Fact Sheet

**The U.S. Environmental Protection Agency (EPA)
Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to:**

Pacific Northwest National Laboratory
Tracer Injection Project

Public Comment Start Date: February 27, 2018
Public Comment Expiration Date: March 29, 2018

Technical Contact: Maxwell Petersen
206-553-6118
800-424-4372, ext. 6118 (within Alaska, Idaho, Oregon and Washington)
petersen.maxwell@epa.gov

The EPA Proposes To Issue NPDES Permit
The EPA proposes to issue the NPDES permit for the facility referenced above. The draft permit places conditions on the discharge of pollutants from the facility to waters of the United States. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the facility.

This Fact Sheet includes:
- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions for the facility
- a map and description of the discharge location
- technical material supporting the conditions in the permit

State Certification
Upon the EPA's request, the Washington State Department of Ecology has provided a draft certification of the permit for this facility under Section 401 of the Clean Water Act. Comments regarding the certification should be directed to:

Department of Ecology
Central Region Office
1250 West Alder Street
Union Gap, WA 98903-0009

Public Comment
Persons wishing to comment on, or request a Public Hearing for the draft permit for this facility may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to the EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, the EPA's regional Director for the Office of Water and Watersheds will make a final decision regarding permit issuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If substantive comments are received, the EPA will address the comments and issue the permit. The permit will become effective no less than 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days pursuant to 40 CFR 124.19.

Documents are Available for Review
The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting the EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below. The draft permits, fact sheet, and other information can also be found by visiting the Region 10 NPDES website at "*https://www.epa.gov/publicnotices/notices-search/location/Washington*."

U.S. EPA Region 10
Suite 900
1200 Sixth Avenue, OWW-191
Seattle, Washington 98101
(206) 553-0523 or
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

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Acronyms

BA	Biological Assessment
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CWA	Clean Water Act
DOE	U.S. Department of Energy
DMR	Discharge Monitoring Report
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FR	Federal Register
Gpd	Gallons per day
HUC	Hydrologic Unit Code
ICIS	Integrated Compliance Information System
lbs/day	Pounds per day
LOEC	Lowest Observed Effect Concentration
mg/L	Milligrams per liter
ML	Minimum Level
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observable Effect Concentration
NPDES	National Pollutant Discharge Elimination System
OWW	Office of Water and Watersheds
PNNL	Pacific Northwest National Laboratory
QAP	Quality assurance plan
RP	Reasonable Potential
s.u.	Standard Units
TMDL	Total Maximum Daily Load
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards

I. Background Information

A. General Information

This fact sheet provides information on the draft NPDES permit for the following entity:

Table 1. General Facility Information

NPDES Permit No.:	WA0026859
Applicant:	U.S. Department of Energy – Pacific Northwest Site Office Pacific Northwest National Laboratory
Type of Ownership	Federal Facility
Mailing Address:	P.O. Box 350 MISIN K9-42 Richland, WA 99352
Facility Contact:	Michael Stephenson, Manager 509-371-7098
Operator Name:	U.S. Department of Energy - Pacific Northwest Site Office Pacific Northwest National Laboratory
Receiving Water	Columbia River
Facility Project Location	Latitude: 46.375 N Longitude: 119.2708333333 W

B. Permit History

There are no previous NPDES permits for the facility. An NPDES application for permit issuance was submitted by the permittee on April 3, 2017.

II. Facility Information

A. Treatment Plant Description

Project Area

Pacific Northwest National Laboratory's (PNNL) Tracer Injection Project is investigating biogeochemical transport and microbiological processes in the groundwater-surface water interaction zone near the Columbia River shoreline at the southern end of the Hanford Site. The project will take place along a 1 kilometer stretch of the Columbia River. This project is funded by the Subsurface Biogeochemical Research Program within the U.S. Department of Energy's (DOE) Office of Science.

