



DEPARTMENT OF
ECOLOGY
State of Washington

Response to Comments

**Waste Water Discharge Permit for
Hanford's 200 Area Treated Effluent
Disposal Facility**

October 31 – December 28, 2011

Summary of a public comment period and responses to comments

May 2012
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Publication and Contact Information

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- Northwest Regional Office, Bellevue 425-649-7000
- Southwest Regional Office, Lacey 360-407-6300
- Central Regional Office, Yakima 509-575-2490
- Eastern Regional Office, Spokane 509-329-3400

Ecology publishes this document to meet the requirements of [Washington Administrative Code 173-303-840 \(9\)](#).

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Response to Public Comments

**Waste Water Discharge Permit for Hanford's 200 Area
Treated Effluent Disposal Facility
October 31 – December 28, 2011**

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

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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: Waste Water Discharge permit for Hanford’s 200 Area Treated Effluent Disposal Facility
Permit: ST0004502
Original issuance date: 1995
Draft effective date: July 1, 2012

To see more information related to this rule making or other Ecology rule makings, please visit our website: www.ecy.wa.gov/lawsandrules.

Reasons for Issuing the Permit

The permit protects groundwater by regulating how wastewater is discharged to the ground.

Ecology proposes to renew a State Waste Discharge Permit for discharge of wastewater via infiltration through soils to the groundwater of the state. The disposal facility’s named is the 200 Area Treated Effluent Disposal Facility. The permittee is the U.S. Department of Energy (USDOE), Richland Operations Office.

The TEDF is a pipe collection system. It does not have any treatment or retention capacity. Strict controls at the generating facilities are essential to operate in compliance with the permit. The facility is located in and near the 200 East and West Areas. It consists of a twelve-mile-long pipeline, three lift stations, a sample station (Building 6653), and two adjacent five-acre infiltration ponds. Water near the ponds is found as groundwater at a depth of about 100 to 120 feet. Computer modeling of groundwater flow estimates it takes 10 to 300 years for the effluent to reach the Columbia River.

The effluent consists of individual waste streams from several Hanford facilities. None of these individual waste streams involve direct contact of the water with industrial processes. Effluents are primarily from:

- Ventilation, heating, and cooling systems for the buildings.
- Steam condensate from heating potable (drinkable) water.
- Condensate of pressurized potable water.
- Rainwater.
- Untreated Columbia River water.

All of the facilities have been subjected to an extensive program of source controls (pollution prevention) to eliminate or reduce about 85% of prior contaminant loadings. The permittee has built effluent treatment systems at some of the facilities that discharge to the 200 Area TEDF.

We reviewed the original permitting of the disposal facility's effluent under Washington's State Environmental Policy Act (SEPA) in November 1993. The permittee completed an environmental checklist at that time. We made a determination of nonsignificance under SEPA. No one submitted comments during the public comment period. We completed another determination of nonsignificance on December 6, 2011. We reconsidered the impacts because of the increases from the Waste Treatment Plant. We received no comments during the comment period for the latest review.

The draft permit complies with the regulatory requirements of [Chapter 173-200 of the Washington Administrative Code](#) (WAC) - Water Quality Standards for Ground Waters of the State of Washington. This regulation is premised on the fact that all contaminants should be regulated to protect all existing and future beneficial uses of the groundwater. Because the use of drinking water is the most restrictive and protective, this regulation and the draft permit protect the groundwater for drinking water purposes.

The draft permit establishes enforcement limits for nonradioactive contaminants or maximum allowable concentration levels in the effluent and groundwater that are essentially drinking water standards. Hence, the permit requires that the effluent meets drinking water standards for nonradioactive contaminants before discharge to the infiltration ponds.

In the case of this permit, the permittee is self-regulating for radioactive contaminants under the provisions of the Atomic Energy Act. The permittee plans to meet the intent of the Code of Federal Regulations, [Title 40, Part 141](#), "National Primary Drinking Water Regulations," for radioactive contaminants, and plans to take investigative and mitigating steps if drinking water standards are exceeded. The permittee reports radionuclide concentrations in the effluent to Ecology.

Public Involvement Actions

Ecology strives to make its decisions transparent and accessible to the people we work for. For this permit, we carried out the following activities:

- Notified regional stakeholders via the [public involvement calendar](#) prepared for the Hanford Advisory Board's Public Involvement Committee.
- Gave advance notification on Ecology's [Nuclear Waste Program website](#).

- Sent advance notification to the [Hanford-Info email list](#) on September 23, 2011.
- Mailed a public notice to Hanford's postal list and emailed it to the Hanford-Info email list.
- Put copies of the public notice in Ecology's Nuclear Waste Program office lobby.
- Published public notice in legal classified ad in the Tri-City Herald on Sunday, October 30, 2011.
- Posted the comment period as an event on Ecology's [Hanford Education & Outreach Facebook page](#) on November 7, 2011.
- Posted the comment period on [Ecology's public events online calendar](#).
- Sent public notice and disk with the permit and fact sheet to Hanford's five public information repositories, plus the Richland Public Library.
- Extended the comment period 30 days to enable the public's review of the permit to continue during the comment period for the permit's State Environmental Policy Act determination.

Though not an Ecology action, we also know that Hanford Challenge posted our announcements on its Facebook page.

