WASHINGTON STATE DEPARTMENT OF ECOLOGY

Permit No. ST 4502
Issuance Date: April 18, 1995
Effective Date: April 18, 1995
Expiration Date: April 18, 2000

STATE WASTE DISCHARGE PERMIT

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON

MAR 1997
RECEIVED
EDMC

In compliance with the provisions of
Chapter 90.48 RCW, as amended
and Chapter 173-216 WAC, as amended
authorizes

UNITED STATES DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
P.O. BOX 550
RICHLAND, WASHINGTON 99352

to discharge in accordance with the special and general conditions which follow.

Plant Location: 200 East Area, 200 West Area, and adjacent portions of 600 Area, Hanford Site.	Discharge Location: two adjacent five acre disposal basins, known as 200 Area Treated Effluent Disposal Facility. (S5,6 T12N R27E).
Industry Type: none	Four corners located at:
SIC Code: 9999	Longitude / Latitude
	119° 28' 27.884294" / 46° 33' 14.396998"
	119° 28' 6.767297" / 46° 33' 14.248825"
	119° 28' 6.982550" / 46° 32' 59.680524"
	119° 28' 28.097977" / 46° 32' 59.828684"

Michael Wilson, Manager
Nuclear Waste Program

TABLE OF CONTENTS

Page

SUMMARY OF REQUIRED DOCUMENTS FOR SUBMITTAL 3

SPECIAL CONDITIONS

S.1 Enforcement Limitations in Groundwater 5
S.2 Effluent Quantity Limitations 5
S.3 Effluent Quality Limitations 6
S.4 Early Warning Values 7
S.5 Analytical Requirements 9
S.6 Effluent Variability Study 11
S.7 Establish a Groundwater Evaluation Program 12
S.8 Determine Background Groundwater Quality 12
S.9 Monitor to Demonstrate Permit Compliance 13
S.10 Emergency Overflow 16
S.11 283-E Powerhouse Ditch Requirements 16

GENERAL CONDITIONS

G.1 Discharge Violations 17
G.2 Reduced Production for Compliance 17
G.3 Right of Entry 17
G.4 Facility Change 17
G.5 Plan Review Required 18
G.6 Payment of Permit Fees 18
G.7 Compliance with other Laws and Statutes 18
G.8 Removed Substances 18
G.9 Permit Transfer 18
G.10 Duty to Reapply 18
G.11 Reporting Requirements 19
G.12 Record Keeping Requirements 19
G.13 Representative Sampling 20
G.14 Test Procedures 20
G.15 Flow Measurement 20
G.16 Laboratory Accreditation 20
G.17 Additional Monitoring by the Permittee 20
G.18 Signatory Requirements 20
G.19 WAC 173-216-110 Permit Terms and Conditions 21
G.20 Operations and Maintenance 22
G.21 Noncompliance Notification 23
G.22 Permit Termination 23
G.23 Permit Modification 24

SUMMARY OF REQUIRED DOCUMENTS FOR SUBMITTAL

NAME/TYPE OF DOCUMENT	SECTION(S) DOCUMENT DESCRIBED IN	REPORTING FREQUENCY OR SUBMITTAL DATE
EARLY WARNING REPORT	S.4 G.11	WITHIN 10 CALENDAR DAYS FROM DETECTION OF AN EARLY WARNING VALUE
SAMPLING AND ANALYSIS PLAN (SAP) FOR BOTH EFFLUENT VARIABILITY STUDY AND DISCHARGE MONITORING TO DEMONSTRATE PERMIT COMPLIANCE AND STATISTICAL EVALUATION PLAN	S.6 S.9	WITHIN 60 DAYS OF EFFECTIVE DATE OF PERMIT
EFFLUENT VARIABILITY STUDY RESULTS	S.6	WITHIN ONE YEAR OF APPROVAL OF STUDY'S SAP
GROUNDWATER SCREENING EVALUATION REPORT	S.8	WITHIN 30 DAYS OF EFFECTIVE DATE OF PERMIT, AND QUARTERLY THEREAFTER
DISCHARGE MONITORING REPORT TO DEMONSTRATE PERMIT COMPLIANCE	S.9 G.11	QUARTERLY (NO LATER THAN THE 30TH DAY OF THE MONTH FOLLOWING THE COMPLETED REPORTING PERIOD, OR LATER IF APPROVED BY ECOLOGY)
REVISED SAP FOR DISCHARGE MONITORING TO DEMONSTRATE PERMIT COMPLIANCE	S.9	WITHIN 90 DAYS OF ECOLOGY'S DETERMINATION THAT IT IS NEEDED
STATE WASTE DISCHARGE PERMIT APPLICATION/MODIFICATION (AND ASSOCIATED SUBMITTALS)	G.4	60 DAYS PRIOR TO A CHANGE IN NATURE OF DISCHARGE OR FACILITY
ENGINEERING REPORTS, PLANS, AND SPECIFICATIONS	G.5	PRIOR TO CONSTRUCTION OR MODIFICATION OF ANY WASTE WATER CONTROL FACILITY
REAPPLICATION FOR STATE WASTE DISCHARGE PERMIT	G.10	60 DAYS PRIOR TO EXPIRATION DATE OF PERMIT

