DEPARTMENT OF
ECOLOGY
State of Washington

Response to Comments

Miscellaneous Streams

Waste Discharge Permit

December 17, 2012 – February 1, 2013

Summary of a public comment period and responses to comments

November 2013
Publication no. 13-05-020

Publication and Contact Information

This publication is available on the Department of Ecology's website at http://www.ecy.wa.gov/biblio/nwp.html

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- Central Regional Office, Yakima 509-575-2490
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If you need this document in a format for the visually impaired, call the Nuclear Waste Program at 509-372-7950. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Response to Public Comments

Miscellaneous Streams
Waste Discharge Permit
December 17, 2012 – February 1, 2013

Department of Ecology
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, WA 99354

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TABLE OF CONTENTS

Introduction.....7
Reasons for Issuing the Permit 7
Public Involvement Actions.....8
Response to Comments.....9
Commenters 14
Appendix A: Copies of all public notices 15
Appendix B: Copies of all written comments.....21

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INTRODUCTION

The Washington State Department of Ecology requires industrial facilities in the state to have a permit before discharging waste or chemicals to the waters of the state, including groundwater. When a new permit or a significant change to an existing permit is proposed, we hold a public comment period to allow the public to review the change and provide formal feedback.

The Response to Comments is the last step before issuing the final permit, and its purpose is to:

- Specify which provisions, if any, of a permit will become effective upon issuance of the final permit, providing reasons for those changes.
- Describe and document public involvement actions.
- List and respond to all significant comments received during the public comment period and any related public hearings.

This Response to Comments is prepared for:

Comment period:	December 17, 2012 – February 1, 2013
Permit:	*Categorical State Waste Discharge Permit, ST0004511*
Original issuance date:	February 16, 2005
Draft effective date:	January 1, 2014

To see more information related to the Hanford Site or nuclear waste in Washington, please visit our website: www.ecy.wa.gov/programs/nwp.

REASONS FOR ISSUING THE PERMIT

This Categorical State Waste Discharge Permit consists of four former State Waste Discharge Permits (ST4501, ST4508, ST4509, and ST4510). We have added a fourth state wastewater discharge permit ST 4501 into the proposed Categorical State Waste Discharge Permit because its discharge is of the same nature as other discharges allowed under this permit.

The process to permit a group of streams in one "Categorical permit" is based on an agreement between Ecology and the Permittee (the U.S. Department of Energy, or USDOE). It is not based on Ecology Water Quality Program policy or on the *Implementation Guidance for the Ground Water Quality Standards*.

Categorical permits are unique to Hanford Site cleanup and are not used elsewhere in the state. The Categorical permits are intended to provide compliance with regulations while providing a streamlined and cost-effective permitting approach. It allows us to know about all water discharges at Hanford.

The wastewater discharges addressed in the draft permit include the discharge of hydrotesting, construction, and maintenance wastewater; the discharge of cooling water and condensate; and the collection and the discharge of industrial stormwater. The discharge from ST4501 consists of air compressor condensate from the Maintenance and Storage Facility in Hanford's 400 Area.

PUBLIC INVOLVEMENT ACTIONS

The Nuclear Waste Program encouraged public comment on the Miscellaneous Streams Waste Discharge Permit during a public comment period held December 17, 2012, through February 1, 2013. Regulations call for a 30-day comment period. Since this comment period was during the December holiday season, we extended the comment period to run for 47 days.

Ecology took the following actions to announce the public comment period:

- Mailed a public notice to 799 interested members of the public.
- Placed a public announcement legal classified advertisement in the *Tri-City Herald* on December 16, 2012.
- Sent a notice announcing the start of the comment period to the Hanford-Info email list, which had 1,015 recipients in December.
- Posted the comment period as an event on Ecology's Hanford Education & Outreach Facebook page.

The public information repositories located in Richland, Spokane, and Seattle, Washington and Portland, Oregon, received the following:

- Public notice
- Transmittal letter
- Statement of Basis
- Draft reissued permit

The following public notices for this comment period are in Appendix A of this document:

1. Public notice
2. Classified advertisement in the *Tri-City Herald*
3. Notice sent to the Hanford-Info email list
4. Event posted on Ecology Hanford Education & Outreach Facebook page

RESPONSE TO COMMENTS

Ecology accepted comments from December 17, 2012, through February 1, 2013. This section provides the comments that we received during the public comment period and our responses. (RCW 34.05.325(6)(a)(iii))

Columbia Riverkeeper

I. Impact of Discharging Over 2.1 Million Gallons of Water per Day

Question: What is the 2.1 MGD limit based on, and what are the environmental consequences of discharging that much water on a daily basis for the five year life of the permit?

Response: *The limit is based on the initial permit application. USDOE has never approached the 2 million gallon per day limit, and had significant discharges on only five days in the last three years. Since it is unlikely that USDOE will ever discharge this much water in one day, we have lowered this limit to 500,000 gallons per day.*

Question: What evidence does Ecology have that the 10 gallon per minute rate adequately protects groundwater from the uniquely dangerous contaminates found at Hanford?

Response: *The requirement to discharge less than 10 gpm averaged annually is based on criteria set in WAC 173-216-050(f). This states that domestic wastewater from a septic system discharging less than or equal to 14,500 gallons per day (about 10 gpm) to the soil is not subject to the state waste discharge permitting requirements.*

This limit is for domestic wastewater from a septic system, and the water being discharged at Hanford is mainly from hydro testing, maintenance, and construction discharges using Columbia River or potable water sources. These sources are not the same, but they are somewhat alike. We believe all single discharges less than 14,500 gallons per day have no significant potential to adversely affect the ground water.

