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Permitting Plan for the Tank Farm Restoration and Safe Operations Project

R.J. Swan

Westinghouse Hanford Company, Richland, WA 99352
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Abstract:

This permitting plan evaluates environmental regulations for Project W-314, the Tank Farm Restoration and Safe Operations project. Described within this document are the environmental reviews, permits, and approvals required for the project, as well as the regulatory authority(s) potentially applicable. Finally, this document provides the project with a recommended regulatory strategy that includes possible alternatives to successfully secure environmental reviews, permits and approvals in accordance with project objectives.

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PERMITTING PLAN
FOR
PROJECT W-314
TANK FARM RESTORATION AND SAFE OPERATIONS PROJECT

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EXECUTIVE SUMMARY

This document describes the permitting plan for Project W-314, Tank Farm Restoration and Safe Operations Project. The recommended regulatory strategy is included that provides a preferred project approach.

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 construction or operation of the Tank Farm infrastructure upgrades. The environmental reviews, permits, and approvals, as well the regulatory authority, potentially applicable to the upgrades associated with Tank Farm Restoration and Safe Operations Project 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 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 data requirements, alternative strategies for completion of upgrade activities, and approval requirements are presented.

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GLOSSARY

BARCT	best available radionuclide control technology
BCCAA	Benton County Clean Air Authority
CAA	<i>Clean Air Act of 1977</i>
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
NAAQS	National Ambient Air Quality Standards
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NEPA	<i>National Environmental Policy Act of 1969</i>
NOC	notice of construction
NOD	notice of deficiency
NOI	notice of intent
PNNL	Pacific Northwest National Laboratories
PSD	prevention of significant deterioration
PSE	preliminary safety evaluation
RCRA	<i>Resource Conservation and Recovery Act of 1976</i>
SEPA	<i>State Environmental Policy Act of 1971</i>
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

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**PERMITTING PLAN
FOR
PROJECT W-314
TANK FARM RESTORATION AND SAFE OPERATIONS PROJECT**

1.0 INTRODUCTION

This document describes permitting requirements for design, construction, and operation for Project W-314, Tank Farm Restoration and Safe Operations infrastructure upgrades to ensure that the project activities can support the mission of safe, near-term storage and management of waste.

These infrastructure upgrades are divided into four major areas (1) waste transfer systems (e.g., piping/ancillary equipment), (2) ventilation, (3) instrumentation and/or controls, and (4) electrical. These upgrades will support Tank Farm operations compliance with applicable federal, state, and local regulations. In addition, equipment downtime and operational costs will be reduced, and risks associated with radioactive and/or hazardous materials releases will be decreased. There will be no liquid effluents released to the environment as part of these upgrades.

The waste transfer system upgrades include affixing new protective coatings within selected valve and pump pits, providing new transfer lines in selected locations, and replacing transfer piping in selected locations. Cathodic protection will be provided for piping as required.

The ventilation systems upgrades include replacement of existing primary tank ventilation systems for the AN, AP and AW Double-Shell Tank (DST) Farms, upgrading the annulus ventilation system for SY Tank Farm, and upgrading the 244-A and 244-S double-contained receiver tank (DCRT) ventilation systems. Included with the ventilation system upgrades are seal pot and/or drainage systems and filtration systems.

The instrumentation and/or controls upgrades include replacement of aging and/or deteriorated DST monitoring instrumentation, upgrades to the 244-A and 244-S DCRTs' monitoring instrumentation, upgrades to DST and waste transfer leak detection/master pump shutdown systems, and enhancements to the information management system.

The electrical upgrades include the DST electrical equipment and wiring, as well as 244-A and 244-S DCRT electrical equipment and wiring.

Milestones M-43-09 through M-43-16 established in the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) require that Project W-314 will design and construct Tank Farm upgrades. Milestone M-43-09 requires completion of a conceptual design report by May 31, 1996. Milestone M-43-10 requires the start of definitive design by January 31, 1997. The project construction schedule (due September 30, 1998) and individual Tank Farms' construction milestones are listed as M-43-11 through M-43-16 (due between June 30, 1999 and June 30, 2003).

