Fact Sheet for NPDES Permit WA0991032

Rock Island Dam

Date of Public Notice: October 18, 2024

Permit Effective Date: March 1, 2025

Purpose of this fact sheet

This fact sheet explains and documents the decisions the Department of Ecology (Ecology) made in drafting the proposed National Pollutant Discharge Elimination System (NPDES) permit for PUD No. 1 of Chelan County, Rock Island Dam (CCRID).

This fact sheet complies with Section 173-220-060 of the Washington Administrative Code (WAC), before issuing an NPDES permit.

Ecology makes the draft permit and fact sheet available for public review and comment at least thirty (30) days before issuing the final permit. Copies of the fact sheet and draft permit for CCRID, NPDES permit WA0991032, are available for public review and comment from October 18, 2024 until November 18, 2024. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

CCRID reviewed the draft permit and fact sheet for factual accuracy. Ecology corrected any errors or omissions regarding the facility's location, history, discharges, or receiving water prior to publishing this draft fact sheet for public notice.

After the public comment period closes, Ecology will summarize substantive comments and provide responses to them. Ecology will include the summary and responses to comments in this fact sheet as **Appendix E** - **Response to Comments**, and publish it when issuing the final NPDES permit. Ecology generally will not revise the rest of the fact sheet. The full document will become part of the legal history contained in the facility's permit file.

Summary

PUD No. 1 of Chelan County owns Rock Island Dam located along the Columbia River. The facility discharges sump water and noncontact cooling water (point sources) to the Columbia River for its daily operations. The permit does not regulate non-point sources of pollution.

Turbine oil and other oil and grease used to operate and lubricate turbines, wicket gates, lubricated wire rope, and other related equipment are pollutants that have potential to discharge to the tailrace. The permit sets effluent limits for oil and grease, pH and heat load. The permit requires compliance with EPA's Temperature TMDL for the Columbia and Lower Snake Rivers. The permit requires the use of Environmentally Acceptable Lubricants (EALs) unless technically infeasible.

Ecology lists the Columbia River as impaired for high temperatures, as required by the Clean Water Act Section 303(d). The U.S. Environmental Protection Agency (EPA) issued the Columbia River and Lower

Snake River Total Maximum Daily Load (TMDL) on August 13, 2021. When water quality is impaired, Section 303(d) of the Clean Water Act (CWA) requires TMDL's and implements regulations under Title 40 of the Code of Federal Regulations (CFR) Section 130.7. The EPA's TMDL establishes a temperature Waste Load Allocation (WLA) for the process water discharged from the facility.

Pursuant to 40 C.F.R. §125.90(b), CWIS at hydroelectric facilities are subject to site-specific requirements set on a Best Professional Judgement (BPJ) basis. The hydroelectric facility's existing controls and technologies to minimize entrainment and impingement mortality can be determined to satisfy the Best Technology Available (BTA) on a BPJ basis. The facility will discharge sump water and noncontact cooling water to the Columbia Reach as part of its daily operations.

Some submittals for this permit cycle include:

- Operation and Maintenance Manual
- Annual Oil and Grease Report
- Oil and Grease Accountability Plan
- Environmentally Acceptable Lubricants Annual Report
- Monitoring Plan or Update
- Monitoring Equipment Installation Report

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I. Introduction

The Federal Clean Water Act (FCWA, 1972, and later amendments in 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES), administered by the federal Environmental Protection Agency (EPA). The EPA authorized the state of Washington to manage the NPDES permit program in our state. Our state legislature accepted the delegation and assigned the power and duty for conducting NPDES permitting and enforcement to Ecology. The Legislature defined Ecology's authority and obligations for the wastewater discharge permit program in 90.48 RCW (Revised Code of Washington).

The following regulations apply to industrial NPDES permits:

- Procedures Ecology follows for issuing NPDES permits (chapter 173-220 WAC)
- Water quality criteria for surface waters (chapter 173-201A WAC)
- Water quality criteria for ground waters (chapter 173-200 WAC)
- Whole effluent toxicity testing and limits (chapter 173-205 WAC)
- Sediment management standards (chapter 173-204 WAC)
- Submission of plans and reports for construction of wastewater facilities (chapter 173-240 WAC)

These rules require any industrial facility owner/operator to obtain an NPDES permit before discharging wastewater to state waters. They also help define the basis for limits on each discharge and for performance requirements imposed by the permit.

Under the NPDES permit program and in response to a complete and accepted permit application, Ecology must prepare a draft permit and accompanying fact sheet, and make them available for public review before final issuance. Ecology must also publish an announcement (public notice) telling people where they can read the draft permit, and where to send their comments, during a period of thirty days (WAC 173-220-050). (See **Appendix A-Public Involvement Information** for more detail about the public notice and comment procedures). After the public comment period ends, Ecology may make changes to the draft NPDES permit in response to comment(s). Ecology will summarize the responses to comments and any changes to the permit in **Appendix E**.

II. Background Information

Table 1 - Facility Information

Applicant:	PUD No. 1 of Chelan County
Facility Name and Address	Rock Island Dam
Contact at Facility	Jennifer Burns Environmental Program Manager (509) 661-4474 jennifer.burns@chelanpud.org
Responsible Official	Kirk Hudson PO Box 1231, Wenatchee, WA 98807 kirk.hudson@chelanpud.org
Industry Type	Hydroelectric Power Generation
Categorical Industry	None
Type of Treatment	Oil/Water Separation
SIC Codes	4911
NAIC Codes	2211
Facility Location (WGS84 reference datum)	Latitude: 47.343422, Longitude: -120.093033
Receiving Waterbody Name	Columbia River
Outfall Locations (WGS84 reference datum)	RI01-03 -- 47.3455555556, -120.0919444444 RI04 -- 47.3455555556, -120.0919444444 RI05 -- 47.3452777778, -120.0919444444 RI06 -- 47.345, -120.0919444444 RI07 -- 47.345, -120.0919444444 RI08 -- 47.3447222222, -120.0919444444 RI09 -- 47.3447222222, -120.0919444444 RI10 -- 47.3444444444, -120.0919444444 RI11 -- 47.3441666667, -120.0922222222