USDOE keeps a Log of Significant Discharges, which tracks all permitted discharges over 14,500 gallons per day. During the past three years, there have been a total of five significant discharges. The largest was a 300,000 gallon discharge of raw water to stormwater ponds. The next largest was 22,750 gallons at an average rate of 0.05 gpm.

II. Ecology Should Require the Department of Energy to Test for Soil Contamination Before Discharging Large Volumes of Water.

Question: For large discharges like hydrostatic testing discharges, waterline flushing, and "significant discharges" as defined in Section S6.A of the Permit, why isn't Ecology requiring the Department of Energy to test for soil contamination before dumping thousands of gallons of water?

Response: *All discharges are where there is no, or very low, soil or groundwater contamination, so there is no significant threat of mobilizing contaminants.*

Discharges that are somewhat continuous (condensate from equipment, ice makers, chillers, etc.) are extremely small and usually evaporate before infiltrating any significant distance in the soil. Larger discharges such as flushing drinking water lines

or hydro-testing are infrequent and intermittent, and they do not occur in the same location.

Also, Best Management Practices (BMPs) are followed before and during each discharge. BMPs are schedules of activities, prohibited practices, maintenance procedures, and other management practices to prevent or reduce the pollution of groundwater of the state.

The BMPs that satisfy the requirements of ST4511 include good housekeeping, preventive maintenance, inspections, training, and following a checklist to ensure discharges are not occurring in contaminated areas.

III. Ecology Should Restrict Where the Department of Energy Discharges Wastewater.

Question: What is a "surface contaminated area"? For example, is a single-walled tank a surface contaminated area? Alternatively, is a surface contaminated area the entire central plateau?

Response: *Surface contaminated areas are defined as those soils contaminated with dangerous or radioactive wastes. All surface contamination areas at Hanford have been identified, posted, and are tracked in a database system. The entire central plateau would not be considered a surface contaminated area as only a small percentage of the area has surface contamination, or has contamination in the soil.*

Question: Why is there no 300 foot buffer around "surface contaminated areas"?

Response: *Discharges do not occur within surface contaminated areas, and water is not allowed to pond. Preventing the water from ponding reduces or eliminates the amount of water that seeps into the soil, thus negating the need for a buffer around surface contaminated areas.*

Question: Why is the 300 foot buffer limited to cribs, ditches, and trenches?

Response: *The criterion for not discharging within 300 feet of a crib, ditch, or trench is a recommended minimum separation distance that was historically used for siting new cribs at the Hanford Site.*

It is considered a conservative distance based on collective experience at the Hanford Site from borehole drilling near liquid effluent disposal sites. Neither USDOE nor have we observed any lateral spreading beyond 300 feet from liquid disposal sites (Ref: DOE/RL-93-94, Rev. 0, Jan 1994). For the small quantities of water being discharged and the very limited number of times that discharges occur, we think the 300-foot buffer is very conservative and therefore poses no risk to mobilizing soil contamination.

Question: Will a 300 foot buffer prevent wastewater from mixing with contaminated soil?

Response: *Yes. See response above.*

Question: Why should the Department of Energy dump water into the ground in the River Corridor or around the leaking underground storage tanks?

Response: *The USDOE may not discharge water onto the soil within surface contaminated areas or within 300 feet of a crib, ditch, or trench. They do not discharge water around underground storage tanks. The conditions in the permit prevent the mobilization of contaminants in soils anywhere on site, including the River Corridor.*

USDOE Comments on the Draft Fact Sheet

- Appendix D is not mentioned in the Fact Sheet and it is not clear why this has been included. This list is a snap shot in time and the discharges authorized by the permit could occur anywhere on the Hanford Site, at any time, and in any volume up to the permit limits. Please clarify why this table is included so that it is not interpreted that the only discharges allowed on the Hanford Site are those listed in Appendix D.

  Response: *We will change the Fact Sheet to explain Appendix D.*

- Fact Sheet Section 6.0, 10th paragraph and 11th paragraph. Paragraph 10 of Section 6.0 states that the 300 foot restriction specified in Special Permit Condition S4.B is based on Hanford Site information for the distance required between discharges so as to prevent the interaction or intermingling of the discharges with known contaminants. This distance is based on criteria for siting disposal sites with large volume discharges that occur over long periods of time (e.g., crib) and this should be reflected in this section. It is suggested that the 10th paragraph be revised to reflect the information from DOE/RL-93-94, Rev. 0, Page 12. The 300 feet criterion is a recommended minimum separation distance for siting new cribs at the Hanford Site. It is considered a conservative distance based on collective experience at the Hanford Site from borehole drilling in the vicinity of liquid effluent disposal sites. Lateral spreading from adjacent liquid disposal sites greater than 300 feet apart has not been observed to impact either disposal stream.

  Response: *We agree, and will amend this paragraph to be more specific and to include information from DOE/RL-93-94.*

- [Section] G12. The permit and fact sheet does not address underground injection control wells (UICs). It is recommended that the following be added to the exemptions in G12: G12.M: The discharge of fluids into underground injection control wells is regulated by Chapter 173-218 of the Washington State Administrative Code (WAC). ST 4511 does not apply to these discharges unless it is in conjunction with that chapter (e.g., WAC 173-218-110).

  Response: *We discussed this with USDOE's contractor, Mission Support Alliance, and reached agreement that a section on underground injection control wells was not needed.*

- [Section] G12.E Page 18 of 18. The document number for "Vehicle and Equipment Wastewater Discharges" is identified in the draft permit as "WQ-R-95-56" but the document number on the Ecology publication website is "WQ-R-95-056."