SUMMARY OF REQUIRED DOCUMENTS FOR SUBMITTAL (Continued)

NAME/TYPE OF DOCUMENT	SECTION(S) DOCUMENT DESCRIBED IN	REPORTING FREQUENCY OR SUBMITTAL DATE
SPILL CONTROL/CONTINGENCY PLANS	G.19	AVAILABLE UPON EFFECTIVE DATE OF PERMIT - UPDATED ANNUALLY - NOTIFY ECOLOGY OF CHANGES.
SOLID WASTE CONTROL PLANS	G.19	AVAILABLE UPON EFFECTIVE DATE OF PERMIT - UPDATED ANNUALLY. REVISIONS REQUIRE PRIOR APPROVAL FROM ECOLOGY.
OPERATIONS AND MAINTENANCE PLANS AND SUMMARY MATRIX	G.20	MANUALS AVAILABLE UPON EFFECTIVE DATE OF PERMIT. UPDATED ANNUALLY (CONFIRMATION PROVIDED TO ECOLOGY). MATRIX DUE WITHIN 30 DAYS OF EFFECTIVE DATE OF PERMIT.
NONCOMPLIANCE NOTIFICATION REPORT	G.21	WITHIN 30 DAYS (OR EARLIER IF REQUESTED BY ECOLOGY) UPON DISCOVERY OF CIRCUMSTANCES OF NONCOMPLIANCE.
PERMITTEE REQUESTED PERMIT MODIFICATION	G.23	60 DAYS PRIOR TO REQUESTED CHANGE.
OVERFLOW SAMPLE ANALYSIS REPORT	S.10	WITHIN 60 DAYS OF COLLECTING A SAMPLE OF AN OVERFLOW.
283-E POWERHOUSE DITCH ENGINEERING STUDY OR BINDING AGREEMENT ON ENDING DISCHARGE	S.11	SEPTEMBER 30, 1997

SPECIAL CONDITIONS

S.1 ENFORCEMENT LIMITATIONS IN GROUNDWATER

Beginning on the effective date of this permit and lasting through the expiration date, the United States Department of Energy-Richland Operation Office (Permittee) is authorized by the Washington State Department of Ecology (Ecology) to discharge to ground, via infiltration, treated wastewater at the permitted location subject to the following limitations and monitoring requirements.

ENFORCEMENT LIMITS IN GROUNDWATER[1]

CONSTITUENT OR CHARACTERISTIC	HIGHEST ALLOWABLE CONCENTRATION, PPB, UNLESS NOTED OTHERWISE[2],[3]
Total trihalomethanes	66
1,1,1 trichloroethane	5
cadmium (total)	5
cyanide (total)	50
lead (total)	10
pH, in pH units	6.5-8.5

(1) Enforcement limits in groundwater and Early Warning Values in groundwater shall be met in groundwaters collected from point of compliance monitoring wells numbers 699-40-36 and 699-41-35.
(2) Defined as the average of four quarterly measurements from a well. The four quarters are defined as January through March, April through June, July through September, and October through December. Average to be calculated using the four most recent quarterly measurements from a well.
(3) parts per billion (micrograms per liter). pCi/l (picoCurie per liter).

S.2 EFFLUENT QUANTITY LIMITATIONS

The total volume of effluent discharged to the two evaporation/infiltration ponds is comprised of the following sources: Plutonium Finishing Plant Wastewater, T Plant Wastewater (including T Plant Laboratory Wastewater), 222-S Laboratory Complex Wastewater, 284-W Power Plant Wastewater, B Plant Chemical Sewer, 242-A-81 Water Services Wastewater, B Plant Process Condensate, B Plant Steam Condensate, B Plant Cooling Water, 242-A Evaporator Cooling Water, 242-A Evaporator Steam Condensate, 241-A Tank Farm Cooling Water, 284-E Power

Plant Wastewater (including 283-E Filter Plant Wastewater) and miscellaneous streams covered by a categorical discharge permit. The total volume of wastewater from these listed sources is subject to the following quantity limitations. The Permittee is authorized to add future, potential effluent(s) subject to the effluent quantity limitations, and all other limitations, conditions, and requirements identified in this permit. The Permittee must demonstrate to Ecology's satisfaction that no additional constituents exist in the effluent(s) that would constitute a contaminant to groundwater per the requirements of Chapter 173-200 WAC.

EFFLUENT QUANTITY LIMITATIONS

TOTAL AVERAGE MONTHLY FLOW[4] OF LISTED SOURCES	3,400 GALLONS PER MINUTE
TOTAL AVERAGE YEARLY FLOW[4] OF LISTED SOURCES	1,200 GALLONS PER MINUTE

(4) The average monthly flow is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month, divided by the number of daily discharges measured during that month. The average yearly flow is defined as the highest allowable average of monthly discharges over any 12 months, calculated as the sum of 12 consecutive monthly discharges, divided by 12.

S.3 EFFLUENT QUALITY LIMITATIONS

The combined total effluent shall not exceed the following highest allowable concentrations, as measured before its discharge into the infiltration ponds.