Figure 1. SFA Tracer Injection Project Research Area[1]

Outfall Description

There are no permanent outfalls associated with this discharge. Up to 300 temporary pore water sampling tubes will be used to allow injection and extraction of reactive and non-reactive tracers into the hyporheic zone. The hyporheic zone is the area where groundwater and surface water interact.

[1] Permit Application, Page 5.

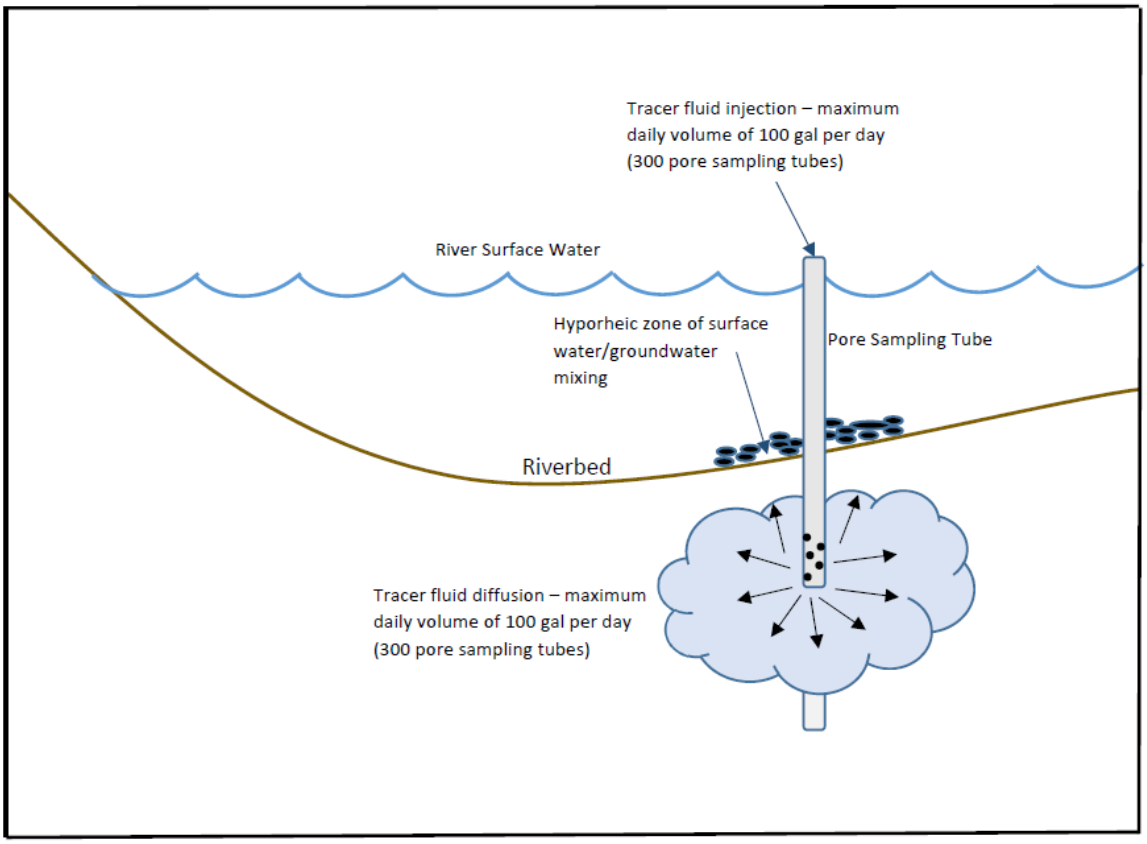

Figure 2. Diagram of Tracer Injection System[2]

Effluent Characterization

Known concentrations of each tracer will be injected in the hyporheic zone of the Columbia River and monitored using down gradient pore sampling tubes. PNNL will discharge at most 100 gallons per day, 800 gallons per month, and 3,200 gallons per year.

Table 2 below includes a list of proposed tracers, their estimated maximum daily concentration and estimated maximum daily loading. A single injection may consist of one or more liters of these tracers. Group A pollutants from the tracer list include Ammonium Chloride. Group B pollutants from the tracer list include Sodium Bromide, Color (dye), Sodium Nitrate, and Potassium Nitrate.