  Response: *We agree, and will revise the document number.*

USDOE Comments on the Draft Permit

- **General comment:** The numbering in the permit should be corrected in the following areas:
  - S1.A.2
  - S1.A.3
  - S1.B
  - S7.A (currently reads S1.C)
  - G3 (renumber list beginning with "1")

  Response: *We agree, and will revise the numbering in the permit where needed.*

- Conditions S.1.B.1, S.1.B.2, S.7.A, S.7.B. Recommend that conditions S.1.B.1, S.1.B.2, S.7.A, and S.7.B be replaced. This would consolidate the comments and facilitate permit compliance. The suggested change will continue to protect human health and the environment through implementation of BMPs, and discharges will still be limited to raw or potable water that meets GWQC. Suggest that conditions S.1.B.1, S.1.B.2, S.7.A, and S.7.B be replaced with the following text:

  > "For water used for hydrotest, maintenance, construction, cooling water, and drinking water line flushes, instantaneous flow must be less than 1,000 gallons per minute."

  Response: *We do not agree. These sections have been referenced in other documents (outside of the ST4511 Permit). Removing these sections will result in confusion when trying to look up those sections.*

- Condition S.5.A.2, P2BMP Plan Requirements, page 8. The reference to the "Stormwater Pollution Prevention Planning for Industrial Facilities (WQ-R-93-015)" appears to be obsolete. Suggest replacing with a reference to "Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities (04-10-030)" as well as a reference to the "Stormwater Management Manual for Eastern Washington." The latter has some excellent BMPs for construction stormwater.

  Response: *We agree, and will revise permit as suggested.*

- Condition S1.A.3 (Should be S1B.2). The text currently states: "For industrial stormwater discharges and drinking water line flushing, the Permittee will not use this permit condition." Remove "drinking" so that the text reads "water line flushing," as there are other types of line flushing that are allowed to go above the 150 gallons per minute instantaneous limit (see S7.B.1)

  Response: *We agree and will remove the word "drinking."*

- Condition S2.B.3. Demonstrating compliance was clearer with the language in the current permit. Add back in "This condition will be considered to be met as long as the total volume of all measured significant discharges (as defined in Permit Condition S.6) is below 1,500,000 gallons per day."

  Response: *We agree, and will revise the permit as suggested.*

- Condition S3.A, Source Water Limitations (page 6). Suggest adding raw groundwater to the list of acceptable source waters for hydrotesting, maintenance, and construction discharges (same as S3.B). Research and development activities often use groundwater to conduct tracer testing. Revise section to read,:

  > "For the purpose of this Permit, the source waters allowed to be used for… are raw Columbia River water, potable water (treated Columbia River water or groundwater), raw groundwater, or demineralized water."

  Response: *We agree, and will add raw groundwater is acceptable as a source water*.

- Condition S4.A.7. The last sentence of S4.A.7 has been modified to remove the option to discharge treated water under this Permit or other appropriate disposal. Modify the last sentence to allow discharge of treated water under this Permit or other appropriate disposal as indicated in the current permit. It may be as simple as filtering the water to meet the discharge criteria, in which case the permit should allow for the discharge. By deleting "other appropriate disposal," the permit unnecessarily restricts the permittee's options for disposal of the water. For example, if the volume is small, it may be possible to solidify the material and dispose of the solidified material to an onsite landfill.

  Response: *We agree, and will change the language to include "other appropriate disposal options."*

- Condition S5.A.3. The second sentence states: Similarly, when new or replacement chemical additives are added to a process, the Plan will include how the Permittee will ensure that appropriate actions are taken to protect the environment and quality of the groundwater. This should be limited specifically to new or replacement chemicals used for activities authorized under this permit in condition S1.A.

  Response: *We agree, and will revise this statement to make it clear it refers only to discharges this permit authorizes*.

- Condition S5.C. 30 days to provide a draft revision to Ecology is not practical for Hanford contractors. Replace the 30-day requirement with 90 days in the current permit.

  Response: *We agree. While 30 days is the time frame the Water Quality Program uses statewide, it can take longer at Hanford because of coordination among the various Hanford contractors. We will change the language to allow for submittal of the Plan within 90 days.*

- Condition S7.B. The current title of this section does not convey the content. Suggest changing to something like "Discharge Rate Exemptions Specific to Water Line Flushing Activities."

  Response: *We agree and will revise the title as suggested*.

- Condition S7.C.1. Although these conditions are helpful for most situations, it would better if there was additional latitude for unanticipated or unique situations. It is recommended that the last sentence of the paragraph be modified to state:

  > "These facility activities are subject to the following controls and limitations, unless prior authorization is received from Ecology."

Response: *We do not agree. We will not authorize discharges that do not meet the location or distance limits specified in this permit. Also, additional discharges may be approved under Section S7.A.*

- Summary of Report Submittals, Table, page 3. The entry in the table for G4 refers to "Permit Application for Substantive Changes to the Discharge" but section G4 is titled, "Compliance with Other Laws and Statutes." Revise reference in the table to permit section S9?

  Response: *We will delete this entry from the table. It was an error.*

COMMENTERS

We received comments from Columbia Riverkeeper and from the Permittee.

We also received a comment that did not relate directly to this permit, and addressed that separately.

APPENDIX A: COPIES OF ALL PUBLIC NOTICES

Public notices for this comment period:

1. Public notice (focus sheet).
2. Classified advertisement in the *Tri-City Herald*.
3. Notice sent to the Hanford-Info email list.
4. Event posted on Ecology Hanford Education & Outreach Facebook page.

PUBLIC COMMENT PERIOD

DEPARTMENT OF ECOLOGY State of Washington

Nuclear Waste Program **December 2012**

Miscellaneous Streams Waste Discharge Permit

The Washington State Department of Ecology invites you to comment on a proposed state waste discharge permit for miscellaneous streams at the Hanford Site in south-central Washington. The draft permit is available for your review.

This permit consolidates four previous permits into one. The formal name of this permit is "Categorical State Waste Discharge Permit ST0004511."

What are "miscellaneous streams?"