This permitting plan has been prepared based on the scope of work defined in the *Project W-314 Conceptual Design Report* (WHC 1996).

2.0 NATIONAL ENVIRONMENTAL POLICY ACT

The NEPA (42 U.S.C. 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 U.S. Department of Energy (DOE) regulations [10 Code of Federal Regulations (CFR) 1021] promulgated under NEPA were developed to conform with 40 CFR 1500-1508 regulations and to categorize 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 U.S. Department of Energy, Richland Operations Office (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 decision 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.

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 Project W-314 Tank Farm Restoration and Safe Operations is provided in Appendix B.

2.3 DISCUSSION OF ALTERNATIVES

Various NEPA compliance alternatives might be available in an effort to support Tank Farm Restoration and Safe Operations upgrades. The alternatives open for consideration are as follows. The alternative are listed in order of probability of success.

1. A determination that an EA is required will be made. The desired outcome of the EA would be a FONSI, after which the Title II design effort for Project W-314 could proceed.
2. Alternative 2 is the possibility of NEPA coverage of the Tank Farm Restoration and Safe Operations upgrades under the Tank Waste Remediation System (TWRS) EIS, if the TWRS EIS ROD is delayed until the Spring of 1997. However, if the ROD is delayed until the Winter of 1997, an EA would be prepared.
3. Same as alternative 1 but the outcome of the EA is a requirement to prepare an EIS.
4. This alternative would involve preparation of an EIS without first developing an EA.

2.4 RECOMMENDED NEPA STRATEGY

For design and construction activities associated with most of the Tank Farm Restoration and Safe Operations upgrades, an EA will be prepared. The waste transfer upgrades associated with Project W-314 will be covered in the TWRS-EIS. The assumed outcome of this EA is a FONSI, which is needed before initiating Title II design. (Refer to Appendix A for the Project W-314 permitting schedule.)

2.5 PRELIMINARY COST ESTIMATE

Cost estimates for planning purposes have been developed showing a total cost for EA preparation and approval of \$178K.

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 each project. 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, Washington State Department of Ecology (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 may be conditioned 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 state environmental impact statement (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 and a determination of nonsignificance (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 Project W-314 Tank Farm Restoration and Safe Operations is provided in Appendix B.

3.3 DISCUSSION OF ALTERNATIVES

Various SEPA avenues might be evaluated in an effort to support the Project W-314 Tank Farm Restoration and Safe Operations upgrades. The alternatives open for consideration are as follows. The alternatives are listed in order of the probability of success.

1. A DNS following adoption of NEPA documentation (EA) by Washington State for the Tank Farm Restoration and Safe Operations upgrades.
2. A mitigated DNS from Washington State.
3. A DS from Washington State and a requirement to prepare separate SEISs.

3.4 RECOMMENDED SEPA STRATEGY

It is expected that Ecology will adopt the NEPA EA in lieu of doing additional reviews to satisfy SEPA compliance, and a determination of nonsignificance (DNS) or mitigated DNS would be issued.

This will meet the requirements of SEPA and the appropriate level of documentation needed. (Refer to Appendix A for the Project W-314 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 U.S.C. 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, *Dangerous Waste Regulations*.

4.1 INTRODUCTION

The WAC 173-303 regulations apply to all facilities within Washington State 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 facilities 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.

An application for a TSD facility permit consists of three collective submittals. Each submittal consists of various levels of detailed information concerning the facility. 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 facilities and expansion at an existing facility. 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 facility

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 the public (public reading rooms), Ecology, and the U.S. Environmental Protection Agency, Region 10. 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.

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.

4.1.3 Part B

The Part B permit application documentation provides a detailed definition of the processes to be used for treatment, storage, and/or disposal of dangerous waste; the design capacity of such processes; and the specific dangerous waste types to be managed. This detailed information is used by the regulatory agency(s) to prepare a final status permit for the operation of the TSD facility.

4.2 SUMMARY OF DATA/INFORMATION REQUIREMENTS

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

4.3 DISCUSSION OF ALTERNATIVES

Various avenues may be evaluated in an effort to support the Tank Farm Restoration and Safe Operations upgrades. The alternatives open for consideration are as follows. The alternatives are listed in order of the probability of success.