[2] Permit Application, Page 8.

Table 2. Tracer Injection Concentrations[3]

Estimated Tracer Injection Concentration and Mass Loading			
Tracer	Maximum Daily Concentration	Maximum Daily Loading	Group A or B Pollutant
Sodium bromide	10 mg/L	0.008 lbs/day	Bromide
Sodium nitrate	1 mg/L	0.0008 lbs/day	Nitrate-Nitrite
Potassium nitrate	0.6 mg/L	0.0005 lbs/day	Nitrate-Nitrite
Ammonium chloride	0.001 mg/L	0.0000008 lbs/day	Ammonia
Algal amino acids	1000 mg/L	0.8 lbs/day	N/A
Algal fatty acids	1000 mg/L	0.8 lbs/day	N/A
D-glucose	1000 mg/L	0.8 lbs/day	N/A
Methyl acetate	11 mg/L	0.009 lbs/day	N/A
Rhodamine (B/6G/WT)	0.1 mg/L	0.00008 lbs/day	Color
Fluorescein sodium salt	46 mg/L	0.04 lbs/day	Color
Resazurin sodium salt	10,000 mg/L	8.3 lbs/day	Color

III. Receiving Water

In drafting permit conditions, EPA must analyze the effect of the facility's discharge on the receiving water. The details of that analysis are provided later in this Fact Sheet. This section summarizes characteristics of the receiving water that impact that analysis.

A. Receiving Water

This facility discharges in the hyporheic zone of Columbia River shoreline in the City of Richland, WA. The discharge is located upstream of Richland.

B. Designated Beneficial Uses

This facility discharges to the Columbia River in the Upper Columbia-Priest Rapids Subbasin (HUC 17020016). At the point of discharge, the Columbia River is protected for the following designated uses (WAC 173-201A-602): Spawning/Rearing, Primary Contact Recreation, Domestic Water Supply, Industrial Water Supply, Agricultural Water Supply, Stock Water Supply, Wildlife Habitat, Harvesting, Commerce/Navigation, Boating, and Aesthetics.

C. Water Quality Limited Waters

The State of Washington's July 22, 2016 Water Quality Assessment report lists the Columbia River, downstream from the project site as impaired for temperature.

TMDLs for total dissolved gas and dioxin were written for a downstream segment of the Columbia River and approved in 2004 and 1991, respectively. Temperature is listed as category 5 while total dissolved gas and dioxin are listed as category 4a. As this is a new project that does not discharge pollutants of concern, no WLAs were given to PNNL.

[3] Permit Application, Page 11.

D. Low Flow Conditions

Critical low flows for the receiving water are summarized in Table 3. Critical Flows in Receiving Water.

Table 3. Critical Flows in Receiving Water

Flows	Annual Flow (cfs)
1Q10	37,106
7Q10	48,631
Source: e.g. USGS station 12472800 located upstream of the PNNL Tracer Injection Project at the 300 Area of the Hanford Site. Data used were from 04/01/05 to 03/31/17. 1. The 1Q10 represents the lowest one day flow with an average recurrence frequency of once in 10 years. 2. The 7Q10 represents lowest average 7 consecutive day flow with an average recurrence frequency of once in 10 years.	

IV. Effluent Limitations and Monitoring

Table 4, below, presents the proposed monitoring requirements in the draft permit.