ENFORCEMENT LIMITS IN EFFLUENT[5]

CONSTITUENT OR CHARACTERISTIC	HIGHEST ALLOWABLE CONCENTRATION, PPB, UNLESS NOTED OTHERWISE	HIGHEST ALLOWABLE CONCENTRATION, PPB, UNLESS NOTED OTHERWISE
	AVERAGE MONTHLY[6]	DAILY MAXIMUM[7]
arsenic (total)	15	--
Bis (2-ethylhexyl) phthalate	10	--
phenol	10	--

ENFORCEMENT LIMITS IN EFFLUENT[5] (Continued)

CONSTITUENT OR CHARACTERISTIC	HIGHEST ALLOWABLE CONCENTRATION, PPB, UNLESS NOTED OTHERWISE	HIGHEST ALLOWABLE CONCENTRATION, PPB, UNLESS NOTED OTHERWISE
	AVERAGE MONTHLY[6]	DAILY MAXIMUM[7]
carbon tetrachloride	5	--
chromium (total)	20	--
nitrate	620	1,240
chloride	58,000	116,000
mercury (total)	2	--
total dissolved solids	250,000	--
iron (total)	258	--
manganese (total)	50	--
methylene chloride	5	--

(5) As measured in total, composite effluent before discharge to infiltration ponds. The point of compliance is Sampling Station No. 6653.

(6) The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

(7) The daily maximum discharge limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.

S.4 EARLY WARNING VALUES

The following constituent(s) are to be monitored, as indicated, to provide an early warning that allowable limits in groundwater are being approached. Attainment or exceedance of an Early Warning Value does not constitute a violation of this permit. However, attainment or exceedance of an Early Warning Value requires the Permittee to submit an Early Warning Report per the reporting requirements of G.11.

After evaluation of any Early Warning Report, Ecology will respond per the alternative provisions of Chapter 173-200-070(6)(b). Specifically, if Early Warning Value(s) are attained or exceeded, Ecology may require the Permittee to increase monitoring, modify the monitoring plan or evaluation procedures, develop a trend analysis, and/or prepare and submit a report that documents any changes to the ground water regime and proposes alternative operational methods to reduce the potential impacts to the ground water. Such modifications may include installation of additional monitoring wells or computer modeling of the groundwater regime in the vicinity of the infiltration ponds. Finally, per Chapter 173-200-070(6)(b)(vi), the Permittee must take such actions as Ecology deems necessary, if Ecology determines that there is a likelihood of attaining or exceeding an enforcement limit at the point of compliance.

EARLY WARNING VALUE(S) IN GROUNDWATER

CONSTITUENT OR CHARACTERISTIC	EARLY WARNING VALUE IN GROUND-WATER (UNITS ARE PPB UNLESS NOTED OTHERWISE) (1) (2)
Total Trihalomethanes	50

EARLY WARNING VALUE(S) IN EFFLUENT

CONSTITUENT OR CHARACTERISTIC	AVERAGE MONTHLY CONCENTRATION, PPB, UNLESS NOTED OTHERWISE (6)
Total Trihalomethanes	66
1,1,1 trichloroethane	5
cadmium (total)	5
cyanide (total)	50
lead (total)	10

S.5 ANALYTICAL REQUIREMENTS

Practical Quantification Level (PQL) means the lowest concentration of a substance that can be reliably measured, within specific limits of precision, during routine laboratory operating conditions. The Permittee is required to analyze all constituents and parameters specified as enforcement limits, early warning values, or other monitoring requirements so as to discern levels as low as the following PQL values. In addition, the required analytical method is indicated as follows. Another analytical method may be substituted by the Permittee provided the same PQL value(s) is achieved.

PRACTICAL QUANTIFICATION LEVELS AND REQUIRED ANALYTICAL METHODS

CONSTITUENT OR CHARACTERISTIC	PQL[8]	ANALYTICAL METHOD	ADDITIONAL CLARIFICATION
arsenic (total)	15	7060(Graphite AA)	
Bis (2-ethylhexyl) phthalate	10	8270	
total trihalomethanes	20	8260	
cadmium (total)	5	7131A	
carbon tetrachloride	5	8260	
chloride	1000	9056/300	
phenol	10	8270	
chromium (total)	20	7191/200.8	
specific conductivity, micromhos per centimeter	10 (reporting limit)	9050/120.1	
cyanide (total)	50	335	
gross alpha, pCi/l	3	laboratory specific	
gross beta, pCi/l	4	laboratory specific	
methylene chloride	5	8260	
iron (total)	100	6010 (ICP)	

PRACTICAL QUANTIFICATION LEVELS AND REQUIRED ANALYTICAL METHODS (Continued)

CONSTITUENT OR CHARACTERISTIC	PQL	ANALYTICAL METHOD	ADDITIONAL CLARIFICATION
lead (total)	10	7421/Graphite AA	
manganese (total)	50	6010 (ICP)	
mercury (total)	2	7470/7471	
nitrate	100	9056/300	
oil and grease	10,000	9070	
1,1,1 trichloroethane	5	8260	
pH, in pH units	not applicable	9040A/150.1 (in laboratory)	groundwater-calibrate and measure pH in field.
radium, sum of 226 and 228, pCi/l	5	laboratory specific	1000 minute count/14 to 21 days
radium, 226, pCi/l	1	laboratory specific	1000 minute count/26 days
sulfate	10,000	9056/300	
temperature, degrees Celsius	0.1	170.1	--
total dissolved solids	10,000	160.1	
WTPH-G	1,000	8015 modified	

(8) units are in ppb (parts per billion or microgram per liter) unless otherwise noted.
Note: pCi/l means picoCurie per liter.