	RI12 -- 47.3438888889, -120.0922222222 RI13 -- 47.3438888889, -120.0922222222 RI14 -- 47.3411111111, -120.0938888889 RI15 -- 47.3408333333, -120.0938888889 RI16-18 -- 47.3402777778, -120.0936111111 RI-19 -- 47.3402777778, -120.0936111111 RI20-21 -- 47.34, -120.0936111111 RI22-24 -- 47.34, -120.0927777778
Intake Structures (Numbering corresponds to Outfall)	RIWI03-RIWI07 RIWI08-RIWI13 RIWI14-RIWI15 RIWI19-RIWI21

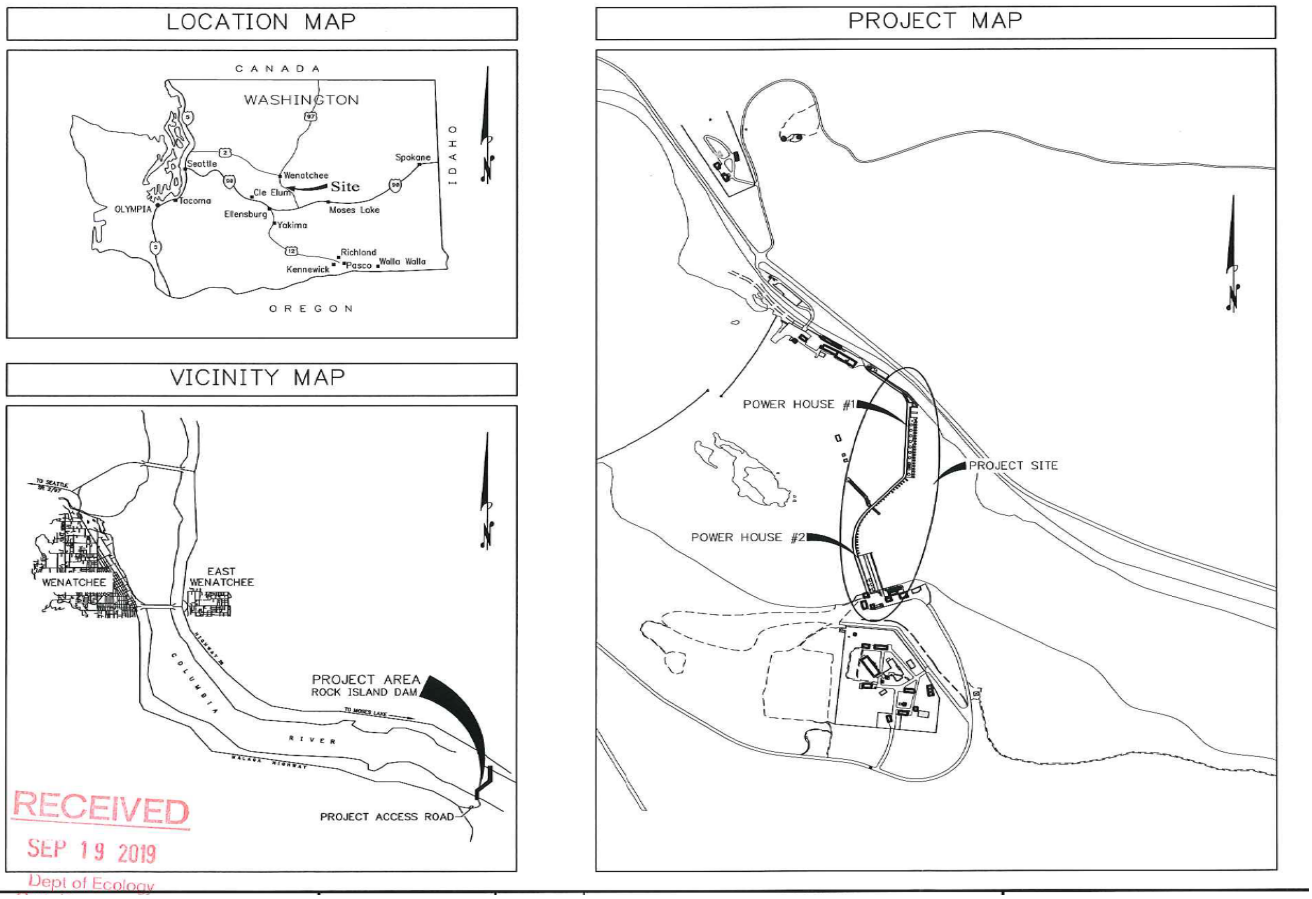
Permit Status

Issuance Date of Previous Permit: N/A

Application for Permit Submittal Date: September 19, 2019

Date of Ecology Acceptance of Application: October 21, 2020

Figure 1 - Facility Location Map



A. Facility description

History

PUD No. 1 of Chelan County operates the FERC licensed Rock Island Dam. This will be the first NPDES Permit issued to the facility. Development began in January 1930 and work on the dam, powerhouse expansion, and installation of six additional units began in July 1951. It was completed on April 30, 1953. Construction of the Second Powerhouse, with its eight turbine generators located on the west bank of the river, began on August 4, 1974. The Second Powerhouse was placed in commercial operation on August 31, 1979.

Cooling Water Intakes

CWA § 316(b) requires the location, design, construction, and capacity of cooling water intake structures (CWIS) to reflect the best technology available for minimizing adverse environmental impact. Since July 2013, Ecology has required all applicants using a CWIS to submit a supplemental application (EPA Form 2-C).

CCRID has 16 distinct cooling water intakes. All intake descriptions are for the actual service water intakes, not turbine intakes.

RIWI03, RIWI04, RIWI05, RIWI06, RIWI07, RIWI08, RIWI09, RIWI10, RIWI11, RIWI12, RIWI13- Intakes Powerhouse 1 units.