Table 4. Draft Permit - Effluent Limitations and Monitoring Requirements

Parameter	Units	Average Monthly Limit	Daily Maximum Limit	Sample Location	Sample Frequency	Sample Type
Tracer Injection Fluid per application	Gallons/ day	NA	100	Injection meter location	1/event	Grab[1]
Algal Amino Acids	mg/L	report	report		1/event	
Algal Fatty Acids	mg/L	report	report		1/event	
D-Glucose	mg/L	report	report		1/event	
Methyl Acetate	mg/L	report	report		1/event	
Fluorescein Sodium Salt	mg/L	report	report		1/event	
Resazurin Sodium Salt	mg/L	report	report		1/event	
Floating, Suspended, or Submerged Matter	--	See Paragraph I.B.2 of the permit			1/event	Visual Observation
Parameter	**Units**	**Minimum Daily**	**Maximum Daily**	**Sample Location**	**Sample Frequency**	**Sample Type**
pH	S.U.	6.5	8.5	Injection meter location	Daily	Grab
1. Grab sampling may be substituted with analytical methods or calculation based on known concentration of the effluent.						

A. Basis for Effluent Limits

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards applicable to a waterbody are being met and may be more stringent than technology-based effluent limits.

B. Pollutants of Concern

Pollutants of concern are those that either have technology-based limits or may need water quality-based limits. The EPA identified pollutants of concern for the discharge based on the composition of the tracer that will be injected in the hyporheic zone of the Columbia River.

The pollutants of concern are as follows:

- Bromide
- Nitrate-Nitrite
- Ammonia
- Chloride
- Color

C. Technology-Based Effluent Limits

There are no technology based effluent limits for this facility.

D. Water Quality-Based Effluent Limits

Statutory and Regulatory Basis

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards. Discharges to State or Tribal waters must also comply with limitations imposed by the State or Tribe as part of its certification of NPDES permits under section 401 of the CWA. The NPDES regulation 40 CFR 122.44(d)(1) implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State or Tribal water quality standard, including narrative criteria for water quality. Effluent limits must also meet the applicable water quality requirements of affected States other than the State in which the discharge originates, which may include downstream States (40 CFR 122.4(d), 122.44(d)(4), see also CWA Section 401(a)(2)).

The regulations require the permitting authority to make this evaluation using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation for the discharge in an approved TMDL. If there are no approved TMDLs that specify wasteload allocations for this discharge; all of the water quality-based effluent limits are calculated directly from the applicable water quality standards.

Reasonable Potential Analysis and Need for Water Quality-Based Effluent Limits

The EPA uses the process described in the *Technical Support Document for Water Quality-based Toxics Control* (*TSD*) to determine reasonable potential. To determine if there is reasonable potential for the discharge to cause or contribute to an exceedance of water quality criteria for a given pollutant, the EPA compares the maximum projected receiving water concentration to the water quality criteria for that pollutant. If the projected receiving water concentration exceeds the criteria, there is reasonable potential, and a water quality-based effluent limit must be included in the permit.

Reasonable Potential and Water Quality-Based Effluent Limits

There are no numeric water quality standards for the tracers being used in the Tracer Injection Project. However, Washington does have a narrative toxic criterion which applies to the discharge: *Toxic, radioactive, or deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health* (*See* WAC 173-201A-260(2)(a)). There are also numeric criteria for ammonia.

The discharge will not have reasonable potential to cause or contribute to an excursion above the narrative nutrient criteria. This conclusion is based on the inherent design of the tracer study. The permittee used a modified risk-based approach to derive the proposed injection concentrations of tracers (shown in Table 2) based on reducing the risk of toxic effects to fish to an acceptable level at the point of potential exposure. The injection concentrations are either equal to or below the No Observable Effect Concentration (NOEC) for each of the tracers. As stated in the permittee's application, the tracers will be injected in the hyporheic zone. Due to the travel times during which the diffusion and dilution take place, the tracer concentration in the hyporheic zone will be below the lowest (or estimated lowest) fish NOEC.

Further, the discharge will be minute compared with the flow in the river. As stated the application: "The maximum total volume that is available for release to the river environment is 100 gallons per day. This is based on the most conservative assumption that all 300 pore sampling tubes will be used for tracer fluid injected once per day. No more than 800 gallons of tracer fluid will be released to the river environment within a 30-day period. Annual total volume will be limited to 3,200 gallons."