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

1. Public notice in legal classified ad in the Tri-City Herald.
2. Print public notice.
3. Advance notification to the Hanford-Info email list.
4. Comment period extension notice to the Hanford-Info email list.

Response to Comments

Ecology accepted comments between October 31, 2011, and December 28, 2011. We received four comments from the public. All came via email. We responded via email to each commenter (See Appendix A). We also received a compilation of comments from the permittee.

Most of the public's comments were questions about putting radioactive water into the ground. John Howieson questioned the location of the point of compliance. We agreed with his position and had already moved the point of compliance.

The permittee's comments included several corrections to facts and descriptions. The permittees also requested a reduction of the limit for iron discharges, which we rejected. We also rejected the permittee's recommendation to change the date that variability study plans are due.

Below the comments are printed as we received them. Our responses follow each comment.

September 24, 2011

John Howieson

I would like to question the wisdom of moving the point of compliance for the iron limit from the effluent to Groundwater Monitoring Wells 699-40-36, 699-41-35, and 699-42-37. Would this not mean that by the time the contamination was detected in the wells the vadose zone would have been subjects to a large load of contaminant? If so, the situation would then require remediation. Surely prevention is preferable to cure. Please reconsider.

Response: The draft permit has been revised since you reviewed the initial listserv notice. The point of compliance for iron is no longer in the groundwater. In fact, all points of compliance have been moved to the effluent sampling station. If any contamination were to occur, it would be detected prior to reaching the groundwater. Groundwater monitoring has been discontinued in this permit. We determined that Wells 699-40-36, 699-41-35, and 699-42-37 are not in the right aquifer to monitor TEDF discharges. These wells are still part of the 200-PO-1 and site wide surveillance monitoring plans.

November 3, 2011

Pamela Lumpkins

Have any of the liquids from the Hanford 200 Area TEDF become radioactive?

Response: Liquids discharging to the 200 Area Treated Effluent Disposal Facility (TEDF) have not become radioactive. Although this draft permit includes new waste streams from the Waste Treatment and Immobilization Plant, the flows permitted to discharge to the 200 Area TEDF are not radioactive.

November 29, 2011

Jeanne Raymond

I hope you are not seriously considering releasing waste water from a treatment plant, which has a risk of being contaminated, into holding ponds that could access the Columbia River. The risk seems too great. If this is the case, I would certainly recommend against renewing the permit.

Response:

The permit ensures the water being discharged protects groundwater by meeting drinking water standards. The water being discharged is not contaminated. The kinds of waste water that enter the facility are those associated with ventilation, heating, and cooling systems for the buildings; steam condensate from heating potable (drinkable) water; condensate of pressurized potable water; rainwater; and untreated Columbia River water.

December 14, 2011

Mason Taylor

Is any of the water to be treated radioactive? Has it been used to cool nuclear reactor? Is it part of the "cooling system" designed to prevent meltdown? Has it been used to cool down radioactive waste? If the water is radioactive, how does the treatment remove the radioactive material from the water? Thank you.

Response: None of the water entering the Treated Effluent Disposal Facility is radioactive, nor has it ever been used in a nuclear reactor. It has not been in contact with any radioactive waste. The waste liquid comes from the following:

- * Ventilation, heating, and cooling systems for the buildings.
- * Steam condensate from heating potable (drinkable) water.
- * Condensate of pressurized softened or deionized potable water.
- * Rainwater from parking lots and exterior paved areas.
- * Potable (treated) water.

- * Untreated Columbia River water.
- * Boiler blowdown.
- * Floor drains with limited and strictly controlled usage.

December 13, 2011

Rick Engelmann (USDOE) on behalf of Permittees

The following comments on the October 2011 Fact Sheet and draft State Waste Discharge Permit Number ST0004502 are from a coordinated review by USDOE, Richland Operations Office (RL), the USDOE Office of River Protection (ORP), and affected Hanford Site contractors.

Fact Sheet Comments:

1. *Summary, first paragraph (p. 1) states “water in close proximity to the ponds is found as groundwater at a depth of about 100 to 120 feet below the surface.” This should state “about 140 feet.”*

Response: Accepted; made the recommended change.

2. *Summary, first paragraph last sentence (p. 2) states that groundwater estimated travel time to the Columbia River is approximately 10 to 300 years. This appears to be a mistake in that III.B, top of page 19 states travel times are “approaching 120 to 300 years.” Please correct or clarify.*

Response: Accepted; changed “10 to 300” to “120 to 300” in the first paragraph of p.2.

3. *Section III A., Table 2. 222-S Laboratory complex no longer discharges steam condensate. Replace steam condensate with rainwater for consistency with the permit.*

Response: Accepted; made the recommended change.

4. *Section III A., Wastewater Treatment Processes, second bullet, 222 S Laboratory Effluent. Delete steam condensate from this paragraph as steam is no longer utilized at the 222-S laboratory.*

Response: Accepted; deleted reference to steam.

5. *Section III B., Description of the Groundwater, 2nd paragraph should read “The thickness of the formation varies from 90 to 100 feet.”*

Response: Accepted; made the recommended change.

6. *Section III B., Description of the Groundwater, 3rd paragraph needs thicknesses corrected as follows: “The lower part of the Ringold Formation, below this Lower Mud Sequence, consists of an 80 to 120 (approximate) foot thick zone of silty sandy gravel named Unit A.... The static water level in wells completed within the uppermost aquifer currently varies from 113 to 123 feet below the surface.”*

Response: Accepted; made the recommended changes.