Miscellaneous streams include liquids from the following:

- Construction.
- Maintenance.
- Cooling.
- Fire suppression.
- Industrial stormwater.
- Hydrotesting.

What does the permit cover?

The permit exists to control the discharge of wastewater streams on the Hanford Site. Ecology's main concern is to prohibit practices that could increase, move, or spread groundwater contamination.

Permit conditions include discharge limitations, source water limitations, pollution prevention, and best management practice requirements. The permit fact sheet includes more information on how this permit came about and the kinds of wastes it covers.

The permit covers water discharges from across the Hanford Site, in areas related to the Department of Energy's cleanup mission. It does not cover leased areas or those managed by other agencies.

WHY IT MATTERS

Though Hanford has many more complex and dangerous wastes to manage, even the routine waste water from common industrial sources must be managed in a way that protects the environment.

Public Comment Period

December 17, 2012, through February 1, 2013

To submit comments or request a public hearing, contact (in writing):

Stacy Nichols
3100 Port of Benton Blvd
Richland, WA 99354
hanford@ecy.wa.gov

Document Review Locations:

Nuclear Waste Program website
www.ecy.wa.gov/programs/nwp/commentperiods.htm

Public Information Repositories (see page 2 for locations and contact information.)

Tips on Effective Commenting

http://www.ecy.wa.gov/biblio/0307023.html

Special accommodations

If you need this document in a format for the visually impaired, call the Nuclear Waste Program at 509-372-7950.

Persons with hearing loss, call 711 for Washington Relay Service. Persons with speech disability call 877-833-6341.

Publication Number: 12-05-020

Figure 1. Public notice (focus sheet) page 1 of 2.

DEPARTMENT OF ECOLOGY
State of Washington

3100 Port of Benton Blvd
Richland, WA 99354

Public Comment Period
Miscellaneous Streams
Waste Discharge Permit
12/17/12 – 2/1/13

Will there be a public hearing? We don't have one scheduled, but if we get requests (see sidebar on page 1), we may reconsider.

What's next? When the comment period closes, we will consider the comments received and revise the permit if needed. Then we will issue the final permit and a response to comments. The permit's fact sheet describes the appeal process. The permit will be in effect for five years.

Hanford's Public Information Repositories and other review locations

University of Washington
Suzzallo Library, Govt Pubs Dept
Seattle, WA 98195
Hilary Reinert (206) 543-5597
Reinerth@uw.edu

Portland State University
Government Information
Branford Price Millar Library
1875 SW Park Avenue
Portland, OR 97207-1151
Claudia Weston (503) 725-4542
westonc@pdx.edu

Gonzaga University
Foley Center Library
East 502 Boone Ave.
Spokane, WA 99258
John S. Spencer (509) 313-6110
spencer@gonzaga.edu

Washington State University
Consolidated Information Center
Room 101L
Richland, WA 99352
Janice Parthree (509) 375-7443
Janice.parthree@pnnl.gov

Department of Ecology
Nuclear Waste Program
Resource Center
3100 Port of Benton Boulevard
Richland, WA 99354
Valarie Peery (509) 372-7920
Valarie.Peery@ecy.wa.gov

Department of Energy
Administrative Record
2440 Stevens Drive, room 1101
Richland, WA 99354
Heather Childers (509) 376-2530
Heather_M_Childers@rl.gov

Figure 2. Public notice (focus sheet) page 2 of 2.

Classified Legals

Washington's Department of Ecology invites you to comment on a proposed renewal of a state waste discharge permit for miscellaneous streams at the Hanford Site in south-central Washington. The draft permit is available for your review.

The public comment period is from December 17, 2012 through February 1, 2013. Submit your comments in writing to Stacy Nichols. Email: Hanford@ecy.wa.gov. Postal: 3100 Port of Benton Blvd, Richland WA 99354. We prefer email.

This permit consolidates four previous permits into one. The formal name of this permit is Categorical State Waste Discharge Permit ST0004511.

Miscellaneous streams include liquids from the following: construction, maintenance, cooling, fire suppression, industrial stormwater, and hydrotesting.

The permit is to control the discharge of wastewater streams on the Hanford Site. Our main concern is to prohibit practices that could increase, move, or spread groundwater contamination.

Permit conditions include discharge limitations, source water limitations, pollution prevention, and best management practice requirements.

The permit fact sheet includes more information on how this permit came about and the kinds of wastes it covers.

When the comment period closes, we will consider the comments received and revise the permit if needed. Then we will issue the final permit and responsiveness summary. The fact sheet for the permit describes the appeal process. The permit will be in effect for five years.

You can find the draft permit, supporting fact sheet, and the public notice online at www.ecy.wa.gov/programs/nwp/commentperiods.htm and at the following locations:

Department of Ecology
Nuclear Waste Program
Resource Center3100 Port of Benton Boulevard
Richland, WA 99354
Valarie Peery (509) 372-7920
Valarie.Peery@ecy.wa.gov

Department of Energy
Administrative Record
2440 Stevens Drive, room 1101
Richland, WA 99354
Heather Childers (509) 376-2530
Heather_M_Childers@rl.gov

Gonzaga University Foley Center Library
East 502 Boone Ave.
Spokane, WA 99258
John S. Spencer (509) 313-6110
spencer@gonzaga.edu

Washington State University
Consolidated Information Center Room 101L
Richland, WA 99352
Janice Parthree (509) 375-7443
Janice.parthree@pnnl.gov

University of Washington
Suzzallo Library, Govt Pubs Dept
Seattle, WA 98195
Hilary Reinert (206) 543-5597
Reinerth@uw.edu

Portland State University
Government Information
Branford Price Millar Library
1875 SW Park Avenue
Portland, OR 97207-1151
Claudia Weston (503) 725-4542
weston@pdx.edu

12-4926, 12/16/2012

C8 TRI-CITY HERALD SUNDAY, DECEMBER 16, 2012

Financial/

Figure 2. Classified advertisement in the Tri-City Herald.