RIWI14, RIWI15, RIW 16, RIWI19, RIWI20- Intakes Powerhouse 2 Units.

CCRID was designed and constructed, and is now being operated, in a manner that meets or exceeds the statutory requirement of using "the best technology available for minimizing adverse environmental impact." The design and operation of the CWIS meet the requirement of CWA Section 316(b) to minimize adverse environmental impacts.

Industrial Processes

CCRID is seeking coverage under a NPDES Permit addressing discharges of pollutants. Machinery, drainage sumps, unwatering sumps, drains, turbines, wicket gate bearings, lubricant contact points, and discharges of cooling water systems are potential point sources of pollution.

CCRID has a generating capacity of 624 megawatts through 2 powerhouses. Powerhouse one contains eleven generating units consisting of a small fixed-blade house unit, four fixed blade units and six adjustable blade units. Each generating unit consists of an alternating current generator and turbine. Each unit includes governing mechanisms, controls, and switch apparatus. Power is transmitted through conventional transformers and transmission lines. The hydropower project houses all the electrical power generating equipment and water diversion structures.

Wastewater Treatment processes

Powerhouse 1 has an Oil/Water Separator with a maximum discharge of 2.12 mgd.

Powerhouse 2 has an Oil/Water Separator with a maximum discharge of 1.56 mgd.

Solid wastes

This facility generates solid waste from the debris removal in the spillway and forebay, and spill cleanup/recovery materials. The permit will require an accounting of these solid wastes disposed from the site.

Discharge outfall

The effluent flows into the Columbia River through the following outfalls:

RI01-PH1 Unwatering System and Drainage Pumps. (15.7mgd)

RI02-PH1 Oil-Water Separator. (0.2 mgd/2.12 mgd capacity)

RI03-PH1 Discharge cooling water to draft tube from Unit B0 (0.10mgd)

RI04-RI07 Discharge cooling water to draft tube from units B1-B4. (0.10mgd)

RI08-RI13 Discharge cooling water to draft tube from units B5-B10 (0.22 mgd)

RI14-16 Discharge cooling water to draft tube from units U1-U5 (1.36 mgd)

RI17-PH2 Oil/Water Separator (.38mgd/1.55mgd capacity)

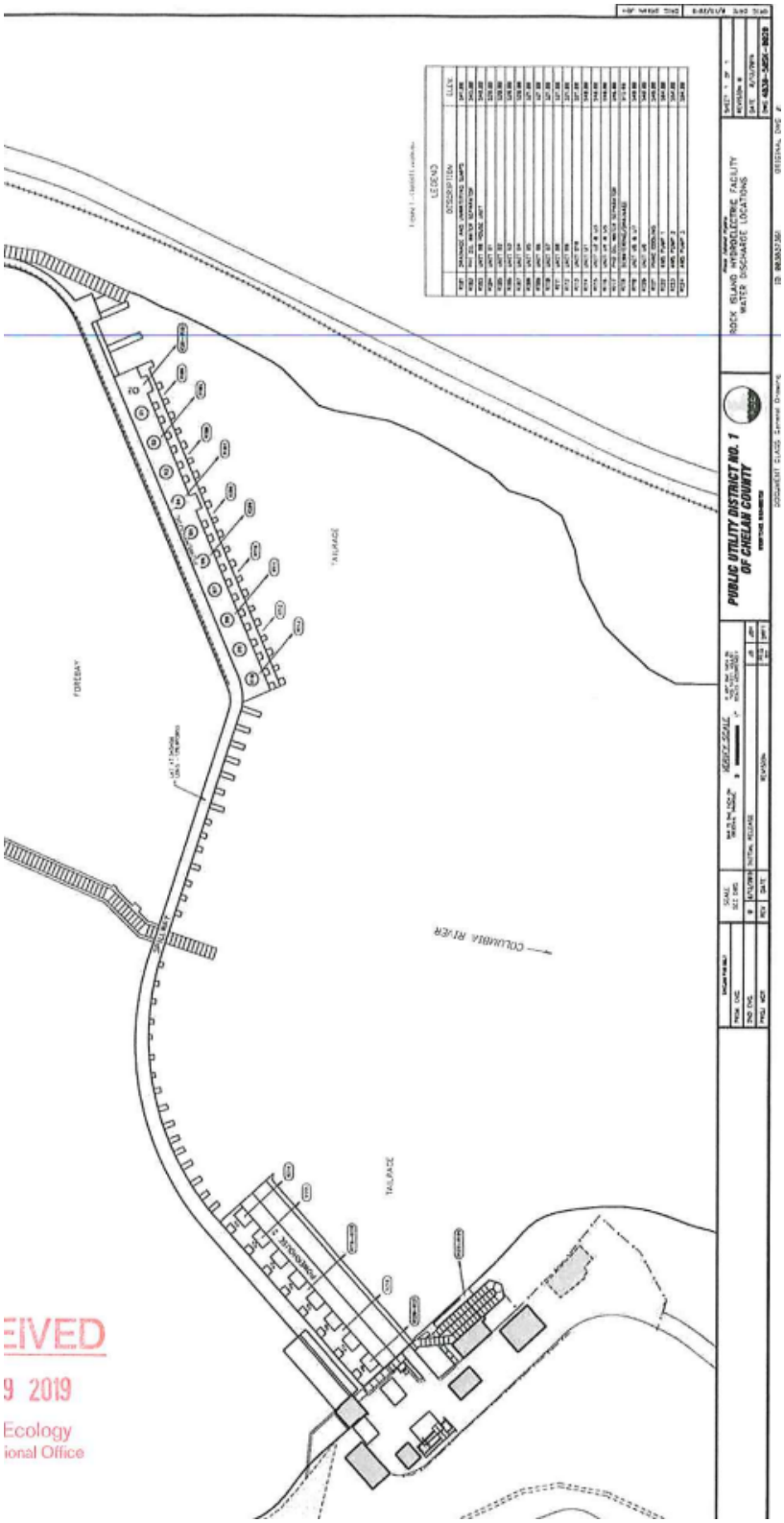
RI18-Unwatering System and Drainage Pumps. (.086mgd)

RI19-RI20 Discharge Cooling water to draft tube from units U6-U8 (1.36 mgd)

RI 21 -PH2 Plant HVAC. (1.4mgd)

RI22 to RI24-PH2 Attraction Water System (AWS) 1-3 Pump Cooling (0.01mgd)

Figure 2 - Outfall Locations



B. Description of the receiving water

CCRID discharges to the Columbia River.