7. *Section III B., Description of the Groundwater, 5th paragraph needs correction: “Groundwater flows down-gradient toward the southwest at a flow rate of less than one foot per day in the uppermost aquifer beneath the TEDF. Hydrologic tests and recent head measurements indicate that the groundwater flow may be less than 0.01 feet per day. Groundwater currently flows toward the west from the 216-B-3 Pond complex (located west-northwest of 200 Area TEDF) with a hydraulic gradient of about 0.0014 foot per foot. Water levels in the area are currently declining at a rate of about 0.2 feet per year.”*

Response: Accepted; made the recommended changes.

8. *Section III B., Description of the Groundwater, 8th paragraph should read: “The May Junction Fault is located approximately one mile east from 200 Area TEDF. It trends north-south with the east side displaced vertically downward about 185 feet. It is possible that the fault may hydraulically connect the confined aquifer in the Unit A gravel of the Ringold formation with water perched in the Hanford formation at the top of the Lower Mud Sequence, but it is also possible that mud has smeared along the fault zone sealing the fault and blocking this pathway. Recent research makes it appear likely that the May Junction Fault is an impediment to eastward movement of groundwater in the Ringold (confined) aquifer.”*

Response: Accepted; made the recommended changes.

9. *Section III D., Table 5. Table 5 indicates the O&M Manual Review Letter is to be submitted annually. The table shows 8/10/10 was the last submittal date. Please change the last submittal date to 8/10/11.*

Response: Revised, corrected the submittal date.

10. *Section IV. C Table 8. An enforcement limit of 0.3 mg/l total iron is proposed [see also draft permit ST 4502, Section S1.A.(Table)]. This limit is a drinking water limit based criterion from WAC 173-200-040, Table 1. In the past RL has occasionally had problems meeting this standard at 200 Area TEDF. RL believes this limit is too restrictive, and not justified by regulation. Continuing to maintain an iron enforcement level at 0.3 mg/l is not necessary for protection of human health or the environment, and is unreasonably burdensome in that it forces RL to meet a standard that historically has occasionally been difficult to obtain. RL proposes that iron be dropped as an enforcement limit, and to monitor only for trending and tracking purposes.*

Response: Ecology rejects this proposal. The proposed enforcement limit of 0.30 mg/l for iron is justified by regulation. The Ground Water Quality Criteria (WAC 173-200-040) are established to protect ground waters of the state to the highest standards for current and future beneficial uses. In the case of iron, the limit protects ground water to drinking water standards. The fact that this ground water is not used for drinking water does not mean the established enforcement limit does not apply. In addition, RL has concluded the iron in its system is coming from rusty pipes, not background water already high in iron. Facilities are responsible for maintaining their distribution system. If old and rusty pipes are resulting in effluent exceedences, this should be addressed. Iron cannot be removed from the permit because a facility cannot meet the standard established in WAC 173-200-040.

Basis for rejection:

- As described in the first ST 4502 Fact Sheet (issued with the original permit in 1995), and the Fact Sheet issued with the permit renewal (issued in May 2000), background iron groundwater concentrations in the upper most aquifer below 200 Area TEDF exceeded groundwater (drinking water) criteria. “These exceedences are thought to be due to natural, not man-made causes.” As presented in Table 8 in the current Fact Sheet, average background iron concentrations in the three wells ranged from 17.0 to 0.9 mg/l.
- Per WAC 173-200-050 (3) (b), for situations such as these it is appropriate for the enforcement level to be set at a higher level. WAC 173-200-050 (3)

(b) (i) states “When the background ground water quality exceeds the criterion, the enforcement limit for that contaminant shall be equal to the natural level.”

- The WAC 173-200-040, Table 1 iron criterion is based on EPA secondary drinking water standards. These are considered by EPA to be non-mandatory, and have been established “...only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor.” For iron, the noticeable effects above the secondary drinking water standard are “rusty color; sediment; metallic taste; reddish or orange staining.” See <http://water.epa.gov/drink/contaminants/secondarystandards.cfm>
- The upper most aquifer is not used as a drinking water source.

Draft Permit Comments:

1. *The summary Table on page 2 lists steam condensate for 222-S Laboratory. Please delete steam condensate. Basis: Steam is no longer utilized at the 222-S Laboratory*

Response: Accepted; deleted references to steam.

2. *The Summary of Permit Report Submittals (page 5) states permit violation reports are to be submitted “Within 5 days upon discovery of a noncompliance, or such other time as may be agreed to by Ecology.” This appears to be in contradiction to S3.E.2.d, which allows for noncompliance outside the scope of S3.E.a. noncompliance to be reported with the submittal of monitoring reports required by S3.A. The table should be corrected to show that for some noncompliance situations, submittal of the report with monitoring reports is acceptable.*

Response: Rejected; the statement “or such other time as may be agreed to by Ecology” can refer to reporting certain noncompliances on DMR cover sheets.

3. *S1.A. Effluent limits. The iron limits in the table should be removed as requested in Fact Sheet comment 10.*

Response: Ecology rejects this proposal; see response to Fact Sheet Comment #10.