Check standards at concentrations equal to the PQL shall be analyzed alongside all compliance monitoring samples. Check standards shall be produced independently of calibration standards and maintained as a part of the Permittee's records. All check standard recovery data and duplicate measurements shall be available to the Department of Ecology (Ecology). Ecology's precision goal is +/-20%. The quality control/quality assurance (QA/QC) requirements of "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, Supplement 1990," EPA-600/4-79-019 U.S. EPA, shall be followed during all analytical procedures.

If the measured effluent concentration is below the PQL, the Permittee shall report NQ for non-quantifiable. Average values shall be calculated as follows: measurements below the PQL equal zero; measurements equal to or greater than the PQL equal the measurement.

Field sampling procedures (such as sample collection, field handling/preservation, holding requirements) shall follow the requirements found in the "Manchester Environmental Laboratory, Lab Users Manual, Washington State Department of Ecology, 4th edition, January 1994." For field QA/QC measures, the procedures of SW 846, volume 2, Section 1.2, "Field Manual for Physical and Chemical Methods" is to be followed. All samples collected for metal analyses shall be unfiltered.

S.6 EFFLUENT VARIABILITY STUDY

Within 60 days of the effective date of this permit, the Permittee is to submit a proposed sampling, analysis, and statistical evaluation plan to determine the variability in the effluent of all those constituents for which enforcement limits, Early Warning Values, and monitoring requirements are listed in this permit. Such statistical evaluators (or their equivalent) as the average mean concentrations, upper 95% confidence intervals, standard deviations, and coefficients of variation shall be determined.

The Permittee shall design the special study to be conducted in at least two seasonal phases during the first year of infiltration pond operation. The first phase shall be conducted during the summer when biological growth is high in the raw water used as the supply for the facility's potable water system. The second phase shall be conducted during the winter months when such conditions do not prevail. In developing the study plan, the Permittee shall also consider any facility operational changes that might contribute to waste stream variability. The study shall be conducted for one year. As a minimum, the monitoring program shall consist of 10 randomly collected grab samples per month which are to be analyzed for metals (method 6010 - ICP) and volatile organics (method 8260 - VOA). In addition, weekly flow-composited samples are to be analyzed for metals, anions, oil and grease, and semi-volatile organics. Continuous monitoring shall be conducted for pH, conductivity, and flow. Ecology shall respond in writing and either approve, approve with modification, or disapprove the Permittee's plan within 30 days of its receipt from the Permittee.

The results of the evaluation as defined in the plan shall be provided to Ecology within one year of approval of the study plan. Ecology will use these results to verify and/or modify the highest allowable concentrations for the enforcement limits and Early Warning Values of the listed constituents in the effluent, if needed. In addition, if conditions warrant, Ecology will issue an administrative order or permit modification to the Permittee to increase monitoring or modify other permit requirements.

The Permittee may apply to Ecology for permit modification if the results of this study provide new information of which they were not aware when the original application was made. If upon study completion the Permittee believes that the monitoring program requirements as found in

S.9 are unnecessarily redundant or too extensive, the Permittee may make a written request to Ecology to reduce the monitoring requirements. The request should include an analysis documenting why the monitoring program should be modified, as well as a proposed new monitoring regime. Within 60 days of receipt of such a request, Ecology shall respond in writing and either approve, approve with modification, or disapprove the Permittee's request for reduction in monitoring program requirements.

S.7 ESTABLISH A GROUNDWATER EVALUATION PROGRAM

The Permittee has established groundwater monitoring wells number 699-42-37 (upgradient), 699-41-35 (downgradient) and 699-40-36 (downgradient) in the near vicinity of the permitted effluent infiltration ponds. These three groundwater monitoring wells shall be sampled and maintained by the Permittee as a condition of this permit for the following purposes:

- to provide early warning and permit compliance validation for the permitted effluent discharge.

- to determine background groundwater quality before discharge of the permitted effluent.

See Section S.9 for monitoring requirements to achieve early warning and compliance validation. See Section S.8 for monitoring requirements to determine the background groundwater quality (for purposes of this permit only). These groundwater monitoring wells were constructed, and shall be sampled and maintained per the requirements of WAC's 173-160, 173-162, 173-200, and 173-216, and RCW's 90.44, 90.48, and 18.104. In any case where the Resource Conservation and Recovery Act (RCRA) requirements are more stringent, or cover areas that are not covered by these requirements, Ecology supports the Permittee following the RCRA regulations. In situations of conflict, the listed State regulations take precedent.

S.8 DETERMINE BACKGROUND GROUNDWATER QUALITY

This permit does not alter the Permittee's responsibility to conduct sampling and analyses of waters from the three aforementioned wells, as performed under the RCRA program for the "RCRA Groundwater Data Report". The list of analyses performed under this program is understood to be that as found in "The Site Characterization Report for the 200 Area Treated Effluent Disposal Facility (Project W-049H)", WHC-SD-EN-SE-004, Rev. 0, pages C-1 through C-10.