The ambient background data used for this permit includes the following:

Table 2 - Ambient Background Data – Columbia River 2018

Parameter	Value Used
Flow 7Q10 95% Confidence	56,858 cfs
Temperature	11.8 °C mean/ 20.3 max[a]

[a] Current Conditions 2011-2016 Table 3-2 Columbia and Snake River TMDL.

C. Wastewater characterization

CCRID reported the concentration of pollutants in the discharge in the permit application. Characterization of the discharge is limited to data reported in the permit application.

Ecology observed turbine cooling water outfalls to be substantively similar. The wastewater characterization follows:

Table 3 - Unwatering Sump

Parameter	Units	Value
Flow	GPM	
Temperature (Intake)	Degrees C	
Temperature	Degrees C	
pH	standard units	7.13
Biochemical Oxygen Demand (BOD_5)	mg/L	<2
Chemical Oxygen Demand (COD)	mg/L	11.0
Hexane Extractable Material	mg/L	1.4
Total Organic Carbon (TOC)	mg/L	1.31
Total Suspended Solids (TSS)	mg/L	1.3
Ammonia	mg/L	<0.07
Total Residual Chlorine	mg/L	<0.05
Oil and Grease	mg/L	3.0

Parameter	Units	Value
Surfactants	mg/L	<0.025
Antimony	µg/L	<0.3
Arsenic	µg/L	0.615
Beryllium	µg/L	<0.05
Cadmium	µg/L	<0.05
Chromium	µg/L	0.53
Copper	µg/L	5.96
Lead	µg/L	1.16
Mercury	µg/L	<0.00052
Nickel	µg/L	0.62
Selenium	µg/L	0.45
Silver	µg/L	<0.1
Thallium	µg/L	<0.05
Zinc	µg/L	23.6
PCB-1242	µg/L	<0.48
PCB-1254	µg/L	<0.48
PCB-1221	µg/L	<0.48
PCB-1232	µg/L	<0.48
PCB-1248	µg/L	<0.48
PCB-1260	µg/L	<0.48
PCB-1016	µg/L	<0.48
Toxaphene	µg/L	<0.238

Table 4 - Wastewater Characterization Station Sump

Parameter	Units	Value
Flow	GPM	1000

Parameter	Units	Value
pH	standard units	7.46
Biochemical Oxygen Demand (BOD_5)	mg/L	<2
Chemical Oxygen Demand (COD)	mg/L	11.0
Total Organic Carbon (TOC)	mg/L	.98
Total Suspended Solids (TSS)	mg/L	<1.0
Ammonia	mg/L	<0.07
Total Residual Chlorine	mg/L	<0.05
Hexane Extractable Materials	mg/L	2.3
Oil and Grease	mg/L	2.8
Surfactants	mg/L	0.128
Antimony	µg/L	<0.3
Arsenic	µg/L	0.480
Beryllium	µg/L	<0.05
Cadmium	µg/L	0.080
Chromium	µg/L	0.47
Copper	µg/L	1.56
Lead	µg/L	0.648
Mercury	µg/L	<0.0005
Nickel	µg/L	0.40
Selenium	µg/L	0.58
Silver	µg/L	<0.1
Thallium	µg/L	<0.05
Zinc	µg/L	22.5
PCB-1242	µg/L	<0.48
PCB-1254	µg/L	<0.48

Parameter	Units	Value
PCB-1221	µg/L	<0.48
PCB-1232	µg/L	<0.48
PCB-1248	µg/L	<0.48
PCB-1260	µg/L	<0.48
PCB-1016	µg/L	<0.48
Toxaphene	µg/L	<0.238

Table 5 - Intake Water

Parameter	Units	Value
Flow	GPM	3000
pH	standard units	7.45
Biochemical Oxygen Demand (BOD_5)	mg/L	<2
Chemical Oxygen Demand (COD)	mg/L	8.9
Total Organic Carbon (TOC)	mg/L	1.34
Total Suspended Solids (TSS)	mg/L	<1
Ammonia	mg/L	<0.07
Total Residual Chlorine	mg/L	<0.05
Hexane Extractable Materials	mg/L	<1.4
Oil and Grease	mg/L	3.0
Surfactants	mg/L	<0.025
Antimony	µg/L	<0.3
Arsenic	µg/L	0.568
Beryllium	µg/L	<0.05
Cadmium	µg/L	<0.05
Chromium	µg/L	0.80

Parameter	Units	Value
Copper	µg/L	1.43
Lead	µg/L	0.135
Mercury	µg/L	0.00110
Nickel	µg/L	0.62
Selenium	µg/L	0.55
Silver	µg/L	<0.1
Thallium	µg/L	<0.05
Zinc	µg/L	4.18
PCB-1242	µg/L	<0.48
PCB-1254	µg/L	<0.48
PCB-1221	µg/L	<0.48
PCB-1232	µg/L	<0.48
PCB-1248	µg/L	<0.48
PCB-1260	µg/L	<0.48
PCB-1016	µg/L	<0.48
Toxaphene	µg/L	<0.238

III. Proposed Permit Limits

Federal and state regulations require that effluent limits in an NPDES permit must be either technology- or water quality-based.