At most the permittee will discharge 100 gallons of tracer per day. The 1Q10 critical flow established above is 23,982 mgd. Due to the difference of 8 orders of magnitude in flow along with the low concentrations of discharge there is no reasonable potential to exceed or contribute to an exceedance of water quality standards.

E. Antibacksliding

Section 402(o) of the Clean Water Act and federal regulations at 40 CFR §122.44 (l) generally prohibit the renewal, reissuance or modification of an existing NPDES permit that contains effluent limits, permit conditions or standards that are less stringent than those established in the previous permit (i.e., anti-backsliding) but provides limited exceptions.

As this is a new permit an antibacksliding analysis is not applicable.

V. Monitoring Requirements

A. Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality.

The permittee is responsible for conducting the monitoring and for reporting results on DMRs or on the application for renewal (Forms 1 and 2C), as appropriate, to the EPA.

B. Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples must be used for averaging if they are conducted using the EPA-approved test methods (generally found in 40 CFR 136) or as specified in the permit.

C. Surface Water Monitoring

In general, surface water monitoring may be required for pollutants of concern to assess the assimilative capacity of the receiving water for the pollutant. In addition, surface water monitoring may be required for pollutants for which the water quality criteria are dependent and to collect data for TMDL development if the facility discharges to an impaired water body. Table 5 presents the proposed surface water monitoring requirements for the draft permit. Monitoring follows the Tracer Injection Project Plan as given by the Permittee. Surface water monitoring results must be submitted with the DMR. Surface water monitoring must start upon the effective date of the permit and continue for the duration of the permit or the completion of the Tracer Injection Project, whichever comes first.

Table 5. Draft Permit - Surface Water Monitoring

Parameter	Units	Monitoring Location	Sample Frequency	Sample Type
Sodium bromide	mg/L	Columbia River, Downstream of injection sites.	Weekly	grab
Sodium nitrate	mg/L	Columbia River, Downstream of injection sites.	Weekly	grab
Potassium nitrate	mg/L	Columbia River, Downstream of injection sites.	Weekly	grab
Ammonium chloride	mg/L	Columbia River, Downstream of injection sites.	Weekly	grab

D. Electronic Submission of Discharge Monitoring Reports

The draft permit requires that the permittee submit DMR data electronically using NetDMR. NetDMR is a national web-based tool that allows DMR data to be submitted electronically via a secure Internet application.

The EPA currently conducts free training on the use of NetDMR. Further information about NetDMR, including upcoming trainings and contacts, is provided on the following website: https://netdmr.epa.gov. The permittee may use NetDMR after requesting and receiving permission from EPA Region 10.

Part III.B. of the Permit requires that the Permittee submit a copy of the DMR to Ecology. Currently, the permittee may submit a copy to Ecology by one of three ways: 1. a paper copy may be mailed. 2. The email address for Ecology may be added to the electronic submittal through NetDMR, or 3. The permittee may provide Ecology viewing rights through NetDMR.

VI. Other Permit Conditions

A. Quality Assurance Plan

PNNL is required to update the Quality Assurance Plan within 30 days of the effective date of the final permit. The Quality Assurance Plan must include of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The plan must be retained on site and be made available to the EPA and the Ecology upon request.

B. Standard Permit Provisions

Sections III, IV and V of the draft permit contain standard regulatory language that must be included in all NPDES permits. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

VII. Other Legal Requirements

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. Department of Energy has developed a Biological Assessment (BA) for the Tracer Injection Project with a determination of "may affect, not likely to adversely affect." This determination can be found in Appendix B.

B. Essential Fish Habitat

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires the EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect EFH (i.e., reduce quality and/or quantity of EFH).

The EFH regulations define an adverse effect as any impact which reduces quality and/or quantity of EFH and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

DOE has completed an EFH assessment with the determination of "may affect, not likely to adversely affect." This determination can be found in Appendix B.

C. State Certification

Section 401 of the CWA requires the EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State law or regulation. A copy of the draft 401 certification is provided in Appendix C.