In addition, a separate groundwater screening evaluation shall be conducted to analyze for a more exhaustive list of constituents that may be in the effluent or the groundwater. A list of constituents for analyses shall be submitted to Ecology for its approval by the Permittee. (At least one sampling event was planned to be completed, and the analytical results submitted to Ecology, before the effective date of this permit). This list of constituents shall be analyzed for in the groundwater (quarterly for two years) unless Ecology agrees to a reduced or eliminated sampling plan after the results of two quarters of analyses are available for review by Ecology.

Statistical evaluation of background groundwater data should be conducted per the procedures outlined in the following Environmental Protection Agency (EPA) technical guidance documents: "Statistical Analyses of Groundwater Monitoring Data at RCRA Facilities: Interim Final Guidance", 1989, EPA/530-SW-89-026, Office of Solid Waste, Waste Management Division, EPA, Washington, D.C. and the 1992b Addendum to this interim final guidance from the EPA Office of Solid Waste, Permits and State Programs Division, Washington, D.C. The Permittee has the option of justifying the usage of other accepted technical guidance in lieu of these. A Groundwater Screening Evaluation Report shall be submitted by the Permittee, that provides the results of the initial sampling, within 30 days of the effective date of this permit and quarterly thereafter, as defined in footnote two of Section S.1.

S.9 MONITOR TO DEMONSTRATE PERMIT COMPLIANCE

The Permittee is required to monitor the total effluent and groundwater to verify compliance with all permit enforcement limits and determine if Early Warning Values are being approached. This monitoring will also be used to verify that BAT/AKART source, treatment, and technology controls are being met. The ensuing table lists the monitoring requirements, not required elsewhere in this permit, that the Permittee must follow initially to fulfill this objective. Monitoring is to commence immediately upon effluent disposal to the permitted facility. The Permittee may request reduction in the monitoring frequency upon the successful completion of the first phase of the effluent variability study, per the provisions of Section S.6.

The Permittee is to submit a proposed Sampling and Analysis Plan (SAP) to Ecology within 60 days of the effective date of this permit which addresses the implementation of the following monitoring requirements. This SAP may be combined with the SAP required for the effluent variability study. A revised SAP may be required by Ecology later if Ecology determines that the monitoring requirements must change significantly after reviewing the results of the effluent variability study. Such a revised SAP would be due 90 days after Ecology's written determination of need is received by the Permittee.

See Section G.11 for required reporting requirements for this Discharge Monitoring Report to verify permit compliance.

MONITORING REQUIREMENTS TO DEMONSTRATE PERMIT COMPLIANCE

Constituent or Characteristic	Groundwater Sampling and Analysis Frequency[9]	Groundwater Sample Type	Effluent Sampling and Analysis Frequency	Effluent Sample Type
Bis (2-ethylhexyl phthalate)	quarterly	grab	4 times per month	flow proportional composite
total trihalomethanes	quarterly	grab	4 times per month	grab
carbon tetrachloride	quarterly	grab	4 times per month	grab
chloroform	quarterly	grab	4 times per month	grab
methylene chloride	quarterly	grab	4 times per month	grab
1,1, 1 trichloro-ethane	quarterly	grab	4 times per month	grab
phenol	quarterly	grab	4 times per month	flow proportional composite
arsenic (total)	quarterly	grab	4 times per month	flow proportional composite
cadmium (total)	quarterly	grab	4 times per month	flow proportional composite
chromium (total)	quarterly	grab	4 times per month	flow proportional composite
cyanide (total)	quarterly	grab	4 times per month	grab
nitrate	quarterly	grab	1 time per month	flow proportional composite
pH	quarterly	grab - measure in field	continuous	--
radium, sum of 226 and 228	quarterly	grab	1 time per month	grab
radium 226	quarterly	grab	1 time per month	grab

MONITORING REQUIREMENTS TO DEMONSTRATE PERMIT COMPLIANCE
(Continued)

Constituent or Characteristic	Groundwater Sampling and Analysis Frequency[9]	Groundwater Sample Type	Effluent Sampling and Analysis Frequency	Effluent Sample Type
total dissolved solids	quarterly	grab	1 time per month	flow proportional composite
lead (total)	quarterly	grab	4 times per month	flow proportional composite
flow	--	--	continuous	flow meter per G.15 requirements
mercury (total)	quarterly	grab	4 times per month	flow proportional composite
iron (total)	quarterly	grab	1 time per month	flow proportional composite
manganese (total)	quarterly	grab	1 time per month	flow proportional composite
gross beta	quarterly	grab	1 time per month	grab
gross alpha	quarterly	grab	1 time per month	grab
conductivity	quarterly	grab	continuous	--
temperature	quarterly	grab	--	--
chloride	quarterly	grab	1 time per month	flow proportional composite
sulfate	quarterly	grab	1 time per month	flow proportional composite
oil and grease	---	---	1 time per month	grab
WTPH-G	quarterly	grab	1 time per month	grab

(9) Quarterly is defined as the four quarters of the calendar year: January through March, April through June, July through September, and October through December.