- Technology-based limits are based upon the treatment methods available to treat specific pollutants. Technology-based limits are set by the EPA and published as a regulation, or Ecology develops the limit on a case-by-case basis (40 CFR 125.3, and chapter 173-220 WAC).
- Water quality-based limits are calculated so that the effluent will comply with the Surface Water Quality Standards (chapter 173-201A WAC), Ground Water Standards (chapter 173-200 WAC), Sediment Quality Standards (chapter 173-204 WAC), or the Federal Water Quality Criteria Applicable to Washington (40 CFR 131.45).

- Ecology must apply the most stringent of these limits to each parameter of concern. These limits are described below.

The limits in this permit reflect information received in the application and from supporting reports (engineering, hydrogeology, etc.). Ecology evaluated the permit application and determined the limits needed to comply with the rules adopted by the state of Washington. Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation.

Ecology does not usually develop limits for pollutants not reported in the permit application but may be present in the discharge. The permit does not authorize discharge of the non-reported pollutants. During the five-year permit term, the facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify Ecology if significant changes occur in any constituent [40 CFR 122.42(a)]. Until Ecology modifies the permit to reflect additional discharge of pollutants, a permitted facility could be violating its permit.

B. Technology-based effluent limits

Hydroelectric generating facility discharge effluent limitation guidelines have not yet been developed by the EPA. Powerhouse 1 has an Oil/Water Separator with a maximum discharge of 2.12 mgd. Powerhouse 2 has an Oil/Water Separator with a maximum discharge of 1.56 mgd.

Ecology must ensure that facilities provide all known, available, and reasonable methods of prevention, control, and treatment (AKART) when it issues a permit.

C. Surface water quality-based effluent limits

The Washington State surface water quality standards (chapter 173-201A WAC) are designed to protect existing water quality and preserve the beneficial uses of Washington's surface waters. Waste discharge permits must include conditions that ensure the discharge will meet the surface water quality standards (WAC 173-201A-510). Water quality-based effluent limits may be based on an individual waste load allocation or on a waste load allocation developed during a basin wide total maximum daily load study (TMDL).

Numeric criteria for the protection of aquatic life and recreation

Numeric water quality criteria are listed in the water quality standards for surface waters (chapter 173-201A WAC). They specify the maximum levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. Ecology uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

Numeric criteria for the protection of human health

Numeric criteria for the protection of human health are promulgated in Chapter 173-201A WAC and 40 CFR 131.45. These criteria are designed to protect human health from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters. The water quality standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

Narrative criteria

Narrative water quality criteria (e.g., WAC 173-201A-240(1); 2006) limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge to levels below those which have the potential to:

- Adversely affect designated water uses.
- Cause acute or chronic toxicity to biota.
- Impair aesthetic values.
- Adversely affect human health.

Narrative criteria protect the specific designated uses of all fresh waters (WAC 173-201A-200, 2016) and of all marine waters (WAC 173-201A-210, 2016) in the state of Washington.

Antidegradation

Description – The purpose of Washington's Antidegradation Policy (WAC 173-201A-300-330; 2016) is to:

- Restore and maintain the highest possible quality of the surface waters of Washington.
- Describe situations under which water quality may be lowered from its current condition.
- Apply to human activities that are likely to have an impact on the water quality of surface water.
- Ensure that all human activities likely to contribute to a lowering of water quality, at a minimum, apply all known, available, and reasonable methods of prevention, control, and treatment (AKART).
- Apply three tiers of protection (described below) for surface waters of the state.

Tier I: ensures existing and designated uses are maintained and protected and applies to all waters and all sources of pollutions.

Tier II: ensures that waters of a higher quality than the criteria assigned are not degraded unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities.

Tier III: prevents the degradation of waters formally listed as "outstanding resource waters," and applies to all sources of pollution.

A facility must prepare a Tier II analysis when all three of the following conditions are met:

- The facility is planning a new or expanded action.
- Ecology regulates or authorizes the action.
- The action has the potential to cause measurable degradation to existing water quality at the edge of a chronic mixing zone.

Facility Specific Requirements — This facility must meet Tier I requirements.

- Dischargers must maintain and protect existing and designated uses. Ecology must not allow any degradation that will interfere with, or become injurious to, existing or designated uses, except as provided for in chapter 173-201A WAC.

Mixing zones

A mixing zone is the defined area in the receiving water surrounding the discharge port(s), where wastewater mixes with receiving water. Within mixing zones, the pollutant concentrations may exceed water quality numeric standards, so long as the discharge doesn't interfere with designated uses of the receiving water body (for example, recreation, water supply, and aquatic life and wildlife habitat, etc.) The pollutant concentrations outside of the mixing zones must meet water quality numeric standards.

State and federal rules allow mixing zones because the concentrations and effects of most pollutants diminish rapidly after discharge, due to dilution. Ecology defines mixing zone sizes to limit the amount of time any exposure to the end-of-pipe discharge could harm water quality, plants, or fish.

The state's water quality standards allow Ecology to authorize mixing zones for the facility's permitted wastewater discharges only if those discharges already receive all known, available, and reasonable methods of prevention, control, and treatment (AKART). Mixing zones typically require compliance with water quality criteria within a specified distance from the point of discharge and must not use more than 25% of the available width of the water body for dilution [WAC 173-201A-400 (7)(a)(ii-iii)].

Ecology uses modeling to estimate the amount of mixing within the mixing zone. Through modeling Ecology determines the potential for violating the water quality standards at the edge of the mixing zone and derives any necessary effluent limits. Steady-state models are the most frequently used tools for conducting mixing zone analyses. Ecology chooses values for each effluent and for receiving water variables that correspond to the time period when

the most critical condition is likely to occur (see Ecology's Permit Writer's Manual at https://apps.ecology.wa.gov/publications/documents/92109.pdf). Each critical condition parameter, by itself, has a low probability of occurrence and the resulting dilution factor is conservative. The term "reasonable worst-case" applies to these values.

