



Issuance Date: September 18, 2003
Effective Date: October 1, 2003
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STATE WASTE DISCHARGE PERMIT NUMBER ST 4501

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
KENNEWICK, WA 99336-6018

In compliance with the provisions of the
State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington, as amended,
authorizes

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

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

<p><u>Facility Location:</u> U.S. Department of Energy Richland Operations Office 400 Area/Fast Flux Test Facility (FFTF) complex Richland, Washington</p>	<p><u>Discharge Location:</u> Two percolation ponds located approximately 2,000 feet north-northeast of the Fast Flux Test Facility (FFTF) perimeter fence on the Hanford Site</p> <p><u>Legal Description:</u> (NE 1/4S, SW 1/4S, S18, T11N, R28E)</p>
<p><u>Industry Type:</u> Clean-up Site</p> <p><u>SIC Code:</u> 9999</p>	<p><u>Latitude:</u> 46° 26' 23.9" N</p> <p><u>Longitude:</u> 119° 21' 23.1" W</p>

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Program Manager
Nuclear Waste Program

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SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions of this Permit for additional submittals and requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S.3.2	Sampling and Analysis Plan	Once per Permit cycle	Within 90 calendar days of effective month date of Permit. 12/31/03
S.4.1	Discharge Monitoring Reports (DMR)	Semiannually	45 days following a completed reporting period. 2/16/04
S.4.5	Noncompliance Notification Report	Once per noncompliance	Within 30 calendar days (or when requested by Ecology) upon discovery of noncompliance.
G.7	Application for Permit renewal	Once per permit cycle	At least 180 days before permit expiration 4/1/07
G.8	Request for Permit Modification		At least 60 days prior to proposed changes

SPECIAL CONDITIONS

S.1 DISCHARGE LIMITATIONS

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a concentration in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

A. EFFLUENT LIMITATIONS

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee is authorized to discharge industrial process wastewater to the 4608 Percolation Ponds B and C, the permitted location, subject to the following limitations and schedule:

Parameter	Enforcement Limit	DMR Reporting Frequency	Sample Frequency	PQL	Analytical Method	Units
Flow	75 gpm Average Monthly ^(a)	Semi-Annual ^(b)	Continuous ^(c)	N/A		Gallons per minute
pH	6.5 – 9.5 Units	Semi-Annual ^(b)	Continuous ^(c)	N/A	SW-846 9040A/EPA-600 150.1 (in Laboratory)	Standard Units
Specific Conductivity	668 µmhos/cm Average Monthly ^(a)	Semi-Annual ^(b)	Continuous ^(c)	N/A	SW-846 9050/EPA-600 120.1 (in Laboratory)	µmhos/cm
^(a) The average monthly effluent limitation is defined as the average of daily average discharges over a calendar month.						
^(b) The DMR reporting period is defined as twice per calendar year: January-June, and July-December.						
^(c) “Continuous” means uninterrupted, except for brief lengths of time interruptions (periods of up to 14 calendar days) for calibration, for power failure, or for unanticipated equipment maintenance or repair. If the equipment is out of service, no additional monitoring is required during the period. The FFTF cannot perform any tank draining operations during the outage period. The outage time will be noted on the next DMR.						

S2. MONITORING REQUIREMENTS

A. EFFLUENT MONITORING

All monitoring of the 400 Area industrial process wastewater effluent shall be taken at the point of compliance, i.e., the end-of-pipe at the weir box in the flow meter hut, 400 Area Building 4608-B, prior to discharge to the percolation ponds. The Permittee shall monitor the wastewater according to the schedule in Section S1A above.

B. SAMPLING AND ANALYTICAL PROCEDURES

Samples and measurements of parameters 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.

Sampling and analytical methods used to meet the water and wastewater 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 or to the latest revision of *Standard Methods for the Examination of Water and Wastewater* (APHA), unless otherwise specified in this permit or approved in writing by the Department of Ecology (Ecology).