D. Antidegradation

The Department of Ecology has completed an antidegradation review which is included in the draft 401 certification for this permit. (*See* Appendix B) The EPA has reviewed this antidegradation analysis and finds that it is consistent with the State's water quality standards and the State's antidegradation implementation procedures. Comments on the 401 certification including the antidegradation review can be submitted to the Department of Ecology as set forth above (see State Certification on Page 1 of this Fact Sheet).

E. Permit Expiration

The permit will expire five years from the effective date.

VIII. References

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control.* US Environmental Protection Agency, Office of Water, EPA/505/2-90-001.
https://www3.epa.gov/npdes/pubs/owm0264.pdf

Water Pollution Control Federation. Subcommittee on Chlorination of Wastewater. *Chlorination of Wastewater.* Water Pollution Control Federation. Washington, D.C. 1976.

EPA. 2010. *NPDES Permit Writers' Manual.* Environmental Protection Agency, Office of Wastewater Management, EPA-833-K-10-001. September 2010.
https://www3.epa.gov/npdes/pubs/pwm_2010.pdf

EPA, 2007. *EPA Model Pretreatment Ordinance*, Office of Wastewater Management/Permits Division, January 2007.

EPA, 2011. *Introduction to the National Pretreatment Program*, Office of Wastewater Management, EPA 833-B-11-011, June 2011.

EPA. 2014. Water Quality Standards Handbook Chapter 5: General Policies. Environmental Protection Agency. Office of Water. EPA 820-B-14-004. September 2014.
https://www.epa.gov/sites/production/files/2014-09/documents/handbook-chapter5.pdf

Appendix A. Project Location

Figure 3. Project Location[4]

The PNNL Tracer Injection Project will take place along the 1km stretch of the Columbia River adjacent to the 300 Area found in the Southeast corner of the Hanford Site.

[4] Permit Application, Page 1.

Appendix B. Facility Application and Biological Opinions

The Department of Energy submitted a Biological Assessment (BA) to the National Marine Fisheries Service and the U.S. Fish and Wildlife Service on February 13, 2017. The DOE requested informal consultation under Section 7 of the Endangered Species Act (ESA) regarding the proposed scientific research plan that defines research activities that may be conducted by Pacific Northwest National Laboratory research staff and collaborators along the Columbia River Shoreline just north of Richland, Washington.[5] The BA was submitted to the EPA with the NPDES permit application.

The final determined of the BA was as follows:

"Information provided in Section 6.0 supports a finding of **Not Likely to Adversely Affect** for UCR springrun Chinook salmon, UCR steelhead, and bull trout; designated critical habitat for spring Chinook and steelhead; and EFH for these species and fall-run Chinook salmon due to potential effects associated with disturbing the water column and riverbed during pore water sampling tube installation and removal, jackhammer noise, and potential toxicity via introduction of tracers."[6]

Informal consultation with the U.S. Fish and Wildlife Service was completed. Their letter dated March 23, 2017 indicates "effects to other listed or proposed species, or their critical habitat, are not anticipated to occur."

National Marine Fisheries Service (NMFS) responded in their April 5, 2017 letter, "Based on this analysis, NMFS concurs with DOE that the proposed action is NLAA for UCR spring-run Chinook salmon and UCR steelhead and their designated critical habitats. Concurrence is based on the information in the BA and additional information received electronically from the applicant and is contingent on the action being conducted as described in the BA and emails and full implementation of the effect minimization measures."

[5] JM Becker, Subsurface Science Scientific Focus Area: Tracer Injection Project, Biological Assessment, January 2017.
[6] Ibid, Page 28.