4. *S1.A Table, Note b. The second sentence needs clarification: “For other units of measurement, the daily discharge is the average measurement of the pollutant over the day”*

Response: Accepted; deleted the last two sentences in Note b because they did not relate to the maximum effluent limits in this permit.

5. *S2.A Table and S2.C table: The QLs listed for oil and grease, arsenic, cadmium, chromium, lead, sulfate and total dissolved solids are lower than the WSCF laboratory QLs. The WSCF MDL does meet the QL. RL recommends changing the QLs to match the laboratory MDLs or provide a statement that the MDL is an acceptable substitute.*

Response: Agreed. Added note to the table stating: Where the laboratory MDL meets the QL in the above table, the laboratory MDL may be used as a substitute for the QL.

6. *S2.A Table and S2.C Table reference the laboratory method for iron as SW-846-8260. This method is for volatile organics. The method should be corrected to SW-846-6010 which is for metals by ICP-AES.*

Response: Accepted; made the revision to the method.

7. *S.2.E.1, E.3, E.6 and E.7. define continuous monitoring devices as flow, pH and conductivity. Section S.2.E.3 says “calibrate continuous pH and conductivity monitoring instruments weekly”, Section S.2.E.6 says “calibrate these devices at the frequency recommended by the manufacturer”, and Section S.2.E.7 says “calibrate flow monitoring devices at a minimum frequency of at least one calibration per year”. RL believes the intent is to calibrate pH and conductivity instruments weekly and flow instruments annually. Please clarify.*

Response: Accepted; made clarifications as noted above.

8. *S.2.E.4 says perform calibration of the pH meter by pulling a process sample and measuring the pH of the process sample using a second pH probe which has been calibrated using standard buffers. The current TEDF maintenance procedure is to temporarily remove the pH meter and place it in the standard buffers. This provides a better calibration (two-point rather than one-point) and doesn't require a second pH probe. Please revise or clarify that the current calibration method is acceptable.*

Response: Accepted; deleted condition. Calibration to ensure accuracy is already required under S2.E.2.

9. *S3.E 2.a(7) The twenty four hour reporting requirement for monitoring wells is no longer required and should be deleted.*

Response: Accepted; deleted condition.

10. *S.9 The requirement to submit variability study plans within 60 days of permit issuance does not match the WTP discharge schedule. The current baseline schedule for discharge is March of 2013 and Ecology will be updated if the schedule changes. It is recommended that this requirement be changed to submit variability study plans 60 days prior to the planned discharge date for WTP.*

Response: Rejected; sampling plan can be submitted long before actual WTP discharges begin. Submitting this plan only 60 days before scheduled discharges will not allow sufficient time for Ecology review and subsequent changes or revisions to the document(s), if needed.

List of Commenters

The table below lists the names of individuals or organizations who submitted a comment on the permit renewal for the 200 Area Treated Effluent Disposal Facility and where you can find Ecology's response to the comment(s).

| Commenter | Where the comment is addressed in this document |
|--------------------------|--|
| John Howieson | Pages 3–4 |
| Pamela Lumpkins | Page 4 |
| Jeanne Raymond | Page 4 |
| Mason Taylor | Pages 4–5 |
| Richard Engelmann, USDOE | Pages 5–8 |

Appendix A: Copies of all public notices

SUNDAY, OCTOBER 30, 2011 | TRI-CITY HERALD

325 Schools 325
400

Find the most qualified candidates by posting your job openings in the Tri-City Herald and on CareerBuilder.com. Call 585-7250.

Tri-City Herald
www.tricityherald.com
careerbuilder.com

Public Comment Period

The Department of Ecology invites public comment on a waste water discharge permit for Hanford's 200 Area Treated Effluent Disposal Facility (TEDF). The comment period is October 31 to November 30, 2011.

State laws require any industrial facility to have a permit before discharging waste or chemicals to the waters of the state, including groundwater. The liquids that TEDF treats are from ventilation and heating and cooling systems, steam condensate from drinkable water, rainwater, and untreated Columbia River water. They come from various facilities at Hanford. They are discharged to two 5-acre infiltration ponds east of Hanford's 200 East Area.

The draft permit ensures the discharged liquids protect all existing and future beneficial uses of the groundwater. It protects the groundwater for drinking water purposes.

It requires best management practices, a spill plan, and monitoring of the effluents.

The permittee is the U.S. Department of Energy - Richland Operations Office. This is a permit renewal. The first State Waste Discharge Permit for TEDF was issued in 1995. The permittee has complied with the permit since then.

What's next?

After we receive public comments, we will revise the permit if warranted. We'll add the comments and responses to the fact sheet. We will also prepare a responsiveness summary. We don't plan to hold a public meeting, but if there is strong interest we will reconsider.

You can email, mail, or hand-deliver your comments to Stacy Nichols. We prefer email. The deadline for comments is November 30, 2011. Send comments to: snich461@ecy.wa.gov or 3100 Port of Benton Blvd, Richland, WA 99354.

You can find the permit and related materials at the Richland Public Library, the Department of Ecology's nuclear waste program office (3100 Port of Benton Blvd, Richland, 99354.) You can also find them online at www.ecy.wa.gov/programs/nwpl/commentperiods.htm or at any of Hanford's public information repositories:

Portland
Portland State University
Grandland Price Miller Library
1875 SW Park Ave.
Attn: Claudia Weston
503-725-4542

Richland
U.S. Department of Energy
Reading Room
Consolidated Information Center, Room 101-L
2770 University Dr.
Attn: Janice Parthree
509-372-7443

Spokane
Gonzaga University
Foley Center
502 E. Boone Ave.
Attn: Linda Pierce
509-313-3934

Seattle
University of Washington
Buzzsaw Library
Government Publications Division
Attn: Cass Harlett
206-645-4363
#11-3034, 10/30/2011

gains

ad for items priced
200. Call 586-6181.