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, 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 for each constituent or parameter. **Continuous measurement of flow, conductivity, and pH are exempt from this requirement.**

Sample handling in the field and laboratory must conform to the requirements of 40 CFR 136, including the specifics in 40 CFR 136.3, Table II. However, variances and alternate approvals are subject to Ecology review and approval. For field QA/QC measures, the procedures of the latest revision of SW 846, volume 2, Section 1.2, "Field Manual for Physical and Chemical Methods" are to be followed. All samples collected for metal analyses shall be unfiltered. Samples are subject to chain-of-custody procedural requirements and documentation.

C. FLOW, pH, AND CONDUCTIVITY MEASUREMENT

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

D. LABORATORY ACCREDITATION

All monitoring data required by Ecology shall be prepared by a laboratory registered or accredited under the provisions of, *Accreditation of Environmental Laboratories*, Chapter 173-50 WAC. **Flow, conductivity, temperature, pH and internal process control parameters are exempt from this requirement.** Conductivity and pH shall be accredited if the laboratory must otherwise be registered or accredited.

S3. **REPORTING AND RECORDKEEPING REQUIREMENTS**

The Permittee shall monitor and report in accordance with the following conditions. The falsification of information submitted to Ecology shall constitute a violation of the terms and conditions of this permit.

A. REPORTING

The first monitoring period begins on the effective date of the Permit. Monitoring results shall be submitted semiannually. Monitoring results obtained during the previous six (6) months shall be reported on the monthly forms as provided, or otherwise approved, by Ecology, and be received no later than the 45th day following the completed reporting period, unless otherwise specified in this permit. Duplicate copies of Discharge Monitoring Reports (one set of originals and one set of copies), signed and certified, and all other reports (one set of originals) required by this permit shall be sent to the Department of Ecology, Nuclear Waste Program, Water Quality Permit Coordinator, 1315 W. 4th Avenue, Kennewick, Washington, 99336-6018.

Discharge Monitoring Report forms must be submitted semiannually whether or not the facility was discharging. If there is a no discharge event at any of the monitored outfall(s) during a given monitoring period, place an **“X”** in the **“NO DISCHARGE”** box located in the upper right corner of the DMR.

B. RECORDS AND RETENTION

The Permittee shall retain records of all monitoring information for a minimum of three (3) years. Such information shall include 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. 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.

C. RECORDING OF RESULTS

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place and time of sampling; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

D. NON-COMPLIANCE NOTIFICATION

In the event the Permittee is unable to comply with any of the permit terms and conditions due to any cause, the Permittee shall:

- Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the violation, and correct the problem;
- Repeat sampling and analysis of any violation and submit the results to the Department within 30 days after becoming aware of the violation;
- 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 the Department within thirty (30) days, or within another timeframe requested by Ecology, describing the nature of the violation, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of the resampling, 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.

S4. FACILITY LOADING

Flows or waste loadings of the following criteria for the permitted discharge facility shall not be exceeded:

- Maximum average monthly discharge flow 75,000 gallons per day
- Maximum average daily discharge flow 250,000 gallons per day

The average monthly flow is defined as the average of daily average discharges over a calendar month.

S5. SAMPLING AND ANALYSIS

Within 90 days after permit issuance, the Permittee shall submit to Ecology a Sampling and Analysis Plan (SAP) that addresses the implementation of the sampling and analysis requirements of this condition. For field quality assurance/quality control (QA/QC), the procedures of SW-846 Volume 2, Section 1.2, "Field Manual for Physical and Chemical Methods" is to be followed.

S6. OPERATION AND MAINTENANCE

The Permittee shall at all times be responsible for the proper Operation and Maintenance (O&M) of any facilities or systems of control installed to achieve compliance with the terms and conditions of the permit.

A. OPERATIONS AND MAINTENANCE MANUAL

An Operations and Maintenance (O&M) Manual shall be maintained by the Permittee in accordance with WAC 173-240-150 and be submitted to Ecology, if requested. The O&M Manual shall be reviewed by the Permittee at least annually. The O&M manual shall be kept available at the permitted facility.

The O&M manual shall contain the facility process control-monitoring schedule. All operators shall follow the instructions and procedures of this manual. The manual shall include:

- Emergency procedures for facility shutdown and cleanup in event of wastewater system upset or failure;
- System operational controls and procedures;
- Protocols and procedures for monitoring, i.e., sampling and testing; and

- Facility maintenance procedures.