Appendix C. CWA 401 State Certification

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

May 23, 2018

Michael Lidgard, Manager
NPDES Permits Unit
United States Environmental Protection Agency - Region 10
1200 Sixth Avenue, Suite 155, OWW
Seattle, WA 98101

RE: Clean Water Act Section 401 Final Certification
EPA National Pollutant Discharge Elimination System Permit Number WA0026859
Pacific Northwest National Laboratory Tracer Injection Project

Dear Mr. Lidgard:

This letter is in response to the U.S. Environmental Protection Agency's (EPA) letter, dated April 12, 2018, requesting Washington State Department of Ecology (Ecology) provide a Clean Water Act (CWA) Section 401 Certification for the Final National Pollutant Discharge Elimination System Permit No. WA-0026859 (final NPDES Permit No. WA0026859) for United States Department of Energy – Pacific Northwest National Laboratory Tracer Injection Project.

The public comment period for Ecology's certification without conditions ran concurrently with the draft permit's public comment period from February 27, 2018 – March 29, 2018. No comments were received. Ecology's final certification may be appealed by following the procedures described in the enclosed Order #15837.

With this Section 401 Final Water Quality Certification, Ecology certifies the final NPDES Permit No. WA0026859 with conditions as found in Order #15837.

If you have any questions or would like to discuss these matters further, please contact Eleanor Key, PE at ellie.key@ecy.wa.gov or (360) 407-6733.

Sincerely,

for

Vincent McGowan, Manager
Program Development Services Section
Water Quality Program

Enclosure

cc: Maxwell Peterson, Permit Writer, Region 10 EPA
Susan Poulsom, NPDES Permits Lead, Region 10 EPA
Loree' Randall, Ecology's Shorelands and Environmental Assessment Program
David Bowen, Ecology's Water Quality Program
Eleanor Key, PE, Ecology's Water Quality Program

By Certified Mail: 91 7199 9991 7030 1775 7829

IN THE MATTER OF GRANTING A WATER QUALITY CERTIFICATION TO U.S. Environmental Protection Agency in accordance with 33 U.S.C. 1341 (FWPCA § 401), RCW 90.48.120, RCW 90.48.260 and Chapter 173-201A WAC	))))))))	**ORDER # 15837** PNNL DYE TRACER STUDY located in Benton, Washington (NPDES Permit No. WA 0026859).

TO: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Ave, Suite 155, OWW
SEATTLE, WA 98101

On APRIL 03, 2017, the U.S. DEPARTMENT OF ENERGY – PACIFIC NORTHWEST NATIONAL LAB (PNNL) submitted a National Pollutant Discharge Elimination System (NPDES) Application to the U.S. Environmental Protection Agency (EPA) requesting a discharge permit for the Columbia River Tracer Injection Study. EPA requested a Section 401 Water Quality Certification for the NPDES permit authorizing discharges to a water of the state (defined in RCW 90.48) from the federal facility. Ecology received a proposed final NPDES permit from EPA on April 17, 2018. Public notice of the water quality certification request was provided by EPA during the public notice of draft permit in partnership with Ecology for the above-referenced project pursuant to the provisions Chapter 173-225 WAC on February 27, 2018. No comments were received by Ecology on the Section 401 Water Quality Certification. Ecology's preliminary certification imposed not additional conditions for the permit. This final Order and 401 Certification imposes no additional conditions, beyond the conditions of the final permit, on the Applicant or Permittee.

The proposed project entails a dye tracer study at the southern end of the Hanford site along the Columbia River, Richland, Benton County Washington 99352; Section 2, Township 10N, Range 28E, WRIA#40, Alkali-Squilchuck

The project proposes to investigate biogeochemical transport and microbiological processes in the groundwater-surface water (hyporheic) interaction zone near the Columbia River shoreline. There are no permanent outfalls associated with this discharge only the installation of up to 300 temporary pore water sampling tubes for injection and extractive of reactive and non-reactive tracers into the hyporheic zone. There will be no direct or indirect impacts to adjacent wetlands and/or the Columbia River. The permit includes effluent limitations, monitoring and reporting requirements necessary to demonstrate compliance with the conditions of the permit.