S.10 EMERGENCY OVERFLOW

Booster pumps are used in the collection system to handle high flow periods. In the event of pump failure, the collection system could back-up. In order to prevent possible high flow problems in the collection system for the infiltration ponds, the use of an overflow pipeline, that discharges to the C lobe of B pond, is authorized by this permit. This overflow pipeline is authorized for emergency overflow only. Conditions for authorized overflows are as follows:

- The overflow system must include an alarm to immediately notify operators of a overflow condition. If an overflow occurs, then immediate action is required to reduce the flow in order to stop the overflow. This immediate action may include ordering the shut down of the 242-A Evaporator or the shut down of other major flow contributors. Action should be taken within 30 minutes of an overflow occurring.
- A grab sample is required to be taken of any overflow that continues for over one hour. The overflow sample must be analyzed for all of the permit parameters listed in Special Condition S5. Any overflow that lasts over an hour and is not sampled, will be considered to be in violation of this permit for all permit parameters. The analysis of an overflow should be reported to Ecology within 60 days of the sample being collected.
- No overflow is authorized to last over two hours, and any that do exceed two hours will be considered a violation of this permit.
- No more than four overflows are authorized in any 12 month period, and any overflows over four in a 12 month period will be considered a violation of this permit.
- The number of overflows per month should be reported on the Discharge Monitoring Reports.

S.11 284-E POWERHOUSE DITCH REQUIREMENTS

The Permittee shall perform an engineering study to help determine the appropriate method for managing the 284-E Powerhouse ditch. This unlined ditch conveys 284-E Powerhouse and 283-E Filter Plant wastewater to the collection system for the infiltration ponds. This unlined ditch is not appropriate to be used to convey wastewater.

The study should propose alternatives for managing the ditch, describe the Permittee's preferred alternative, and provide an implementation schedule for the preferred alternative. This study is due to Ecology by September 30, 1997. Ecology will evaluate the study and the Permittee's preferred alternative. Ecology will determine if the proposed preferred alternative is appropriate. If Ecology determines the preferred alternative is acceptable, then the alternative must be implemented within the approved scheduled. If Ecology determines the preferred alternative is not acceptable, then an Ecology developed alternative will be required to be implemented within an Ecology developed schedule.

These requirements for the engineering study and the implementation of the preferred alternative will be waived by Ecology if the Permittee and Ecology agree by September 30, 1997 to a binding shut down date for the 284-E Powerhouse and 283-E Filter Plant.

GENERAL CONDITIONS

G.1 DISCHARGE VIOLATIONS

The Permittee shall at all times be responsible for continuous compliance with the terms and conditions of this permit. Failure to comply with the terms and conditions of this permit constitutes a violation of RCW 90.48.144. Such violations may result in orders, directives, or penalties being issued by Ecology.

G.2 REDUCED PRODUCTION FOR COMPLIANCE

The Permittee shall control production or discharge to the extent necessary to maintain compliance with the terms and conditions of this permit upon reduction of efficiency, loss, or failure of its treatment facility until the treatment capacity is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power for the treatment facility is reduced, lost, or fails.

G.3 RIGHT OF ENTRY

Representatives of Ecology shall have the right to enter at all reasonable times in or upon any property, public or private, for the purpose of inspecting and investigating conditions relating to the pollution or the possible pollution of any waters of the State. Reasonable times shall include normal business hours; hours during which production, treatment, or discharge occurs; or times when Ecology suspects a violation requiring immediate inspection. Representatives of Ecology shall be allowed to have access to, and copy at reasonable cost, any records required to be kept under terms and conditions of this permit; to inspect any monitoring equipment or method required in the permit; and to sample the discharge, waste treatment processes, or internal waste streams.

G.4 FACILITY CHANGE

The Permittee shall submit a new application, or a supplement to the previous application, along with required engineering reports and engineering plans and specifications, whenever a new or increased discharge or change in the nature of the discharge is anticipated which is not authorized by this permit. The application shall be submitted at least 60 days prior to any proposed changes. Submission of the application does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

In regards to facility modifications that result in future(potential) streams per section S.2 that meet all the requirements of this permit, engineering reports, plans, and specifications must be submitted that document compliance with BAT/AKART requirements.

Discharges that are covered by Permit ST 4508 or other categorical permits are exempt from this condition.

G.5 PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and engineering plans and specifications shall be submitted to Ecology for approval in accordance with Chapter 173-240 WAC. This requirement also applies to any wastewater control facilities associated with any future (potential) sources described in the preceding section S.2. Facilities shall be constructed and operated in accordance with the approved plans.

G.6 PAYMENT OF PERMIT FEES

The Permittee shall pay the required wastewater discharge permit fees assessed in accordance with Chapter 173-224 WAC. Ecology may terminate this permit for nonpayment of fees or late-payment penalties.

G.7 COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit shall be constructed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G.8 REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall not be resuspended or reintroduced to the effluent stream for discharge.

G.9 PERMIT TRANSFER

This permit is automatically transferred to a new owner or operator if:

- a written agreement between the old and new owner or operator containing a specific date for transfer of permit responsibility, coverage, and liability is submitted to Ecology; and
- Ecology does not notify the Permittee of the need to modify the permit.

Unless this permit is automatically transferred according to the above conditions, this permit may be transferred only if it is modified to identify the new Permittee and to incorporate such other requirements as determined necessary by Ecology.