Classified Legals

Announcements

Lost & Found

\$20 LOST C White.

Figure 1. Legal classified notice on October 30, 2011

Waste water discharge permit for Hanford

The Department of Ecology invites public comment on a waste water discharge permit for Hanford's 200 Area Treated Effluent Disposal Facility (TEDF).

Background

State laws require any industrial facility to have a permit before discharging waste or chemicals to the waters of the state, including groundwater.

The liquids that TEDF treats are from ventilation and heating and cooling systems, steam condensate from drinkable water, rainwater, and untreated Columbia River water. They come from various facilities at Hanford. They are discharged to two 5-acre infiltration ponds east of Hanford's 200 East Area.

The draft permit ensures the discharged liquids protect all existing and future beneficial uses of the groundwater. It protects the groundwater for drinking water purposes. It requires best management practices, a spill plan, and monitoring of the effluents.

The permittee is the U.S. Department of Energy – Richland Operations Office. This is a permit renewal. The first State Waste Discharge Permit for TEDF was issued in 1995. The permittee has complied with the permit since then.

What's next?

After we receive public comments, we will revise the permit if warranted. We'll add the comments and responses to the fact sheet. We will also prepare a responsiveness summary. We don't plan to hold a public meeting, but if there is strong interest we will reconsider.

WHY IT MATTERS

The permit protects groundwater by regulating how wastewater is discharged to the ground.

Public Comment Period:

October 31 – November 30, 2011

Submit comments to:

Stacy Nichols
3100 Port of Benton Blvd
Richland, WA 99354
509-372-7917
hanford@ecy.wa.gov

Document review locations:

Richland Public Library
955 Northgate Boulevard
Richland, WA 99352
509-942-7457

Department of Ecology Nuclear Waste Program

3100 Port of Benton Blvd
Richland, WA 99354
(Call 509-372-7920 for appointment)

Hanford's Information repositories (see page 2)

Ecology's Nuclear Waste Program website

[www.ecy.wa.gov/programs/nwp/
commentperiods.htm](http://www.ecy.wa.gov/programs/nwp/commentperiods.htm)

Special accommodations

If you need this publication in an alternative format, call 509-372-7950. Persons with hearing loss, call 711 for Washington Relay Service. Persons with speech disability call 877-833-6341.

Public Comment Period
October 31 – November 30, 2011
Wastewater Discharge Permit

How do I submit comments?

You can email, mail, or hand-deliver your comments to Stacy Nichols (see the sidebar on page 1). We prefer email. The deadline for comments is November 30, 2011.



Treated Effluent Disposal Facility "A" Pond

**Hanford Public
Information Repositories**

Portland

Portland State University
Branford Price Millar Library
1875 SW Park Ave.
Attn: Claudia Weston 503-725-4542

Richland

U.S. Department of Energy Reading Room
Consolidated Information Center, Room 101-L
2770 University Dr.
Attn: Janice Parthree 509-372-7443

Spokane

Gonzaga University
Foley Center, 502 E Boone Ave.
Attn: Linda Pierce 509-313-3834

Seattle

University of Washington Suzzallo Library
Government Publications Division
Attn: Cass Hartlett 206-543-4363

Figure 2. Public notice mailed, emailed, posted and displayed (page 2 of 2).

Brown, Madeleine (ECY)

From: McFadden, Daina (ECY) <dmc461@ECY.WA.GOV>
Sent: Friday, September 23, 2011 3:40 PM
To: HANFORD-INFO@LISTSERV.WA.GOV
Subject: Public Comment Period for Renewal of State Waste Discharge Permit ST0004502 (Treated Effluent Disposal Facility)

**The Washington State Department of Ecology Announces a
30-Day Public Comment Period for Renewal of State Waste Discharge Permit ST0004502
(Treated Effluent Disposal Facility)**

October 17 through November 18, 2011

The Washington State Department of Ecology is proposing a permit renewal of the 200 Area Treated Effluent Disposal Facility (TEDF) State Waste Discharge Permit ST0004502. The permittee is the U.S. Department of Energy – Richland Operations Office (USDOE-RL), P.O. Box 550, Richland, Washington, 99352.

A 30-day public comment period is scheduled to begin October 17 and end November 18, 2011.

Why It Matters

The 200 Area TEDF collects and disposes of wastewater to the ground via two infiltration ponds. The effluent consists of individual waste streams from several Hanford facilities. State regulations require all contaminants be regulated to protect all existing and future beneficial uses of the groundwater.

Changes to the Existing Permit

Proposed changes to this draft permit include:

- Raising the monthly average effluent limit for Total Dissolved Solids from 250 mg/l to 500 mg/l,
- Adding a major waste stream contributor from the Hanford Balance of Facilities/Waste Treatment Plant
- Moving the point of compliance for the iron limit from the effluent to Groundwater Monitoring Wells 699-40-36, 699-41-35, and 699-42-37.