Brown, Madeleine (ECY)

From: Brown, Madeleine (ECY) <mabr461@ecy.wa.gov>
Sent: Monday, December 17, 2012 9:51 AM
To: hanford-Info@listserv.wa.gov
Subject: Comment period starts today

This is a message from the Washington Department of Ecology

Comment period starts today

Today, Ecology is starting a comment period for the renewal of a permit for miscellaneous waste water streams at Hanford. The comment period runs through February 1, 2013.

This permit consolidates four previous miscellaneous streams permits into one. The formal name of this permit is "Categorical State Waste Discharge Permit ST0004511." Miscellaneous streams are not contaminated. They include liquids from the following:

- Construction.
- Maintenance.
- Cooling.
- Fire suppression.
- Industrial storm water.
- Hydrotesting – raw water used to test lines.

The permit is issued to the U.S. Department of Energy, Richland Operations office. It allows routine activities required for the permittee to carry out its cleanup mission. The permit is a renewal. The permit first took effect in 2005. The permit is in effect for five years.

The public notice and the materials for this permit are available on the Nuclear Waste Program's comment period web page.

Email Hanford@ecy.wa.gov if you have questions, or to submit comments. You may also call the Hanford cleanup line at 800-321-2008 for more information.

1

Figure 3. Notice sent to the Hanford-Info email list.

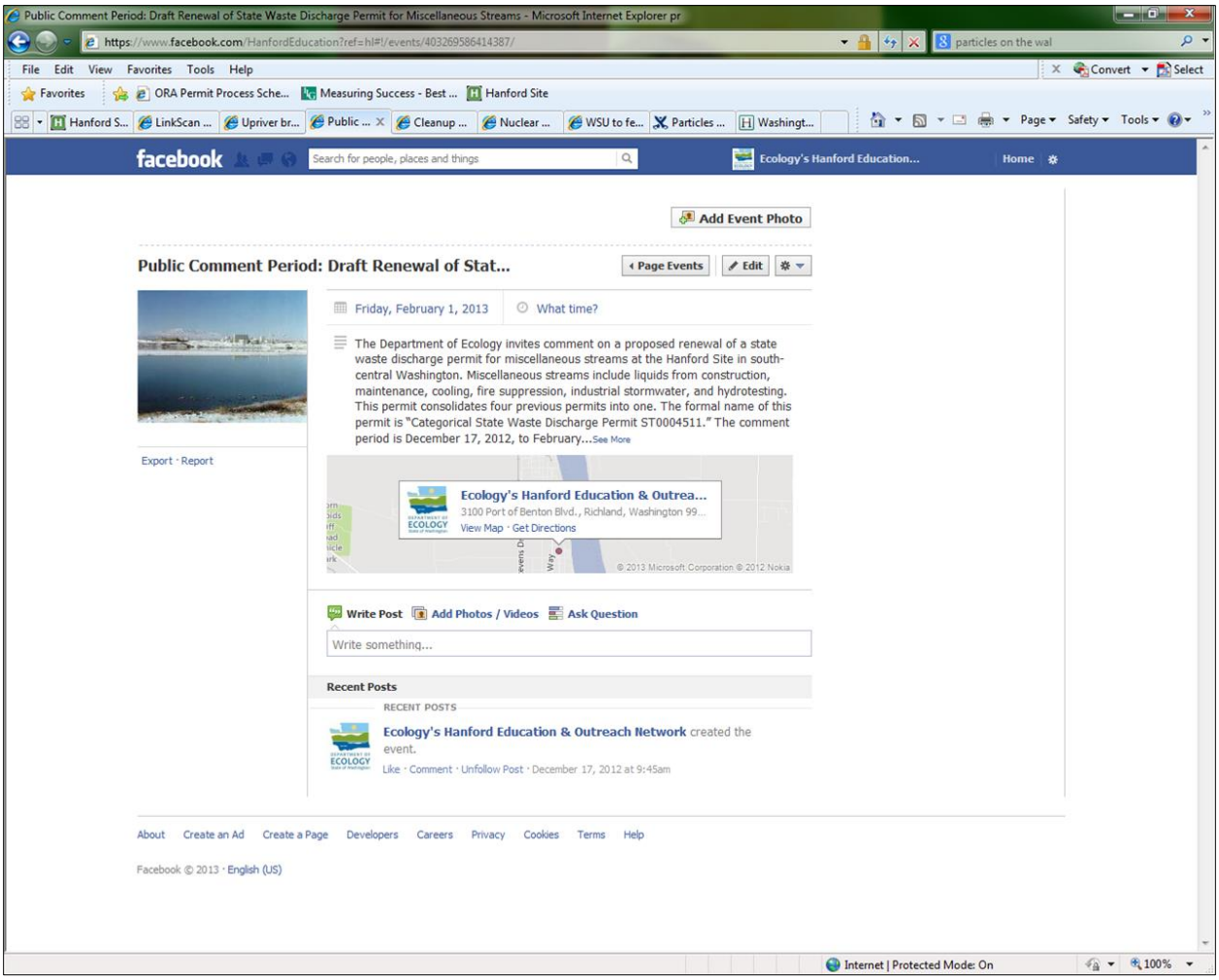

Figure 4. Event posted on Ecology Hanford Education & Outreach Facebook page.

APPENDIX B: COPIES OF ALL WRITTEN COMMENTS

COLUMBIA RIVERKEEPER®
Clean Water • Healthy Rivers • Our Future

Columbia Riverkeeper
111 Third Street
Hood River, OR 97031
www.columbiariverkeeper.org

January 30, 2013

Washington Department of Ecology
c/o Stacy Nichols
3100 Port of Benton Blvd.
Richland, WA 99354

Via Email to: hanford@ecy.wa.gov

RE: Hanford Miscellaneous Streams Waste Discharge Permit – Categorical State Waste Discharge Permit ST0004511.