G.10 DUTY TO REAPPLY

The Permittee must reapply, for permit renewal, at least 60 days prior to the specified expiration date of this permit. The expiration date of this permit is shown on page 1.

G.11 REPORTING REQUIREMENTS

Monitoring of the constituents listed in the table found in Section S.9, conducted to verify permit compliance, shall be started as soon as the discharge is initiated. Said monitoring results obtained during the previous three months shall be validated, summarized, and reported on the Discharge Monitoring Report (DMR) Form (EPA 3320-1), or on a similar Ecology approved form, and submitted no later than the 30th day of the month following the completed reporting period. The Permittee will have up to 60 days following the completed reporting period to submit the DMR while the effluent variability study in section S.6 is conducted and until Ecology notifies the Permittee to meet the 30 day requirement. Ecology will give written notification to the Permittee of when the shortened reporting period will be started. This change will not occur until any modifications in the monitoring program, based on the variability study, are effective. The report shall be sent to the Washington State Department of Ecology, Nuclear Waste Program, Water Quality Permit Coordinator, 1315 W. 4th Avenue, Kennewick, WA 99336-6018.

If a contaminant is detected at or above an Early Warning Value, then the Permittee shall submit the following Early Warning Report that:

- notifies Ecology, in writing, within 10 calendar days from detection of the Early Warning Value. The notification shall contain, at a minimum, information regarding the concentration of contaminant(s) that attained or exceeded the early warning values, concentrations of other contaminants monitored, the location(s) and sampling date(s), and concentrations of contaminants determined during previous events.

G.12 RECORD KEEPING REQUIREMENTS

The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Director of Ecology.

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place, and time of sampling; (2) the dates the analyses were performed; (3) who performed the analyses; (4) the analytical techniques or methods used; and (5) the results of the analyses reported to the Method Detection Limit.

G.13 REPRESENTATIVE SAMPLING

Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets and maintenance-related conditions affecting effluent quality.

G.14 TEST PROCEDURES

All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall conform to the latest revision of the "Guidelines Establishing Test Procedures for the Analysis of Pollutants" contained in 40 CFR Part 136, unless otherwise specified in this permit or approved in writing by Ecology.

G.15 FLOW MEASUREMENT

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations or at a minimum frequency of at least one calibration per year. Calibration records should be maintained for a minimum of three years.

G.16 LABORATORY ACCREDITATION

All monitoring data, except for flow, temperature, conductivity, pH, and internal process control parameters, shall be prepared by a laboratory registered or accredited under the provisions of: Accreditation of Environmental Laboratories, Chapter 173-50 WAC.

G.17 ADDITIONAL MONITORING BY THE PERMITTEE

If the Permittee monitors any pollutant more frequently than required by this permit, using test procedures specified by this permit, then the results of this monitoring shall be included in calculation and reporting of the data submitted in the Permittee's self-monitoring reports.

G.18 SIGNATORY REQUIREMENTS

All reports or information submitted to Ecology shall be signed and certified. All reports required by this permit shall be signed by a principal executive officer of at least the level of vice president of a corporation, or by a duly authorized representative of that person. A person is a duly authorized representative only if the authorization is made in writing by the principal executive officer described above, and is submitted to Ecology. The authorization must also specify either an individual or a position (such as plant manager, or environmental affairs

director) having responsibility for the overall operation of the regulated facility, or environmental matters for the company. Modification of the designated authorized individual requires prior notification to Ecology.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and/or imprisonment for knowing violations."

G.19 WAC 173-216-110 PERMIT TERMS AND CONDITIONS

The Permittee shall comply with all the best available technology (BAT) and all the known, available, and reasonable methods of prevention, control, and treatment (AKART) requirements that were agreed to and implemented as described in the "200 Area Treated Effluent Disposal Facility (Project W-049-H) Wastewater Engineering Report" and associated appendices A through U, dated February 1992 (WHC-SD-W049H-ER-003, Rev.0, Volumes 1 and 2); and as modified via Ecology and Permittee in agreed upon engineering change notices.

The Permittee shall implement all the effluent pretreatment requirements as described in the aforementioned engineering report (and associated mutually agreed upon engineering change notices), and Ecology approved plans and specifications.

Permittee shall implement all of the spill prevention, source control, and best management practices described in the aforementioned engineering report (and associated mutually agreed upon engineering change notices) to prevent and control pollutant discharge from plant site runoff, spillage, leaks, sludge or waste disposal, and raw material storage. In addition, the Permittee shall follow the spill control plan(s) for each of the facilities discharging to this permitted effluent. Said spill control plan(s) describes and implements prevention, containment, and control measures to reduce the potential for, and mitigate the significance of accidental spills or unplanned discharges of oil and petroleum products; materials, which when spilled (or otherwise released into the environment) become designated Dangerous Waste or Extremely Hazardous Waste by the procedures set forth in WAC 173-303-070; or other materials which may become pollutants or cause pollution upon reaching State waters.