B. BYPASS PROCEDURES

The Permittee shall immediately notify Ecology of all spills, overflows to the environment, or bypass from any portion of the treatment system.

The bypass of wastes from any portion of the treatment system is prohibited unless any one of the following conditions applies:

- *Unavoidable Bypass* -- Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which would cause them to become inoperable, or substantial and permanent loss of natural resources, which can reasonably be expected to occur in the absence of a bypass.

If the resulting bypass from any portion of the treatment system results in non-compliance with this Permit, the Permittee shall notify Ecology in accordance with condition S3.D "Non-compliance Notification."

- *Anticipated Bypass That Has The Potential to Violate Permit Limits or Conditions* -- Bypass is authorized by an administrative order issued by Ecology. The Permittee shall notify Ecology at least thirty (30) days before the planned date of bypass. The notice shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass. Ecology will consider the following prior to issuing an administrative order:
 - If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of the permit.
 - If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
 - If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by Ecology under RCW 90.48.120.

Bypass For Essential Maintenance Without the Potential to Cause Violation of Permit Limits or Conditions -- Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of the permit, or adversely impact public health as determined by Ecology prior to the bypass.

C. BEST MANAGEMENT PRACTICES/ POLLUTION PREVENTION PROGRAM

- There shall be no runoff or spill of wastewater discharged to the infiltration basins to any surface waters of the State or to any land not owned by or under control of the Permittee.
- The Permittee shall use recognized good practices, and all available and reasonable procedures.
- The wastewater shall not be applied to the infiltration basins in quantities that significantly reduce or destroy the long-term infiltration rate of the soil or that would alter groundwater quality in amounts that would affect current and future beneficial uses.

S.7 SOLID WASTE HANDLING AND DISPOSAL

A. SOLID WASTE HANDLING

The Permittee shall handle and dispose of all solid waste material in such a manner as to prevent its entry into State ground or surface water. The Permittee shall dispose of solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewater in a manner such as to prevent any pollutant from such materials from entering waters of the State.

B. SOLID WASTE CONTROL PLAN

The Permittee shall maintain a solid waste control plan. This plan shall include all solid wastes with the exception of those solid wastes regulated by Chapter 173-303 WAC (Dangerous Waste Regulations). The plan shall include at a minimum a description, source, generation rate, and disposal methods of these solid wastes. This plan shall not be at variance with any approved local solid waste management plan. The Permittee shall comply with the plan and any modifications thereof.

S.8 SPILL PREVENTION

The Permittee shall maintain spill prevention, spill containment, and control of spills or unplanned releases. The Permittee shall take actions to prevent, contain, and control spills and unplanned releases of hazardous materials or petroleum products from reaching the collection system or basins. The Permittee shall have a system to train operators to prevent, contain, and control spills. The Permittee shall have a reporting system, which will be used to alert responsible managers and legal authorities in the event of a spill. The facility shall maintain a list of all oil and petroleum products, or other materials, which when spilled, or otherwise released into the environment, are designated Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070, or other materials which may become pollutants or cause pollution upon reaching the State's waters.

S.9 NON-ROUTINE AND UNANTICIPATED DISCHARGES

Discharges of the Fuels Material Examination Facility (FMEF) tanks are not expected as the facility is currently unoccupied and not in use. If the Permittee proposes to use and drain an FMEF tank, the Ecology Water Quality Permit Coordinator will be contacted prior to any discharge. Any discharge from the FMEF tanks would be added to the industrial process wastewater system and will require Ecology approval. This wastewater would be sampled before being discharged into the process sewer system. Sampling (for the system) would be done in accordance with the permit at the FMEF tank for the entire industrial process wastewater system, i.e., the end-of-pipe weir box in the flow meter hut, Building 4608-B, prior to discharge to the percolation ponds.

Discharge of the Maintenance and Storage Facility (MASF) to the process sewer would be infrequent and there are no plans of using the MASF in the near future. If the Permittee proposes to run a testing program, the Ecology Water Quality Permit Coordinator will be contacted prior to any tank draining of the MASF. Any discharge from the MASF would be added to the industrial process wastewater system and will require Ecology approval. Sampling (for the system) would be done in accordance with the permit at the FMEF tank for the entire industrial process wastewater system, i.e., the end-of-pipe weir box in the flow meter hut, Building 4608-B, prior to discharge to the percolation ponds.