1. A revision to the DST System Part B permit application documentation will be required. This revision will be prepared in 1997.

The assumption is that upgrades are not reflected in the DST System Part B, and these upgrades could affect critical systems. (Critical systems are those specific portions of a TSD unit's structure or equipment whose failure could lead to the release of dangerous waste into the environment and/or systems that include processes that treat, transfer, store, or dispose of regulated waste. Ancillary

equipment includes devices such as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of dangerous waste from its point of generation to a point of disposal).

2. A modification to the Hanford Facility RCRA Permit will be required.

The assumptions include the following:

- (a) The project design media will not be complete and as-built drawings will not be submitted with the DST System Part B permit application (working draft) to be submitted 1998).
- (b) The descriptive Part B text does not reflect the upgrades because information is not available in sufficient detail.

3. A revision to the DST and SST closure documentation will be required.

The assumption is that information concerning upgrades is not available in sufficient detail to be incorporated into closure documents, which are currently being processed.

4. Prepare and submit a NOI and/or revise the Part A, Form 3, applications for the DST and SST Systems.

The assumptions include the following:

- (a) Upgrades do not affect expansion (Section 4.1.1).
- (b) The upgrades do not increase process capacities.
- (c) Dangerous waste numbers are not changed from those identified in the Part A.

4.4 RECOMMENDED PERMITTING STRATEGY

Project W-314 upgrades will be required to be included in the DST System Part B permit application documentation. The preferred permitting strategy is to reflect the upgrades as future systems in the application documentation currently being prepared before final submittal to Ecology.

Because sufficient design information for Project W-314 may not be available before submittal of the DST System Part B to Ecology, a future permit modification may be required. The objective will be to reflect as much available information in the document currently under preparation to avoid a modification of the 1999 final status permit. It is anticipated that this approach will require submittal of as-built design media as a condition of final status.

It is assumed that waste transfer systems will be replaced or added but no changes to TSD capacity or process capabilities will occur. (Refer to Appendix A for the Project W-314 permitting schedule.)

4.5 PRELIMINARY COST ESTIMATE

Detailed design information will not be available before March 31, 1997, for submittal to Ecology. Upgrade information that is available will be included in the revision (working draft) to the DST System Part B.

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 Federal Clean Air Act (42 U.S.C. 7401 et seq.) was enacted in 1970, amended in 1977, and overhauled and expanded in 1990.

5.1 INTRODUCTION

The Tank Farm Restoration and Safe Operations upgrades will require several permits and approvals before construction. These permits and approvals will be issued by several regulatory agencies, including the EPA, Ecology, Washington State Department of Health (WDOH), and the Benton County Clean Air Authority.

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

- 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).

5.1.1 Radioactive Emissions

Radioactive air emissions currently are regulated by both the EPA, pursuant to 40 CFR 61 Subpart H, and the WDOH, pursuant to WAC 246-247. Both regulations require preconstruction approval from the respective agencies. Additionally, the WDOH requires extensive information on the technologies chosen to control radioactive air emissions, including an assessment of all known control technologies. This assessment, referred to as a best available radionuclide control technology (BARCT) assessment, evaluates the universe of available control technologies. For Tank Farm Restoration and Safe Operations upgrades, the 'Best' technology must be installed, as determined by the BARCT assessment. The EPA also requires the sampling and monitoring system to meet specific criteria. These criteria, including requirements on the placement

and number of sample probes, are applicable if the estimated dose equivalent from the facility to the maximally exposed offsite individual is greater than 0.1 mrem per year and when, hypothetically, no emissions control equipment is in place but operations are otherwise routine.

The WAC 246-247 regulations require varying degrees of information depending on the quantity of emissions. It is expected that the these upgrades will require the highest level of information for the WAC 246-247 application, and will require preconstruction approval under the NESHPs regulations.

Before the BARCT assessment, extensive information on the processes and expected emissions from these processes must be developed. This information is required to perform an adequate BARCT assessment. Information normally not available until definitive design (particularly concerning sampling equipment and expected emissions) is crucial to the preparation of the permit applications.