The mixing zone analysis produces a numerical value called a dilution factor (DF). A dilution factor represents the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. For example, a dilution factor of 4 means the effluent is 25% and the receiving water is 75% of the total volume of water at the boundary of the mixing zone. Ecology uses dilution factors with the water quality criteria to calculate reasonable potentials and effluent limits. Water quality standards include both aquatic life-based criteria and human health-based criteria. The former are applied at both the acute and chronic mixing zone boundaries; the latter are applied only at the chronic boundary. The concentration of pollutants at the boundaries of any of these mixing zones may not exceed the numerical criteria for that zone.

Each aquatic life *acute* criterion is based on the assumption that organisms are not exposed to that concentration for more than one hour and more often than one exposure in three years. Each aquatic life *chronic* criterion is based on the assumption that organisms are not exposed to that concentration for more than four consecutive days and more often than once in three years.

The two types of human health-based water quality criteria distinguish between those pollutants linked to non-cancer effects (non-carcinogenic) and those linked to cancer effects (carcinogenic). The human health-based water quality criteria incorporate several exposure and risk assumptions. These assumptions include:

- A 70-year lifetime of daily exposures.
- An ingestion rate for fish or shellfish measured in kg/day.
- An ingestion rate of two and four tenths (2.4) liters/day for drinking water (increased from two liters/day in the 2016 Water Quality Standards update).
- A one-in-one-million cancer risk for carcinogenic chemicals.

This permit does not authorize a mixing zone. The Permittee may submit a Mixing Zone Study, for Ecology's consideration, to evaluate whether or not a mixing zone is warranted for the discharge. If considering conducting and submitting a study the Permittee should discuss the applicable requirements with Ecology.

D. Designated uses and surface water quality criteria

Applicable designated uses and surface water quality criteria are defined in chapter 173-201A WAC. The table included below summarizes the criteria applicable to this facility's discharge.

Aquatic Life Uses are designated based on the presence of, or the intent to provide protection for the key uses. All indigenous fish and non-fish aquatic species must be protected in waters of the state in addition to the key species. The Aquatic Life Uses for this receiving water are identified below.

Freshwater Aquatic Life Uses and Associated Criteria

Table 6 - Salmonid Spawning, Rearing, and Migration

Criteria	Value
Temperature Criteria – Highest 7-DAD MAX	17.5°C (63.5°F)
Dissolved Oxygen Criteria – Lowest 1-Day Minimum	8.0 mg/L
Turbidity Criteria	• 5 NTU over background when the background is 50 NTU or less; or • A 10 percent increase in turbidity when the background turbidity is more than 50 NTU.
Total Dissolved Gas Criteria	Total dissolved gas must not exceed 110 percent of saturation at any point of sample collection.
pH Criteria	The pH must measure within the range of 6.5 to 8.5 with a human-caused variation within the above range of less than 0.5 units.

- The *recreational use* for this receiving water is primary contact recreation. ***E.coli*** organism levels must not exceed a geometric mean value of 100 CFU or MPN per 100 mL, with no more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained within the averaging period exceeding 320 CFU or MPN per 100 mL.
- The *water supply* uses are domestic, agricultural, industrial, and stock watering.
- The *miscellaneous* freshwater uses are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics.

E. Water quality impairments

The Columbia and Lower Snake Rivers are listed on the state's polluted waters list for high water temperatures that are above Washington water quality standards and can harm salmon. Because the Columbia and Snake Rivers cross multiple state boundaries and span almost 900 miles, the federal Environmental Protection Agency (EPA) published the Total Maximum Daily

Load (TMDL) for temperature in the Columbia and Lower Snake Rivers [1]on May 20, 2020. (https://www.epa.gov/columbiariver/tmdl-temperature-columbia-and-lower-snake-rivers). The TMDL includes a waste load allocation for Rock Island Dam.

Near and downstream from the CCRID, the Columbia River is on the current 303(d) list for Category 4 and 5 impairment. Category 4a lists Total Dissolved Gas and temperature. A Category 4a listing means an EPA-approved TMDL plan is in place and implemented. The river is impaired (Category 5) for 4,4'-DDD, 4,4'-DDE, and PCBs.

The Federal Clean Water Act specifies that when a water body is impaired, a Total Maximum Daily Load (TMDL) study must be conducted to restore the waterbody's function. A Total Maximum Daily Load specifies the maximum amount of a pollutant that a waterbody can receive and still meet applicable Water Quality Standards.

On August 13, 2021, the EPA issued the final Columbia and Lower Snake Rivers Temperature Total Maximum Daily Load.[2] The TMDL assigns a WLA (expressed as a heat load in kcal/day) to all point source discharges to the Columbia River, including this facility. This permit limits heat load and applies facility-wide from June 1st to October 31st. The heat load for each outfall is calculated as the product of the monthly average temperature and average monthly flow, times a conversion factor of 3.78E+06 kcals/day/(°C x MGD). The facility-wide monthly average heat load is the summation of the average monthly heat load of all outfalls. Thus, for permit compliance, heat load is calculated as follows:

$$Facility\ Heat\ Load\ (\frac{\text{kcal}}{\text{day}}) = \sum Q_x * T_x * 3.78 * 10^6 \frac{kcals}{MGD * ℃ * day}$$

Where:

- Q_x = The monthly average flow of an outfall in MGD.
- T_x = The monthly average temperature of an outfall in °C.

While the heat load limit will apply at permit issuance, the permittee may initially calculate heat loads with grab temperature samples and their best available flow estimates. However, the proposed permit includes a 2-year compliance schedule, giving CCRID time to install the equipment and controls necessary to sufficiently report their heat load. As detailed in section S11 of the permit, CCRID must submit a plan to determine flows and temperatures at each outfall, using continuous monitoring where feasible. This plan must be approved by Ecology,

[1] https://www.epa.gov/columbiariver/tmdl-temperature-columbia-and-lower-snake-rivers

[2] https://www.epa.gov/system/files/documents/2022-06/tmdl-columbia-snake-temperature-errata-update-05102022.pdf

and all necessary monitoring equipment must be installed within two years after permit issuance. For temperature, continuous monitoring instruments must measure at least once every half hour and achieve an accuracy of 0.2 degrees C. If continuous monitoring is unfeasible at a given outfall, another methodology may be approved by Ecology.