Washington Department of Ecology:

Columbia Riverkeeper (Riverkeeper) submits these comments regarding the Washington Department of Ecology's (Ecology) proposal to renew Categorical State Waste Discharge Permit ST0004511, hereinafter referred to as the "Miscellaneous Streams Permit" or "the permit." Riverkeeper's mission is to protect and restore the Columbia River and all life associated with it, from its headwaters to the Pacific Ocean. Riverkeeper represents over 7,000 members and supporters in Oregon and Washington and regularly comments on decisions impacting Hanford and the Columbia River. Riverkeeper's staff and members kayak and swim in the Hanford Reach of the Columbia each summer, where contaminated groundwater from Hanford reaches the river. We request that Ecology refine its approach to permitting industrial wastewater discharges at Hanford, or thoroughly explain why the existing permit adequately protects Hanford's groundwater, the Columbia River, and the people who use the river.

Proposed Pollution Discharge Permit

The existing Miscellaneous Streams Permit allows the U.S. Department of Energy and its contractors (Department of Energy) to dump industrial wastewater into the ground almost anywhere at Hanford. Before renewing the permit for the next five years, Ecology should take this opportunity to make the permit more protective of Hanford's groundwater. The industrial wastewater covered by the permit comes from a variety of sources including:

- Stormwater
- Condensation
- Cooling water
- Hydrostatic testing water
- Waterline flushing
- Equipment wash-down
- Pressure washing

The existing permit allows the Department of Energy to dump 2.1 million gallons of such industrial wastewater per day into the ground, plus an unlimited amount of stormwater. Before allowing this to continue for another five years, Ecology should examine whether the terms of the existing permit protect Hanford's groundwater and take this opportunity to make any necessary changes.

Polluted Groundwater at Hanford

Radioactive and toxic contaminants are spreading through Hanford's soil and groundwater, and reaching the Columbia River. Historically, the Department of Energy dumped hundreds of millions of gallons of radioactive waste into injection wells, trenches, buried drums, and large underground tanks. As these various devices began to leak, the downward flow of water through the soil carried radioactive and toxic contaminants like Strontium-90, Chromium, Tritium, Carbon Tetrachloride, Uranium, and Iodine-129 into the groundwater and the Columbia. Now, Hanford is widely recognized as the most contaminated site in the Western Hemisphere, and the Department of Energy estimates that about 70 square miles of groundwater under Hanford contains radioactive and chemical contaminants at or above federal drinking water standards. Pouring more water into Hanford's contaminated soil could accelerate the movement of contaminants from the soil into the groundwater, and from the groundwater into the Columbia.

Specific Comments

Ecology acknowledges that water percolating through the soil can spread contaminants into the groundwater. Ecology, *Cleaning Hanford's Groundwater*, 3 (online at: https://fortress.wa.gov/ecy/publications/publications/0805001.pdf). Yet Ecology fails to explain

why the permit's limits on *how much* water the Department of Energy can discharge, and *where* those discharges can occur, protect Hanford's groundwater and the Colombia.

I. Impact of Discharging Over 2.1 Million Gallons of Water Per Day

The existing permit allows the Department of Energy to discharge a total of 2.1 million gallons of industrial wastewater per day, plus an unlimited amount of industrial stormwater. *Permit at* S2.B.3 & 4. However, Ecology's permit and fact sheet never explain how Ecology came up with this limit, or how discharging this much water on a daily basis would affect the movement of, and contamination levels in, Hanford's groundwater.

> **Question:** What is the 2.1 million gallon per day limit based on, and what are the environmental consequences of discharging that much water on a daily basis for the five-year life of the permit?

Besides the total amount of discharge allowed, the permit authorizes each individual discharge event to dump water at a rate of 10 gallons per minute averaged annually and 150 gallons per minute at any given time. *Permit at* S1.A.2 & 3. The 10 gallon per minute limit apparently comes from a statewide regulation governing wastewater discharges, which states that discharges of domestic wastewater smaller than 10 gallons per minute are too minor to be regulated under Washington's Waste Discharge Permit program. *Plan and Schedule for Disposition and Regulatory Compliance for Miscellaneous Streams*, DOE/RL-93-94 at 11 (1994); Wash. Admin. Code 173-216-050(1)(g). It is not clear why this limit—developed for domestic wastewater all over Washington—is appropriate for industrial wastewater at Hanford. In fact, the Department of Energy acknowledged that the 10 gallon per minute threshold "may be too high" for Hanford. DOE/RL-93-94 at 11.

> **Question:** What evidence does Ecology have that the 10 gallon per minute rate adequately protects groundwater from the uniquely dangerous contaminants found at Hanford?

II. Ecology Should Require the Department of Energy to Test for Soil Contamination Before Discharging Large Volumes of Water.

The existing Permit does not require the Department of Energy to test for soil contamination before dumping water. In some cases, where the discharge is very small or the soil at a specific location has been adequately studied, this may be acceptable. However, toxic and radioactive contamination is moving through the soil and groundwater continuously—often in ways we can't anticipate—and many areas of contamination may simply remain undiscovered.

> **Question:** For large discharges like hydrostatic testing discharges, waterline flushing, and "significant discharges" as defined in section S6.A of the Permit, why isn't Ecology requiring the Department of Energy to test for soil contamination before dumping thousands of gallons of water?

By comparison, to get a permit to discharge less than 10 gallons per minute of domestic wastewater into the ground in Washington, a prospective permittee must conduct a full soil characterization analysis on the area of the proposed discharge. *See* Wash. Admin. Code 246-272B. The requirements at Hanford should be at least as strict.