5.1.2 Nonradioactive Emissions

Nonradioactive air emissions of concern are expected to fall into one of two categories: criteria pollutants and TAPs.

Criteria pollutants are those subject to the PSD program, enforced by Ecology. Ecology has incorporated by reference most of the federal PSD requirements. The Tank Farm Restoration and Safe Operations upgrades are not expected to allow emissions exceeding the trigger levels for criteria pollutants (this assumption is based on previous Tank Farm estimates).

The TAPs are a separate class of emissions, regulated by Ecology pursuant to WAC 173-460. Over 500 carcinogenic and toxic pollutants are included in these regulations. Emissions will occur during installation and operation of the ventilation systems associated with the Tank Farm Restoration and Safe Operations upgrades; WAC 173-460 is applicable, and there is no de minimis level below which preconstruction approval is not required. While WAC 246-247 regulations require installation of BARCT, the TAPs regulations require the installation of best available control technology for toxics (T-BACT). Additionally, if emissions of pollutants (after controls) exceed the small quantity emission (SQE) rates included in the regulations, modeling must be performed to demonstrate that the offsite concentration of each pollutant of concern does not exceed the acceptable source impact levels. Some pollutants do not have SQE rates, and modeling is required for any level of emission.

If any criteria pollutant approaches its trigger level, the information required by the PSD process would be included in a single application to Ecology. Ecology refers to these air permit applications as Notice of Constructions (NOCs).

5.2 SUMMARY OF DATA/INFORMATION REQUIREMENTS

A summary of the minimum data and/or information needs required for development of each of the air permit applications is provided in Appendix B.

5.3 DISCUSSION OF ALTERNATIVES

Various avenues may be evaluated in an effort to support the air permitting for the Tank Farm Restoration and Safe Operations upgrades, and all of the following applications may be required. 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. The alternatives are listed in order of the probability of success.

1. Obtain WAC 173-460 (TAPs), WAC 246-247, and 40 CFR 61 Subpart H (NESHAPs) approvals for all of Project W-314 prior to construction as information necessary to complete the applications becomes available.
2. Obtain TAPs and WAC 246-247 approvals separately as information to complete the applications becomes available. (The NESHAPs approval requires a complete project description in advance of construction.)
3. Obtain TAPs and WAC 246-247 approvals in a phased approach (with separate activities to be approved). The first phase would include obtaining approval for those Tank Farms with ventilation systems that require approval that have sufficient information available to complete the applications. The second phase would obtain approval for the remainder of the activities that are required. (The NESHAPs approval requires a complete project description in advance of construction.)
4. Obtain TAPs and WAC 246-247 approvals in a phased approach (with separate activities to be approved). The first phase would include obtaining approval for all Tank Farm construction activities not directly associated with the ventilation systems. The second phase would obtain approval for activities associated with the ventilation systems. (The NESHAPs approval requires a complete project description in advance of construction.)

5.4 RECOMMENDED PERMITTING STRATEGY

The recommended strategy for the Tank Farm Restoration and Safe Operations upgrades 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 upgrades will not result in emissions exceeding significance levels for any criteria pollutants under the PSD program (which is based on previous analyses). Installation of BARCT will be required by WAC 246-247 and T-BACT will be required by the TAPs program. (Refer to Appendix A for the Project W-314 permitting schedule.)

5.5 PRELIMINARY COST ESTIMATE

A preliminary cost estimate of \$50K 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.

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 with the EA to the DOE-RL.

The regulatory strategy is based on activities performed within and 150 meters outside of the 18 fenced Tank Farm areas already covered by an existing cultural resource review [e.g., Cultural Resources Exemption of the Tank Farms Area (PNL 1994)]. A review of the existing CRR will be done before construction.

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. The excavation permit, prepared before upgrade, construction activities will evaluate environmental impacts (e.g., soil and/or groundwater contamination).

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 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), dated March 28, 1995, will encompass the upgrade activities within the 200 East and 200 West Area Tank Farm boundaries. This survey report will be required before securing an excavation permit.

