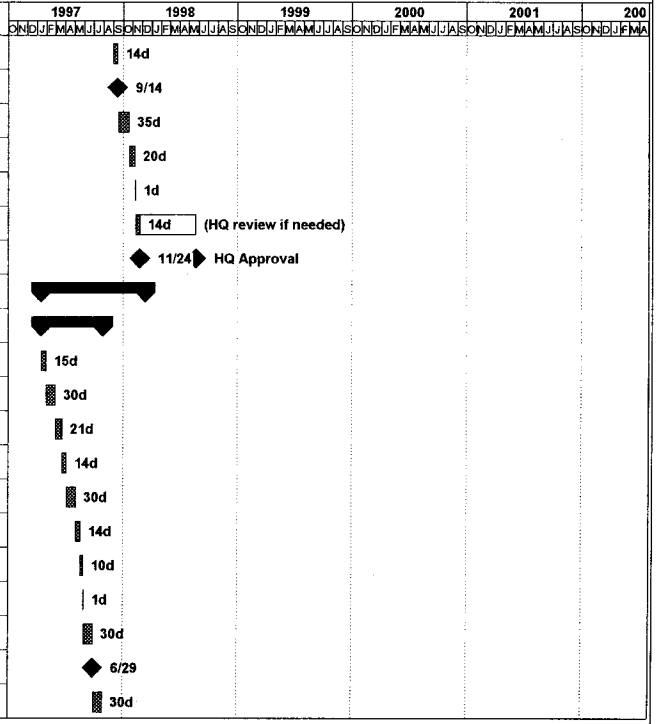
**Based on Historical data and conceptual design.

Hanford Tanks Initiative

Permitting Plan

Proposed Schedule

ID	Task Name	Start	Finish
101	Incorporate Comments	8/31/97	9/13/97
102	Transmit Draft SA to Ecology/Tribes	9/14/97	9/14/97
103	Ecology/Tribes Review/Comment	9/15/97	10/19/97
104	Incorporate Comments	10/20/97	11/8/97
105	Transmit to RL/DOE Headquarters	11/9/97	11/9/97
106	RL/DOE HQ Review	11/10/97	11/23/97
107	RL/DOE HQ Approve SA	11/24/97	11/24/97
108	**C-106 Retrieval RCRA***	**1/15/97**	**12/12/97**
109	**SST Part A Changes**	**1/15/97**	**7/29/97**
110	Verify if Part A change needed	1/15/97	1/29/97
111	Prepare Part A	1/30/97	2/28/97
112	Contractor Review	3/1/97	3/21/97
113	Incorporate Comments	3/22/97	4/4/97
114	DOE-RL Review	4/5/97	5/4/97
115	Incorporate Comments	5/5/97	5/18/97
116	FDH Certification	5/19/97	5/28/97
117	Transmit to DOE-RL	5/29/97	5/29/97
118	DOE-RL Certification	5/30/97	6/28/97
119	Submit to Ecology	6/29/97	6/29/97
120	Recieve Ecology Approval	6/30/97	7/29/97



File: HTI-PP3.MPP Sheet 6 of 7
Date: 1/20/97
Lead: GD Cummins

Task | Progress | Milestone | Summary | Optional

* Additional RCRA Permitting needed if retrieval rates may exceed current permit.

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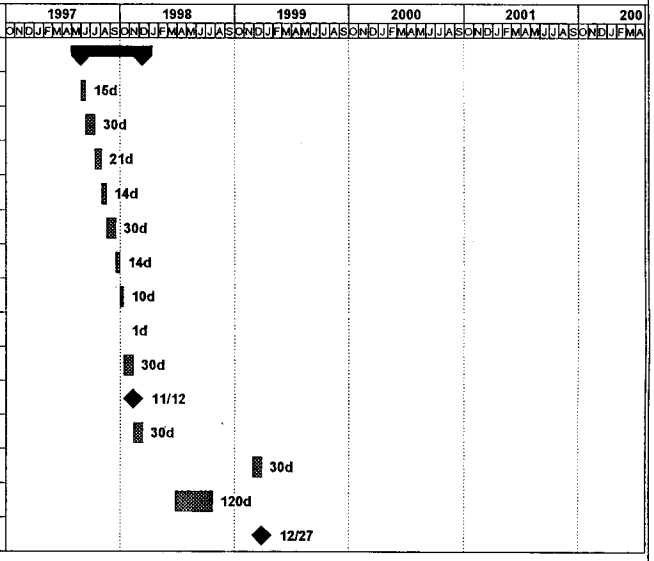
Hanford Tanks Initiative