III. Ecology Should Restrict *Where* the Department of Energy Discharges Wastewater.

The existing Permit allows the Department of Energy to discharge industrial wastewater almost anywhere at Hanford. In fact, the Permit only prohibits Department of Energy from dumping water 1) "within a surface contaminated area (areas with dangerous or hazardous waste and radioactive contaminants)" and 2) within 300 feet of a "crib, ditch, or trench used for disposal of dangerous and hazardous waste and radioactive contaminants." *Permit at* S4.A.1 & 2. These 'limits' raise several questions.

> **Question:** What is a "surface contaminated area"? For example, is a single-walled tank a "surface contaminated area"? Alternatively, is a "surface contaminated area" the entire central plateau?

If "surface contaminated area" has a specific meaning, the permit should explain it. If there is no better definition than "areas with dangerous or hazardous waste and radioactive

contaminants," this permit condition is too vague and should be revised to provide more certainty for the public and the Department of Energy.

Question: Why is there no 300 foot buffer around 'surface contaminated areas'?

As the permit is written, the Department of Energy could dump thousands of gallons of water into the ground directly outside a contaminated area. Without a buffer around surface contaminated areas, wastewater disposal could mobilize contaminants in the soil, propelling them towards the groundwater.

Question: Why is the 300 foot buffer limited to cribs, ditches, and trenches?

For example, why not expand the protection to all areas where contamination exists, such around as leaking tanks, inactive reactors like the Fast Flux Test Facility, contaminated debris or equipment, and contaminated groundwater plumes?

Question: Will a 300 foot buffer prevent wastewater from mixing with contaminated soil?

The 300 foot buffer is apparently based on observations that water discharged to the ground will not spread more than 300 feet laterally. *See* DOE/RL-93-94 at 12. Even if this is true in all circumstances, it does not account for the fact that contamination from a leaking tank or crib can spread laterally in the soil for much farther than 300 feet. If a crib or tank leaked, and that leak traveled laterally underground for several hundred feet, permit condition S4.A.2 would essentially allow the Department of Energy to dump water directly above contaminated soil. Ecology should either increase the 300 foot buffer significantly, or require soil tests prior to large discharges, or both.

Question: Why should the Department of Energy dump water into the ground in the River Corridor or around the leaking underground storage tanks?

Ecology should not allow the Department of Energy to discharge any water into the ground in areas of Hanford where soil contamination is extreme or where the groundwater is known to be contaminated. For instance, the 200 Area around the leaking underground storage tanks contains severely contaminated soils and overlies contaminated groundwater plumes. Nevertheless, the exiting permit would apparently allow the Department of Energy to dump large amounts of water—used to hydrostatically test the Waste Treatment Plant—into the ground here. Similarly, the existing permit would allow the Department of Energy to dump water in the River Corridor, even though groundwater is close to the surface there and most of the River Corridor overlies contaminated groundwater plumes.

Conclusion

Riverkeeper is deeply concerned about the impact of contaminated groundwater on the Columbia River. The proposed permit and supporting permit factsheet fail to address how the permit conditions protect people, salmon, and other aquatic life from groundwater pollution. We look forward to Ecology's responses and hope that the renewed Miscellaneous Streams Permit will help prevent the spread of contamination through Hanford's soil and groundwater.

Sincerely,

Miles Johnson
Clean Water Attorney
Columbia Riverkeeper

From: Clement, Curt J [Curt_J_Clement@rl.gov]
Sent: Monday, February 04, 2013 9:52 AM
To: Bond, Rick (ECY); Nichols, Stacy (ECY)
Subject: FW: Comments on Draft State Waste Discharge Permit ST0004511 (Miscellaneous Streams)

FYI

From: Clement, Curt J
Sent: Thursday, January 31, 2013 5:44 PM
To: Hanford@ecy.wa.gov
Cc: Jackson, Dale (dale.jackson@rl.doe.gov); Beam, Thomas G; Shattuck, Ann F; Aldridge, Theresa L (PNSO); Raney, Elizabeth A (Elizabeth.Raney@pnnl.gov); Woolard, Joan G (jgwoolar@wch-rcc.com); Simmons, Fen M; Groce, Heather (hmgroce@bechtel.com)
Subject: Comments on Draft State Waste Discharge Permit ST0004511 (Miscellaneous Streams)

Ms. Nichols:

On behalf of DOE and it's Hanford contractors, please find attached a consolidated set of comments for ST0004511 and its fact sheet.

Feel free to contact me with any questions.

Curt Clement
376-6223

HANFORD COMMENTS—DRAFT STATE WASTE DISCHARGE PERMIT ST0004511 AND FACT SHEET

Comment Number	Draft Section/Reference *(be as specific as possible)*	Comment	Recommended Action/ Requested Change
1	Fact Sheet Appendix D	Appendix D is not mentioned in the Fact Sheet and it is not clear why this has been included. This list is a snap shot in time and the discharges authorized by the permit could occur anywhere on the Hanford Site, at any time, and in any volume up to the permit limits.	Please clarify why this table is included so that it is not interpreted that the only discharges allowed on the Hanford Site are those listed in Appendix D. For example, the following text could be used to explain Appendix D: "Appendix D includes a listing of the miscellaneous discharges at the Hanford Site as of the date of the preparation of the permit application. The number, volume, and location of discharges are anticipated to changes as activities and needs change. Any of the discharges authorized by ST4511 may be conducted anywhere on the Hanford Site pursuant to the terms and conditions identified in Permit ST4511."
2	Fact Sheet Section 6.0, 10th paragraph and 11th paragraph.	Paragraph 10 of Section 6.0 states that the 300 foot restriction specified in Special Permit Condition S4.B is based on Hanford Site information for the distance required between discharges so as to prevent the interaction or intermingling of the discharges with known contaminants. This distance is based on criteria for siting disposal sites with large volume discharges that occur over long periods of time (e.g., crib) and this should be reflected in this section.	It is suggested that the 10th paragraph be revised to reflect the information from DOE/RL-93-94, Rev. 0, Page 12. The 300 feet criterion is a recommended minimum separation distance for siting new cribs at the Hanford Site. It is considered a conservative distance based on collective experience at the Hanford Site from borehole drilling in the vicinity of liquid effluent disposal sites. Lateral spreading from adjacent liquid disposal sites greater than 300 feet apart has not been observed to impact either disposal stream.