Table 7 - Water Quality Impairments

Listing ID	Parameter	Medium	Category
40945	Temperature	Water	4a
51661	4,4'-DDD	Tissue	5
51722	4,4'-DDE	Tissue	5
52658	Polychlorinated Biphenyls (PCBs)	Tissue	5
36391	Total Dissolved Gas	Water	4a

F. Evaluation of surface water quality-based effluent limits for narrative criteria

Ecology must consider the narrative criteria described in WAC 173-201A-260 when it determines permit limits and conditions. Narrative water quality criteria limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge which have the potential to adversely affect designated uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health.

"Aesthetic values must not be impaired by the presence of materials of their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste (WAC 173-201A-260-2(b)."

In some cases, concentrations below 5.0 mg/L can lead to oily sheens. As noted, this relationship is not well established at the point of discharge, especially given the possibility of the facility using new lubricants. To conservatively protect narrative water quality criteria in the receiving stream, this permit implements a 5.0 mg/L limit, matching the quantitation level for approved testing methods. This limit also matches similar EPA issued permits in WA.

Oil discharges are also limited by the following State laws: *RCW 90.56.320 Unlawful for oil to enter waters* (formerly RCW 90.48.320) and *RCW 90.48.200 Waste disposal permits*.

RCW 90.56.320

Unlawful for oil to enter waters—Exceptions.

It shall be unlawful, except under the circumstances hereafter described in this section, for oil to enter the waters of the state from any ship or any fixed or mobile facility or installation located offshore or onshore whether publicly or privately operated, regardless of the cause of the entry or fault of the person having control over the oil, or regardless of whether it be the result of intentional or negligent conduct, accident or other cause. This section shall not apply to discharges of oil in the following circumstances:

(1) The person discharging was expressly authorized to do so by the department prior to the entry of the oil into state waters; or

(2) The person discharging was authorized to do so by operation of law as provided in ***RCW 90.48.200****.*

RCW 90.48.200 Waste disposal permits required of counties, municipalities and public corporations — Nonaction upon application — Temporary permit — Duration*.*

Ecology considers narrative criteria when it evaluates the characteristics of the wastewater and when it implements all known, available, and reasonable methods of treatment and prevention (AKART) as described above in the technology-based limits section. When Ecology determines if a facility is meeting AKART it considers the pollutants in the wastewater and the adequacy of the treatment to prevent the violation of narrative criteria.

Appendix A states EPA Method 1664A is the only approved method for Oil and Grease detection in wastewater. The detection limit is 1.4 mg/L. The quantitation limit is 5 mg/L. A daily maximum effluent limit of 5 mg/L ensures narrative criteria for are met for no visible oil sheen.

In addition, Ecology considers the toxicity of the wastewater discharge by requiring whole effluent toxicity (WET) testing when there is a reasonable potential for the discharge to contain toxics. Ecology's analysis of the need for WET testing for this discharge is described later in the fact sheet.

G. Evaluation of surface water quality-based effluent limits for numeric criteria

Ecology has not authorized a mixing zone in the permit.

The derivation of surface water quality-based limits also takes into account the variability of pollutant concentrations in both the effluent and the receiving water.

Toxic Pollutants — Federal regulations (40 CFR 122.44) require Ecology to place limits in NPDES permits on toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. Ecology does not exempt facilities with technology-based effluent limits from meeting the surface water quality standards.

- Reasonable Potential Analysis

Data Collection Required: Ecology does not have sufficient information on the temperature of the effluent or the receiving water to determine compliance with water quality criteria for temperature. The proposed permit requires CCRID to monitor effluent and report the results to Ecology.

A reasonable potential analysis was conducted using zero dilution and with the limited data provided in the application. Using this data, the facility does not exhibit reasonable potential to pollute.

The permit includes additional requirements for determining the concentrations of their discharges.

Temperature--The state temperature standards (WAC 173-201A, WAC 173-201A-200, WAC 173-201A-600, and WAC 173-201A-602) include multiple elements:

- Annual summer maximum threshold criteria (June 15 to September 15)
- Supplemental spawning and rearing season criteria (September 15 to June 15)
- Incremental warming restrictions
- Guidelines on preventing acute lethality and barriers to migration of salmonids

Ecology evaluates each criterion independently to determine reasonable potential and derive permit limits.

- Annual summer maximum and supplementary spawning/rearing criteria[3]

  Each water body has an annual maximum temperature criterion [WAC 173-201A-200(1)(c), and WAC 173-201A-602, Table 602]. These threshold criteria (e.g., 12, 16, 17.5, 20°C) protect specific categories of aquatic life by controlling the effect of human actions on summer temperatures.

  Some waters have an additional threshold criterion to protect the spawning and incubation of salmonids (9°C for char and 13°C for salmon and trout) [WAC 173-201A-602, Table 602]. These criteria apply during specific date-windows.

[3] Supplemental spawning criteria do not apply to the Columbia River at the point of discharge.

The threshold criteria apply at the edge of the chronic mixing zone. Criteria for most fresh waters are expressed as the highest 7-Day average of daily maximum temperature (7-DADMax). The 7-DADMax temperature is the arithmetic average of seven consecutive measures of daily maximum temperatures. Criteria for some fresh waters are expressed as the highest 1-Day annual maximum temperature (1-DMax).

- Incremental warming criteria

  The water quality standards limit the amount of warming human sources can cause under specific situations [WAC 173-201A-200(1)(c)(i)-(ii). The incremental warming criteria apply at the edge of the chronic mixing zone.

  At locations and times when background temperatures are cooler than the assigned threshold criterion, point sources are permitted to warm the water by only a defined increment. These increments are permitted only to the extent doing so does not cause temperatures to exceed either the annual maximum or supplemental spawning criteria.