The above description is a brief summary of the proposed draft permit. To review the proposed draft permit and fact sheet in detail beginning October 17, 2011, visit the Washington State Department of Ecology website, or visit one of the Information Repositories or Administrative Records.

Your views and concerns are important to us. For more information on the upcoming public comment period, please contact Madeleine Brown at (509) 372-7936, call the toll-free Hanford Cleanup Line at 1-800-321-2008 or email Hanford@ecy.wa.gov.

Figure 3. Advance notice email to Hanford stakeholders.

Brown, Madeleine (ECY)

From: Brown, Madeleine (ECY)
Sent: Wednesday, December 14, 2011 10:12 AM
To: hanford-info@listserv.wa.gov
Subject: comment period extension for waste water discharge permit

This is a message from Washington's Department of Ecology.

Comment period is extended until December 28 for the waste water discharge permit for Hanford's 200 Area Treated Effluent Disposal Facility. The extension is to allow the public's review to consider our determination under the State Environmental Policy Act (SEPA). You can find the SEPA determination [here](#).

Below is information we issued already about the proposed permit.

The Department of Ecology invites public comment on a waste water discharge permit for Hanford's 200 Area Treated Effluent Disposal Facility (TEDF). The comment period is October 31 to November 30, 2011.

State laws require any industrial facility to have a permit before discharging waste or chemicals to the waters of the state, including groundwater.

The liquids that TEDF treats are from ventilation and heating and cooling systems, steam condensate from drinkable water, rainwater, and untreated Columbia River water. They come from various facilities at Hanford. They are discharged to two 5-acre infiltration ponds east of Hanford's 200 East Area.

The draft permit ensures the discharged liquids protect all existing and future beneficial uses of the groundwater. It protects the groundwater for drinking water purposes.

It requires best management practices, a spill plan, and monitoring of the effluents.

The permittee is the U.S. Department of Energy – Richland Operations Office. This is a permit renewal. The first State Waste Discharge Permit for TEDF was issued in 1995. The permittee has complied with the permit since then.

What's next?

After we receive public comments, we will revise the permit if warranted. We'll add the comments and responses to the fact sheet. We will also prepare a responsiveness summary. We don't plan to hold a public meeting, but if there is strong interest we will reconsider.

You can email, mail, or hand-deliver your comments to Stacy Nichols. We prefer email. The deadline for comments is November 30, 2011. Send comments to snic461@ecy.wa.gov or 3100 Port of Benton Blvd, Richland, WA 99354.

You can find the permit and related materials at the Richland Public Library, the Department of Ecology's nuclear waste program office (3100 Port of Benton Blvd, Richland, 99354.) You can also find them online at www.ecy.wa.gov/programs/nwp/commentperiods.htm or at any of Hanford's public information repositories:

Portland

Portland State University
Branford Price Millar Library
1875 SW Park Ave.
Attn: Claudia Weston 503-725-4542

Figure 4. Comment period extension email notice (page 1 of 2)

Richland

U.S. Department of Energy Reading Room
Consolidated Information Center, Room 101-L
2770 University Dr.
Attn: Janice Parthree 509-372-7443

Spokane

Gonzaga University
Foley Center, 502 E Boone Ave.
Attn: Linda Pierce 509-313-3834

Seattle

University of Washington Suzzallo Library
Government Publications Division
Attn: Cass Hartlett 206-543-4363

Madeleine C. Brown

Washington Department of Ecology
Nuclear Waste Program
Mabr461@ecy.wa.gov
(509) 372-7936

Figure 4. Comment period extension email notice (page 2 of 2).

Appendix B: Copies of all written comments

Nichols, Stacy (ECY)

From: Nichols, Stacy (ECY)
Sent: Tuesday, January 03, 2012 1:53 PM
To: 'howiesoj@comcast.net'
Cc: Brown, Madeleine (ECY); Bohrmann, Dieter (ECY); Holmes, Erika (ECY); Bond, Rick (ECY)
Subject: State Waste Discharge Permit ST0004502 (Treated Effluent Disposal Facility)

The draft permit has been revised since you reviewed the initial listserv notice. The point of compliance for iron is no longer in the groundwater. In fact, all points of compliance have been moved to the effluent sampling station. If any contamination were to occur, it would be detected prior to reaching the groundwater. Groundwater monitoring has been discontinued in this permit. We determined that Wells 699-40-36, 699-41-35, and 699-42-37 are not in the right aquifer to monitor TEDF discharges. These wells are still part of the 200-PO-1 and site wide surveillance monitoring plans.

From: John Howieson [<mailto:howiesoj@comcast.net>]
Sent: Saturday, September 24, 2011 3:48 PM
To: Hanford@ecy.wa.gov
Cc: Maye Thompson
Subject: State Waste Discharge Permit ST0004502 (Treated Effluent Disposal Facility)

To the WA Dept. of Ecology:

I would like to question the wisdom of moving the point of compliance for the iron limit from the effluent to Groundwater Monitoring Wells 699-40-36, 699-41-35, and 699-42-37. Would this not mean that by the time the contamination was detected in the wells the vadose zone would have been subjects to a large load of contaminant? If so, the situation would then require remediation. Surely prevention is preferable to cure. Please reconsider.