HANFORD COMMENTS—DRAFT STATE WASTE DISCHARGE PERMIT ST0004511 AND FACT SHEET

3	G12	The permit and fact sheet does not address underground injection control wells (UICs).	It is recommended that the following be added to the exemptions in G12: G12.M: The discharge of fluids into underground injection control wells is regulated by Chapter 173-218 of the Washington State Administrative Code (WAC). ST 4511 does not apply to these discharges unless it is in conjunction with that chapter (e.g., WAC 173-218-110).
4	G12.E Page 18 of 18	The document number for "Vehicle and Equipment Wastewater Discharges" is identified in the draft permit as "WQ-R-95-56" but the document number on the Ecology publication website is "WQ-R-95-056". https://fortress.wa.gov/ecy/publications/publications/95056.pdf	Confirm that the correct document number for "Vehicle and Equipment Wastewater Discharges" is referenced in the ST4511 draft permit.
5	Multiple	The numbering in the permit should be corrected in the following areas: • S1.A.2 • S1.A.3 • S1.B • S7.A (currently reads S1.C) • G3 (renumber list beginning with "1")	Revise permit numbering where necessary.
6	S.1.B.1, S.1.B.2, S.7.A, S.7.B	Recommend that conditions S.1.B.1, S.1.B.2, S.7.A, and S.7.B be replaced. This would consolidate the comments and facilitate permit compliance. The suggested change will continue to protect human health and the environment through implementation of BMPs, and discharges will still be limited to raw or potable water that meets GWQC.	Suggest that conditions S.1.B.1, S.1.B.2, S.7.A, and S.7.B be replaced with the following text: "For water used for hydrotest, maintenance, construction, cooling water, and drinking water line flushes, instantaneous flow must be less than 1,000 gallons per minute."

HANFORD COMMENTS—DRAFT STATE WASTE DISCHARGE PERMIT ST0004511 AND FACT SHEET

7	S.5.A.2, P2BMP Plan Requirements, page 8	The reference to the "Stormwater Pollution Prevention Planning for Industrial Facilities (WQ-R-93-015)" appears to be obsolete.	Suggest replacing with a reference to "Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities (04-10-030)" as well as a reference to the "Stormwater Management Manual for Eastern Washington". The latter has some excellent BMPs for construction stormwater.
8	S1.A.3 (Should be S1B.2)	The text currently states: "For industrial stormwater discharges and drinking water line flushing, the Permittee will not use this permit condition."	Remove "drinking" so that the text reads "water line flushing" as there are other types of line flushing that are allowed to go above the 150 gallons per minute instantaneous limit (see S7.B.1)
9	S2.B.3	Demonstrating compliance was clearer with the language in the current permit.	Add back in "This condition will be considered to be met as long as the total volume of all measured significant discharges (as defined in Permit Condition S.6) is below 1,500,000 gallons per day."
10	S3.A, Source Water Limitations (page 6)	Suggest adding raw groundwater to the list of acceptable source waters for hydrotesting, maintenance, and construction discharges (same as S3.B). Research and development activities often use groundwater to conduct tracer testing.	Revise section to read, "For the purpose of this Permit, the source waters allowed to be used for… are raw Columbia River water, potable water (treated Columbia River water or groundwater), raw groundwater, or demineralized water."
11	S4.A.7	The last sentence of S4.A.7 has been modified to remove the option to discharge treated water under this Permit or other appropriate disposal.	Modify the last sentence to allow discharge of treated water under this Permit or other appropriate disposal as indicated in the current permit. It may be as simple as filtering the water to meet the discharge criteria; in which case the permit should allow for the discharge. By deleting "other appropriate disposal", the permit unnecessarily restricts the permittee's options for disposal of the water. For example, if the volume is small, it may be possible to solidify the material and dispose of the solidified material to an onsite landfill.

HANFORD COMMENTS—DRAFT STATE WASTE DISCHARGE PERMIT ST0004511 AND FACT SHEET

12	S5.A.3	The second sentence states: Similarly, when new or replacement chemical additives are added to a process, the Plan will include how the Permittee will ensure that appropriate actions are taken to protect the environment and quality of the groundwater. This is a very broad statement that encompasses many different activities not necessarily associated with waste water discharges.	This should be limited specifically to new or replacement chemicals used for activities authorized under this permit in condition S1.A.
13	S5.C	30 days to provide a draft revision to Ecology is not practical for Hanford contractors.	Replace the 30 day requirement with 90 days in the current permit.
14	S7.B	The current title of this section does not convey the content.	Suggest changing to something like "Discharge Rate Exemptions Specific to Water Line Flushing Activities."
15	S7.C.1	Although these conditions are helpful for most situations, it would better if there was additional latitude for unanticipated or unique situations.	It is recommended that the last sentence of the paragraph be modified to state: These facility activities are subject to the following controls and limitations, unless prior authorization is received from Ecology.
16	Summary of Report Submittals, Table, page 3	The entry in the table for G4 refers to "Permit Application for Substantive Changes to the Discharge" but section G4 is titled, "Compliance with Other Laws and Statutes".	Revise reference in the table to permit section S9?