AUTHORITIES:

In exercising authority under 33 U.S.C. § 1341, 16 U.S.C. § 1456, RCW 90.48.120, and RCW 90.48.260, Ecology has examined EPA request for CWA 401 certification of the proposed final draft pursuant to the following:

1. Conformance with applicable water quality-based, technology-based, and toxic or pretreatment effluent limitations as provided under 33 U.S.C. §1311, 1312, 1313, 1316, and 1317 (FWPCA § 301, 302, 303, 306 and 307);

2. Conformance with the state water quality standards contained in Chapter 173-201A WAC and authorized by 33 U.S.C. §1313 and by Chapter 90.48 RCW, and with other applicable state laws; and

3. Conformance with the provision of using all known, available and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.

WATER QUALITY CERTIFICATION CONDITIONS:

Through issuance of this Order, Ecology certifies that it has reasonable assurance that the activity as proposed will be conducted in a manner that will not violate applicable water quality standards and other appropriate requirements of state law. In view of the foregoing and in accordance with 33 U.S.C. §1341, RCW 90.48.120, RCW 90.48.260 Chapter 173-200 WAC and Chapter 173-201A WAC, water quality certification is granted to the Applicant subject to the conditions within this Order and NPDES Permit No. WA 0026859.

Certification of the Applicants proposed final permits does not authorize the Permittee to exceed applicable state water quality standards (Chapter 173-201A WAC), ground water standards (Chapter 173-200 WAC) or sediment quality standards (Chapter 173-204 WAC).

A. General Conditions

1. For purposes of this Order, the term "Applicant" shall mean U.S. Environmental Protection Agency, and its agents, assignees and contractors.
2. For purposes of this Order, the permit "Permittee" shall mean U.S. Department of Energy – Pacific Northwest National Lab (PNNL).
3. The Applicant shall enforce the permit and ensure that the Permittee complies with the conditions of the permits at all times.

B. Water Quality

1. Ecology certification of the Applicant's final NPDES permit does not authorize exceedances of water quality standards established in WAC 173-201A.
2. The Applicants enforcement of the final permit and the Permittee compliance

with all conditions of the permit ensure compliance with the water quality standards established in WAC 173-201A

C. Timing Requirements

1. This Order is valid until though the expiration date or termination date of NPDES Permit No. WA 0026859.

D. Notification Requirements

1. The Applicant shall enforce and the Permittee must comply with all the reporting and notification conditions of the permit, including conditions of the permit to report and notify Ecology, as required.

YOUR RIGHT TO APPEAL

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW STE 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

CONTACT INFORMATION

Please direct all questions about this Order to:

Eleanor Key, PE
Department of Ecology
P.O. Box 47600
Olympia, WA 98503-7600

360-407-6433
ekey461@ecy.wa.gov

MORE INFORMATION

- **Pollution Control Hearings Board Website**
  www.eho.wa.gov/Boards_PCHB.aspx
- **Chapter 43.21B RCW - Environmental and Land Use Hearings Office – Pollution Control Hearings Board**
  http://apps.leg.wa.gov/RCW/default.aspx?cite=43.21B
- **Chapter 371-08 WAC – Practice And Procedure**
  http://apps.leg.wa.gov/WAC/default.aspx?cite=371-08
- **Chapter 34.05 RCW – Administrative Procedure Act**
  http://apps.leg.wa.gov/RCW/default.aspx?cite=34.05
- **Chapter 90.48 RCW – Water Pollution Control**
  http://apps.leg.wa.gov/RCW/default.aspx?cite=90.48
- **Chapter 173.204 Washington Administrative Code (WAC) Sediment Management Standards**
  http://www.ecy.wa.gov/biblio/wac173204.html
- **Chapter 173-200 WAC Water Quality Standards for Ground Waters of the State of Washington**
  http://www.ecy.wa.gov/biblio/wac173200.html
- **Chapter 173-201A WAC Water Quality Standards for Surface Waters of the State of Washington**
  http://www.ecy.wa.gov/biblio/wac173201A.html

SIGNATURE

5/24/18

Vincent McGowan, Manager
Program Development Services Section
Water Quality Program
Department of Ecology
State of Washington