John Howieson MD
Oregon Physicians for Social Responsibility

Nichols, Stacy (ECY)

From: Nichols, Stacy (ECY)
Sent: Monday, November 14, 2011 10:29 AM
To: 'Lumpkins, Pamela'
Subject: RE: Hanford

Ms. Lumpkins,

Liquids discharging to the 200 Area Treated Effluent Disposal Facility (TEDF) have not become radioactive. Although this draft permit includes new waste streams from the Waste Treatment and Immobilization Plant, the flows permitted to discharge to the 200 Area TEDF are not radioactive.

Thank you for your question, and please let me know if I can be of further assistance.

Stacy Nichols
Water Quality Permit Coordinator
Nuclear Waste Program
509-372-7917
Snic461@ecy.wa.gov

From: Lumpkins, Pamela [<mailto:Pamela.Lumpkins@morganstanleysmithbarney.com>]
Sent: Monday, November 14, 2011 9:03 AM
To: Nichols, Stacy (ECY)
Subject: Hanford

Stacy,

Can you tell me if any of the liquids from the Hanford's 200 Area TEDF became radioactive?

Thanks,

Pamela Lumpkins
Sr. Registered Associate
Morgan Stanley Smith Barney
1001 SW 5th Ave., Ste 2200
Portland, OR. 97204
Phone: 503-221-8679
800-767-7824
Fax: 503-221-8602
pamela.lumpkins@mssb.com

Nichols, Stacy (ECY)

From: Nichols, Stacy (ECY)
Sent: Friday, December 09, 2011 1:14 PM
To: 'Jeanne Raymond'
Cc: Bond, Rick (ECY); Bohrmann, Dieter (ECY); Holmes, Erika (ECY); Brown, Madeleine (ECY)
Subject: RE: wastewater treatment plant

Ms. Raymond,

Thank you for your comment.

The permit ensures the water being discharged protects groundwater by meeting drinking water standards. The water being discharged is not contaminated. The kinds of waste water that enter the facility are those associated with ventilation, heating, and cooling systems for the buildings; steam condensate from heating potable (drinkable) water; condensate of pressurized potable water; rainwater; and untreated Columbia River water.

Stacy Nichols
Nuclear Waste Program
Washington Department of Ecology

-----Original Message-----

From: Jeanne Raymond [<mailto:raymondj@peak.org>]
Sent: Tuesday, November 29, 2011 5:05 PM
To: Nichols, Stacy (ECY)
Subject: wastewater treatment plant

Washington Dept. of Ecology,

I hope you are not seriously considering releasing waste water from a treatment plant, which has a risk of being contaminated, into holding ponds that could access the Columbia River. The risk seems too great. If this is the case, I would certainly recommend against renewing the permit.

Jeanne Raymond
Corvallis, OR 97330

Nichols, Stacy (ECY)

From: Nichols, Stacy (ECY)
Sent: Wednesday, December 14, 2011 4:54 PM
To: 'Mason Taylor'
Cc: Bond, Rick (ECY); Brown, Madeleine (ECY); Holmes, Erika (ECY); Bohrmann, Dieter (ECY)
Subject: RE: Is any of the water to be treated radioactive?

None of the water entering the Treated Effluent Disposal Facility is radioactive, nor has it ever been used in a nuclear reactor. It has not been in contact with any radioactive waste. The waste liquid comes from the following:

- * ventilation, heating, and cooling systems for the buildings
- * steam condensate from heating potable (drinkable) water
- * condensate of pressurized softened or deionized potable water
- * rainwater from parking lots and exterior paved areas
- * potable (treated) water
- * untreated Columbia River water
- * boiler blowdown
- * floor drains with limited and strictly controlled usage

Please let me know if you have any additional questions.

Stacy Nichols
Nuclear Waste Program
Washington Department of Ecology

-----Original Message-----

From: Mason Taylor [mailto:mnx24@soon.com]
Sent: Wednesday, December 14, 2011 12:28 PM
To: Nichols, Stacy (ECY)
Subject: Is any of the water to be treated radioactive?

Is any of the water to be treated radioactive? Has it been used to cool nuclear reactor? Is it part of the "cooling system" designed to prevent meltdown? Has it been used to cool down radioactive waste? If the water is radioactive, how does the treatment remove the radioactive material from the water? Thank you.

Mason Taylor healthcare not warfare

USDOE Comments

The following comments on the October 2011 Fact Sheet and draft State Waste Discharge Permit Number ST0004502 are from a coordinated review by the United States Department of Energy (DOE), Richland Operations Office (RL), the DOE Office of River Protection (ORP), and affected Hanford Site contractors.