Permitting Plan

Proposed Schedule

ID	Task Name	Start	Finish
121	**Disposal/Storage Part A Changes**	5/31/97	12/12/97
122	Verify if Part A change needed	5/31/97	6/14/97
123	Prepare Part A	6/15/97	7/14/97
124	Contractor Review	7/15/97	8/4/97
125	Incorporate Comments	8/5/97	8/18/97
126	DOE-RL Review	8/19/97	9/17/97
127	Incorporate Comments	9/18/97	10/1/97
128	FDH Certification	10/2/97	10/11/97
129	Transmit to DOE-RL	10/12/97	10/12/97
130	DOE-RL Certification	10/13/97	11/11/97
131	Submit to Ecology	11/12/97	11/12/97
132	Recieve Ecology Approval	11/13/97	12/12/97
133	Riser Installation	11/27/98	12/26/98
134	Infrastructure Upgrades	3/26/98	7/23/98
135	Start Retrieval	12/27/98	12/27/98



File: HTI-PP3.MPP Sheet 7 of 7
Date: 1/20/97
Lead: GD Cummins

Task | Milestone | Optional
Progress | Summary

* Additional RCRA Permitting needed if retrieval rates may exceed current permit.

**Based on Historical data and conceptual design.

APPENDIX B

SUMMARY OF DATA/INFORMATION REQUIREMENTS FOR HANFORD TANKS INITIATIVE ACTIVITIES

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SUMMARY OF DATA/INFORMATION REQUIREMENTS FOR HANFORD TANKS INITIATIVE ACTIVITIES

1.0 National Environmental Policy Act

The minimum data and/or information requirements for NEPA documentation preparation are as follows:

- Conceptual or equivalent design information
- In addition, any other related engineering, safety, or waste evaluation documents would be helpful in NEPA preparation.

2.0 State Environmental Policy Act

The following are minimum data requirements for coordination of the SEPA requirements:

- Conceptual or equivalent design information is needed
- Any NEPA documentation (e.g., EA) that has been prepared or will be prepared for the HTI activities
- Any other related engineering, safety, or waste evaluation documents.

3.0 Resource Conservation and Recovery Act

The following is required for the revised closure work plan documentation: description of equipment modifications and design media.

4.0 Clean Air Act

Detailed information on the treatment process, the emissions abatement system, the gaseous effluent monitoring system, and the nature of all gaseous emissions to the atmosphere is required for submissions made pursuant to the *Clean Air Act*. The appropriate regulations and administrative guidance should be consulted for the detailed requirements.

4.1 RADIOACTIVE EMISSIONS

The following information is an abridged summary of the data and/or information needs for the NESHAP and WAC 246-247 permit applications and notice of construction.

NESHAP Permit

The 40 CFR 61.07 requires the application for approval to construct to include the following information:

- Technical description of the facility and its operations
- Size and location of the source
- Design and operating capacity of the source
- Method of operation (include process flow diagram)
- Nature of all gaseous emissions to the atmosphere:
  - If a modification, the precise nature of the modification and estimates of emissions before and after completion.
- Technical description of emissions control system including release rates and offsite doses.

WAC 246-247 Permit

The WAC 246-247 regulations requires the application for approval to construct to include the following information:

- Facility information:
  - Description of facility operations
  - Facility identification must be the same as that appearing on source registration forms.
- Identification and listing of all sources consistent with the source registration identification
- Description of the source(s):
  - System function and area exhausted
  - Effluent system layout
  - Efficiency values of each control device for removal of radioactivity
  - Means and frequency of testing and inspecting effluent treatment system
  - Operating mode (continuous or batch)
  - Chemical and physical nature of the emissions
  - Stack or release point data

- Stack diameter and height
- Building height, width, and length
- Annual ambient average stack and ambient air temperatures
- Annual wind rose
- Chi/Q data
- Annual average volumetric flow rate
- Annual average release rates
- Fraction of facility's inventory available for potential release to the air.