Beginning on the effective date of this Permit, the Permittee may discharge non-routine wastewater on a case-by-case basis if approved by Ecology. Prior to any such discharge, the Permittee shall contact Ecology and **at a minimum** provide the following information:

- The nature of the activity that is generating the discharge.
- Any alternatives to the discharge, such as reuse, storage or recycling of the water.
- The total volume of water expected to be discharged.

- The results of the chemical analysis of the water. The water shall be analyzed for all parameters limited for the Permittee's discharge. The analysis shall also include any other parameter deemed necessary by Ecology. All discharges must comply with the effluent limitations as established in Condition S.4 of this permit, water quality standards, sediment management standards and any other limitations imposed by Ecology.
- The date of proposed discharge and the rate at which the water will be discharged, in gallons per minute. The discharge rate shall be limited to that which will not cause erosion of ditches or structural damage to culverts and their entrances or exits.

The discharge cannot proceed until Ecology has reviewed the information provided and has authorized the discharge. Authorization from Ecology will be by letter to the Permittee or by an Administrative Order.

GENERAL CONDITIONS

G.1 SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to Ecology shall be signed as follows:

- A. All Permit applications shall be signed by either a principal executive officer or ranking elected official. **For the FFTF, this position is designated as the FFTF Plant Manager.**
- B. All reports required by this Permit and other information requested by Ecology shall be signed by a person described above 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 person described above and is submitted to Ecology at the time of authorization, and
 - The authorization specifies either a named individual or any individual occupying a named position.
- C. Changes to authorization. If an authorization under Section A. above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
- D. Certification. 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 gathered and evaluated 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 fine and imprisonment for knowing violations."

G.2 RIGHT OF ENTRY

Representatives of Ecology shall have the right to enter at all reasonable times in or upon any property, public or 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 the 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.3 PERMIT ACTIONS

This permit shall be subject to modification, suspension, or termination, in whole or in part by Ecology for any of the following causes:

- Violation of any Permit term or condition;
- Obtaining a Permit by misrepresentation or failure to disclose all relevant facts;
- A material change in quantity or type of waste disposal;
- A material change in the condition of the waters of the State; or
- Nonpayment of fees assessed pursuant to RCW 90.48.465.

Ecology may also modify this permit, including the schedule of compliance or other conditions, if it determines good and valid cause exists, including promulgation or revisions of regulations or new information.

G.4 REPORTING A CAUSE FOR MODIFICATION

The Permittee shall submit a new application, or a supplement to the previous application, along with required engineering plans and reports, whenever a new or increased discharge or change in the nature of the discharge is anticipated which is not

specifically authorized by this Permit. This application shall be submitted at least 60 days prior to any proposed changes. Submission of this application does not relieve the Permittee of the duty to comply with the existing Permit until it is modified or reissued. Discharges that are authorized by this permit are described in the fact sheet.

G.5 PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications shall be submitted to Ecology for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications should be submitted at least 180 days prior to the planned start of construction. Facilities shall be constructed and operated in accordance with the approved plans.

G.6 COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in the permit shall be construed as excusing the Permittee from compliance with any applicable Federal, State, or local statutes, ordinances, or regulations.

G.7 DUTY TO REAPPLY

The Permittee must apply for permit renewal at least 180 days prior to the specified expiration date of this permit.

G.8 PERMIT TRANSFER

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

- A. 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;
- B. A copy of the permit is provided to the new owner and;
- C. Ecology does not notify the Permittee of the need to modify the permit.

Unless this permit is automatically transferred according as in section A above, 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.9 PAYMENT OF FEES

The Permittee shall submit payment of fees associated with this permit as assessed by Ecology. Ecology may revoke this permit if the permit fees established under Chapter 173-224 WAC are not paid.

G.10 PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be and be deemed to be a separate and distinct violation.

G.11 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 the Revised Code of Washington (RCW) 90.48.144. Such violations may result in orders, directives, or penalties issued by Ecology.