The Permittee shall make available to Ecology said spill control plan(s) upon the effective date of this permit. The Permittee shall review and update the spill control plan(s), as needed, at least annually and notify Ecology of changes. The plan and any supplements shall be followed throughout the term of the permit. The updated spill control plan shall include the following:

- a description of the reporting system which will be used to alert responsible manager(s) and legal authorities in the event of a spill,
- a description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials, and
- a list of oil and chemicals used, processed, or stored at the facility which may be spilled into state waters.

For the purpose of meeting these spill control plan requirements, plans and manuals required by 40 CFR Part 112, and contingency plans required by Chapter 173-303 WAC shall be available.

The Permittee shall comply with the discharge restrictions and prohibitions as described in the State of Washington's Dangerous Waste Regulations, Chapter 173-303 WAC; and the Resource Conservation and Recovery Act.

The Permittee shall handle and dispose of all solid waste materials in such a manner as to prevent their entry into State ground or surface waters. The Permittee shall follow their solid waste control plan(s) for all facilities discharging to the permitted effluent. This plan includes all solid waste generated at the associated facilities with the exception of those solid wastes regulated by Chapter 173-303 WAC (Dangerous Waste Regulations). The plan includes at a minimum a description, source, generation rate, and disposal methods for said included solid wastes. This plan shall not differ from any approved local solid waste management plan. Said plan(s) shall be available to Ecology upon the effective date of this permit, and reviewed and updated annually, as needed. Any proposed revision or modification of the solid waste control plan(s) must be submitted to Ecology for prior approval. The Permittee shall comply with the solid waste control plan and any modifications thereof. The Permittee shall make available an update of the solid waste control plan with the application for permit renewal 60 days prior to the expiration date of the permit.

G.20 OPERATIONS AND MAINTENANCE

The Permittee shall at all times be responsible for the proper operations and maintenance of the facilities and systems of control installed by them to achieve compliance with the terms and conditions of this permit. Where design criteria have been established, the Permittee shall not permit flows or waste loadings to exceed approved design criteria. The facilities' Operations and Maintenance Manuals for facilities discharging to this wastewater stream shall be listed in a matrix and reported to Ecology within 30 days of the effective date of this permit. These Operations and Maintenance Manuals shall be reviewed and updated by the Permittee at least annually. The Permittee shall confirm the review by letter to Ecology. All Manuals and manual updates shall be available to Ecology for review upon the effective date of this permit. The Manuals shall include the following:

- emergency procedures for effluent rerouting, storage, and subsequent treatment and disposal in the event of system upset or failure, and

- all effluent-associated treatment facilities', retention basins' and tanks', pipelines', sampling and monitoring stations', and pump stations' routine and emergency operational and maintenance requirements.

The Operations and Maintenance Manual for the Low-Level Wastewater Treatment Facility located at the Plutonium Finishing Plant shall also define discharge levels that are expected to be met during routine operation of the facility in order to discharge effluent that meets the original BAT/AKART design criteria.

G.21 NONCOMPLIANCE NOTIFICATION

In the event that the Permittee is unable to comply with any of the permit terms and conditions, exclusive of Early Warning Values, due to any cause, the Permittee shall, upon discovery of the circumstances:

- immediately take action to stop, contain, and clean up unauthorized discharges or otherwise stop the violation, and correct the problem; and

- immediately notify Ecology's designated Water Quality Permit Coordinator, Kennewick Office at (509) 735-7581 of the failure to comply; and

- submit a detailed written report to Ecology within 30 days, unless requested earlier by Ecology, describing the nature of the violation, corrective action taken and/or planned, planned steps to prevent a recurrence, and any other pertinent information.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

If the Permittee is in compliance with the terms and conditions of this permit, but its activities have been shown to violate the groundwater protection provisions of WAC 173-200, Ecology is electing to precede any civil or criminal penalty with a compliance order or permit modification per the provisions of WAC 173-200-100(5).

G.22 PERMIT TERMINATION

A permit shall be subject to termination upon 30 days notice in writing if Ecology finds:

- that it was procured by misrepresentation of any material fact or by lack of full disclosure in the application;

- that there has been a violation of the conditions thereof; or
- that a material change in quantity or type of waste disposal exists.

G.23 PERMIT MODIFICATION

This permit may be modified in whole or in part for the following causes:

- violation of any permit term or condition;
- obtaining a permit by misrepresentation or failure to fully disclose all relevant facts;
- a material change in quantity or type of waste disposal; or
- a material change in the condition of the waters of the State affected by this permit.

Ecology may also modify this permit if it determines good and valid cause exists, including promulgation or revisions of categorical standards.

Ecology may modify the terms of this permit if effluent characteristics are later documented by the Permittee, and accepted by Ecology, that reveal prior errors in best professional judgement by Ecology due to the data limitations in existence at the time of permit development. Such a permit modification that results in a higher concentration for a constituent's enforcement limit, shall not constitute backsliding on the part of the Permittee.

Per the allowed provisions of WAC 173-216-110(5), the Permittee may submit a new application, or supplement to this permit's previous application which requests modification of this permit, when the Permittee has refined data or conditions have changed since issuance of this permit. Said submittal shall include supporting documentation and a statement of the proposed permit modification. Said submittal shall be submitted at least 60 days prior to any proposed physical plant changes. Ecology shall respond to said request for permit modification, by either accepting, accepting with modification, or denying said request within 60 days of its receipt.