• Description of the effluent sampling/monitoring systems:

- Stack flow measuring system
- Sample probes (isokinetic)
- Number and location of sampling points
- Sample lines
- Diameters, lengths, materials, bends, entry points into the effluent line, and angle of entry into the effluent
- Sample flow regulation
- Sampling media
- Frequency of sampling (continuous or batch)
- Frequency of sample collection
- Calibration and audit schedules.

• Environmental sampling monitoring system:

- Sampling network (location, number, distance from release points)
- Media sampled and/or monitored for the air pathway
- Equipment used for sampling and/or monitoring, including sampler flow rate and collection media
- Frequency of sampling and/or monitoring
- Calibration and audit frequency.

- Hanford Site requirements for effluent sampling and/or monitoring system designs, procedures, and quality assurance standards (appropriate standards and description of how these are used)

- Effluent sample analyses including methodology, procedure references, detection limits, quality assurance (including internal audit schedule and results)

- Environmental sample analysis including methodology, procedure references, detection limits, quality assurance

- Data from effluent and environmental monitoring programs, including background or local control data

- Demonstration of compliance:

  - Methodology used to demonstrate compliance

  - Input data used

  - Source terms, release height, inhalation rate, maximally exposed individual, meteorology

  - Results of method (effective dose equivalent for whole body and relevant organs)

  - Description of internal standards used to ensure compliance with applicable federal and state laws and regulations.

4.2 NONRADIOACTIVE AIR EMISSIONS

The following information is an abridged summary of the data and/or information needs for the PSD and WAC 173-460 notice of construction.

PSD Permit

The WAC 173-400 regulations require an application for approval to construct to include such information as the following:

- Project location and emission source(s)

- Design and operating parameters:
  - Hours of operation
  - Normal and maximum production rates
  - Fuel requirements
  - Raw material requirements
  - Emissions control system.

- Emissions - Type and Quantity:

  - Representative emissions from the existing source (for modification) over the most recent 2 year period of operation

  - Projected actual controlled emissions at anticipated production rates and operating schedule for each pollutant at each emission point

  - Projected potential controlled emissions; emission rate when equipment is operating at maximum capacity 24 hours per day, 365 days per year, taking air pollution control equipment into account.

- BACT/BARCT assessment:

  - Literature search

  - Control alternatives: comparison of efficiencies; energy, environmental, and economic impact analyses

  - Summary.

- Analysis of current air quality at the proposed source location including presently existing ambient levels of the constituents being reviewed (from Pacific Northwest National Laboratory data)

- Analysis of the impact of the proposed source on ambient air quality:
  - Model description
  - AIRDOS - EPA 1996
  - Meteorological data (windspeed, direction, temperature)
  - Modeling results
  - Offsite dose.

- Demonstration that the proposed emission will not cause a violation of national ambient air quality standards (NAAQS) or state standards using a direct comparison of modeling results with NAAQS

- Discussion of potential effects of the proposed upgrades on factors influenced by air quality such as residential or commercial growth, vehicular traffic, vegetation, soils, acid deposition, visibility in sensitive areas, PSD increments, etc.

- Construction schedule.

Notice of Construction

The WAC 173-400 and 173-460 regulations require the application for approval to construct to include the following information:

- SEPA
- Notice of construction form

- Description of proposed source:
  - Bid specifications, rated capacity, inputs, outputs, and byproducts generated
  - Bid specifications, control efficiency, and operational requirements of the pollution control equipment
  - Process flow diagram
  - Estimate of stack emissions, including criteria and toxic air pollutants.
- Estimate of fugitive (nonstack) emissions
- BACT/T-BACT analysis
- Modeling.

DISTRIBUTION SHEET

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Permitting Plan for Hanford Tanks Initiative, D2005		ECN No. N/A

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