Fact Sheet Comments

1. *Summary, first paragraph (p. 1) states “water in close proximity to the ponds is found as groundwater at a depth of about 100 to 120 feet below the surface.” This should state “about 140 feet.”*
2. *Summary, first paragraph last sentence (p. 2) states that groundwater estimated travel time to the Columbia River is approximately 10 to 300 years. This appears to be a mistake in that III.B, top of page 19 states travel times are “approaching 120 to 300 years.” Please correct or clarify.*
3. *Section III A., Table 2. 222-S Laboratory complex no longer discharges steam condensate. Replace steam condensate with rainwater for consistency with the permit.*
4. *Section III A., Wastewater Treatment Processes, second bullet, 222 S Laboratory Effluent. Delete steam condensate from this paragraph as steam is no longer utilized at the 222-S laboratory.*
5. *Section III B., Description of the Groundwater, 2nd paragraph should read “The thickness of the formation varies from 90 to 100 feet.”*
6. *Section III B., Description of the Groundwater, 3rd paragraph needs thicknesses corrected as follows: “The lower part of the Ringold Formation, below this Lower Mud Sequence, consists of an 80 to 120 (approximate) foot thick zone of silty sandy gravel named Unit A.... The static water level in wells completed within the uppermost aquifer currently varies from 113 to 123 feet below the surface.”*
7. *Section III B., Description of the Groundwater, 5th paragraph needs correction: “Groundwater flows down-gradient toward the southwest at a flow rate of less than one foot per day in the uppermost aquifer beneath the TEDF. Hydrologic tests and recent head measurements indicate that the groundwater flow may be less than 0.01 feet per day. Groundwater currently flows toward the west from the 216-B-3 Pond complex (located west-northwest of 200 Area TEDF) with a hydraulic gradient of about 0.0014 foot per foot. Water levels in the area are currently declining at a rate of about 0.2 feet per year.”.*
8. *Section III B., Description of the Groundwater, 8th paragraph should read: “The May Junction Fault is located approximately one mile east from 200 Area TEDF. It trends north-south with the east side displaced vertically downward about 185 feet. It is possible that the fault may hydraulically connect the confined aquifer in the Unit A gravel of the Ringold formation with water perched in the Hanford formation at the top of the Lower Mud Sequence, but it is also possible that mud has smeared along the fault zone sealing the fault and blocking this pathway. Recent research makes it appear likely that the May Junction Fault is an impediment to eastward movement of groundwater in the Ringold (confined) aquifer.”.*
9. *Section III D., Table 5. Table 5 indicates the O&M Manual Review Letter is to be submitted annually. The table shows 8/10/10 was the last submittal date. Please change the last submittal date to 8/10/11.*
10. *Section IV. C Table 8. An enforcement limit of 0.3 mg/l total iron is proposed [see also draft permit ST 4502, Section S1.A.(Table)]. This limit is a drinking water limit based criterion from WAC 173-200-040, Table 1. In the past RL has occasionally had problems meeting this standard at 200 Area TEDF. RL believes this limit is too restrictive, and not justified by regulation. Continuing to maintain an iron enforcement level at 0.3 mg/l is not necessary for protection of human health or the environment, and is unreasonably burdensome in that it forces RL to meet a standard that historically has occasionally been*

difficult to obtain. RL proposes that iron be dropped as an enforcement limit, and to monitor only for trending and tracking purposes.

Draft Permit Comments

1. *The summary Table on page 2 lists steam condensate for 222-S Laboratory. Please delete steam condensate. Basis: Steam is no longer utilized at the 222-S Laboratory*
2. *The Summary of Permit Report Submittals (page 5) states permit violation reports are to be submitted “Within 5 days upon discovery of a noncompliance, or such other time as may be agreed to by Ecology.” This appears to be in contradiction to S3.E.2.d, which allows for noncompliance outside the scope of S3.E.a. noncompliance to be reported with the submittal of monitoring reports required by S3.A. The table should be corrected to show that for some noncompliance situations, submittal of the report with monitoring reports is acceptable.*
3. *S1.A., Effluent limits. The iron limits in the table should be removed as requested in Fact Sheet comment 10.*
4. *S1.A., Table, Note b. The second sentence needs clarification: “For other units of measurement, the daily discharge is the average measurement of the pollutant over the day”*
5. *S2.A Table and S2.C table: The QLS listed for oil and grease, arsenic, cadmium, chromium, lead, sulfate and total dissolved solids are lower than the WSCF laboratory QLS. The WSCF MDL does meet the QL. RL recommends changing the QLS to match the laboratory MDLs or provide a statement that the MDL is an acceptable substitute.*
6. *S2.A Table and S2.C Table reference the laboratory method for iron as SW-846-8260. This method is for volatile organics. The method should be corrected to SW-846-6010 which is for metals by ICP-AES.*
7. *S.2.E.1, E.3, E.6 and E.7. define continuous monitoring devices as flow, pH and conductivity. Section S.2.E.3 says “calibrate continuous pH and conductivity monitoring instruments weekly”, Section S.2.E.6 says “calibrate these devices at the frequency recommended by the manufacturer”, and Section S.2.E.7 says “calibrate flow monitoring devices at a minimum frequency of at least one calibration per year”. RL believes the intent is to calibrate pH and conductivity instruments weekly and flow instruments annually. Please clarify.*
8. *S.2.E.4 says perform calibration of the pH meter by pulling a process sample and measuring the pH of the process sample using a second pH probe which has been calibrated using standard buffers. The current TEDF maintenance procedure is to temporarily remove the pH meter and place it in the standard buffers. This provides a better calibration (two-point rather than one-point) and doesn’t require a second pH probe. Please revise or clarify that the current calibration method is acceptable.*
9. *S3.E 2.a(7) The twenty four hour reporting requirement for monitoring wells is no longer required and should be deleted.*
10. *S.9 The requirement to submit variability study plans within 60 days of permit issuance does not match the WTP discharge schedule. The current baseline schedule for discharge is March of 2013 and Ecology will be updated if the schedule changes. It is recommended that this requirement be changed to submit variability study plans 60 days prior to the planned discharge date for WTP.*