6.4 PREOPERATIONAL MONITORING OF FACILITIES, SITES, AND OPERATIONS

An environmental study must be conducted before start up of a new site, facility, or process that has the potential for significant adverse environmental impact (DOE Order 5400.1). The regulatory agency is the DOE-RL. This study will be started at least 1 year before installation of the Tank Farm Restoration and Safe Operations upgrades.

As part of the preoperational monitoring requirements, a document needed for construction will be prepared that will specify the types of monitoring to be performed (e.g., radiation dose, ambient air, and surface radiological surveys).

6.5 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).

There will be a cost for Preoperational Monitoring of Facilities, Sites, and Operations documentation of about \$3K and about \$5K for the excavation permits.

7.0 REFERENCES

- Ecology, 1995, *Dangerous Waste Permit Application Requirements*, 95-402, Washington State Department of Ecology, 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, 1994, *Cultural Resource Exemption of the Tank Farm Areas*, Pacific Northwest Laboratory, Richland, Washington.
- 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, 1996, *Project W-314 Conceptual Design Report*, WHC-SD-W314-CDR-001, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

APPENDICES

- A PROJECT W-314 TANK FARM RESTORATION AND SAFE OPERATIONS PERMITTING SCHEDULE
- B SUMMARY OF DATA/INFORMATION REQUIREMENTS FOR PROJECT W-314 TANK FARM RESTORATION AND SAFE OPERATIONS

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APPENDIX A

**PROJECT W-314 TANK FARM RESTORATION AND SAFE OPERATIONS
PERMITTING SCHEDULE**

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Plot Date SAP96
Data Date 1OCT94
Project Start 10MAY92
Project Finish 21JUL95

Activity Bar/Early Dates
Critical Activity
Progress Bar
Milestone/Flag Activity
Connecting Activity on Sheet x

3006

WESTINGHOUSE - HANFORD
W-314 TANK FARM RESTORATION-INTEGRTN
DANGEROUS WASTE PERMIT

Sheet 2 of 4

Date	Revision	Checked	Approved

WESTINGHOUSE - HANFORD
M-314 TANK FARM RESTORATION-INTEGRITY
DANGEROUS WASTE PERMIT

(c) Primavera Systems, Inc.

Activity Name/Early Dates

Critical Activity

Programme Bar

Milestone/Flag Activity

Connecting Activity on Sheet X

Activity Name/Early Dates

Critical Activity

Programme Bar

Milestone/Flag Activity

Connecting Activity on Sheet X

Plot Date SAPR96
 Data Date 1OCT94
 Project Start J06V92
 Project Finish 21JUL95

Activity Bar/Early Dates
 Critical Activity
 Milestone/Flag Activity
 Connecting Activity on sheet x

2000

WESTINGHOUSE - HANFORD
 W-314 TANK FARM RESTORATION-INTEGRN
 DANGEROUS WASTE PERMIT

Sheet 5 of 4

Date	Revision	Checked	Approved

Plot Date SAPR96
Data Date 10CT96
Project Start 10MAY92
Project Finish 21JUL05

Activity Bar/Early Date
Critical Activity
Program Bar
Milestone/Play Activity
Connecting Activity on Sheet x

Activity Bar/Early Date
Critical Activity
Program Bar
Milestone/Play Activity
Connecting Activity on Sheet x

3004

WESTINGHOUSE - HANFORD
W-314 TANK FARM RESTORATION-INTGRTRN
DANGEROUS WASTE PERMIT

sheet 4 of 4

Date	Revision	Checked	Approved

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APPENDIX B

**SUMMARY OF DATA/INFORMATION REQUIREMENTS FOR PROJECT W-314 TANK FARM
RESTORATION AND SAFE OPERATIONS**

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**SUMMARY OF DATA/INFORMATION REQUIREMENTS FOR PROJECT W-314 TANK FARM
RESTORATION AND SAFE OPERATIONS**

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 Tank Farm Restoration and Safe Operations upgrades
- Any other related engineering, safety, or waste evaluation documents.

3.0 *Resource Conservation and Recovery Act*

The following is required for the revised Part B documentation: description of infrastructure upgrades 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 NESHAP and WAC 246-247 permit applications and 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.

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