- Guidelines to prevent acute lethality or barriers to migration of salmonids. These site-level considerations do not override the temperature criteria listed above.

  1. Instantaneous lethality to passing fish: The upper 99th percentile daily maximum effluent temperature must not exceed 33°C, unless a dilution analysis indicates ambient temperatures will not exceed 33°C two seconds after discharge.
  2. General lethality and migration blockage: The temperature at the edge of a chronic mixing zone must not exceed either a 1DMax of 23°C or a 7DADMax of 22°C. When adjacent downstream temperatures are 3°C or more cooler, the 1DMax at the edge of the chronic mixing zone must not exceed 22°C.
  3. Lethality to incubating fish: The temperature must not exceed 17.5°C at locations where eggs are incubating.

H. Human health

Washington's water quality standards include numeric human health-based criteria for priority pollutants that Ecology must consider when writing NPDES permits.

Ecology evaluated the discharge's potential to violate the water quality standards as required by 40 CFR 122.44(d) by following the procedures published in the Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001)[4] and Ecology's Permit Writer's Manual to make a reasonable potential determination. The evaluation showed that the

[4] https://www3.epa.gov/npdes/pubs/owm0264.pdf

discharge has no reasonable potential to cause a violation of water quality standards, and an effluent limit is not needed.

I. Sediment quality

The aquatic sediment standards (chapter 173-204 WAC) protect aquatic biota and human health. Under these standards Ecology may require a facility to evaluate the potential for its discharge to cause a violation of sediment standards (WAC 173-204-400). You can obtain additional information about sediments at the Aquatic Lands Cleanup Unit[5] available at: https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Sediment-cleanups

Through a review of the discharger characteristics and of the effluent characteristics, Ecology determined that this discharge has no reasonable potential to violate the sediment management standards.

J. Groundwater quality limits

The groundwater quality standards (chapter 173-200 WAC) protect beneficial uses of groundwater. Permits issued by Ecology must not allow violations of those standards (WAC 173-200-100).

The groundwater quality standards (chapter 173-200 WAC) protect beneficial uses of groundwater. Permits issued by Ecology must not allow violations of those standards (WAC 173-200-100).

CCRID does not discharge wastewater to the ground. No permit limits are required to protect groundwater.

K. Whole effluent toxicity

The water quality standards for surface waters forbid discharge of effluent that has the potential to cause toxic effects in the receiving waters. Many toxic pollutants cannot be measured by commonly available detection methods. However, laboratory tests can measure toxicity directly by exposing living organisms to the wastewater and measuring their responses. These tests measure the aggregate toxicity of the whole effluent, so this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Using the screening criteria in chapter 173-205-040 WAC, Ecology determined that toxic effects caused by unidentified pollutants in the effluent are unlikely. Therefore, this permit does not

[5] https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Sediment-cleanups

require WET testing. Ecology may require WET testing in the future if it receives information indicating that toxicity may be present in this effluent.

IV. Monitoring Requirements

Ecology requires monitoring, recording, and reporting (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and that the discharge complies with the permit's effluent limits.

If a facility uses a contract laboratory to monitor wastewater, it must ensure that the laboratory uses the methods and meets or exceeds the method detection levels required by the permit. The permit describes when facilities may use alternative methods. It also describes what to do in certain situations when the laboratory encounters matrix effects. When a facility uses an alternative method as allowed by the permit, it must report the test method, detection level (DL), and quantitation level (QL) on the discharge monitoring report or in the required report.

A. Wastewater monitoring

CCRID will monitor for pH, flow, Oil and Grease, and Temperature (heat load) to characterize the effluent. These pollutant(s) could have impacts on the quality of the surface water.

Special Condition S.2 details the monitoring schedule in the proposed permit. Specified monitoring frequencies account for the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

B. Lab accreditation

Ecology requires that facilities must use a laboratory registered or accredited under the provisions of chapter 173-50 WAC, Accreditation of Environmental Laboratories, to prepare all monitoring data (with the exception of certain parameters).

V. Other Permit Conditions

A. Reporting and record keeping

Ecology based Special Condition S4 on its authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges (WAC 173-220-210).

B. Non routine and unanticipated wastewater

Occasionally, this facility may generate wastewater which was not characterized in the permit application because it is not a routine discharge and was not anticipated at the time of application. These wastes typically consist of waters used to pressure-test storage tanks or fire water systems or of leaks from drinking water systems.

The permit authorizes the discharge of non-routine and unanticipated wastewater under certain conditions. The facility must characterize these waste waters for pollutants and examine the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and on any opportunities for reuse, Ecology may:

- Authorize the facility to discharge the wastewater.
- Require the facility to treat the wastewater.
- Require the facility to reuse the wastewater.

C. Spill plan

This facility stores a quantity of chemicals on-site that have the potential to cause water pollution if accidentally released. Ecology can require a facility to develop best management plans to prevent this accidental release [Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080].

CCRID developed and implements a Spill Prevention, Control, and Countermeasure (SPCC) plan that contains information on specific prevention, containment, and countermeasures implemented.

D. Solid waste control plan

CCRID could cause pollution of the waters of the state through inappropriate disposal of solid waste or through the release of leachate from solid waste.

This proposed permit requires this facility to develop a solid waste control plan to prevent solid waste from causing pollution of waters of the state. The facility must submit the plan to Ecology for approval (RCW 90.48.080). You can obtain an Ecology guidance document, which describes how to develop a Solid Waste Control Plan, at: https://fortress.wa.gov/ecy/publications/documents/0710024.pdf.

G. Operation and maintenance manual

Ecology requires industries to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state and federal regulations [40 CFR 122.41(e) and WAC 173-220-150 (1)(g)]. The facility will prepare and an operation and maintenance manual as required by state regulation for the construction of wastewater treatment facilities (WAC 173-240-150). Implementation of the procedures in the operation and maintenance manual ensures the facility's compliance with the terms and limits in the permit.

VI. Oil, Grease, and Lubricant Management

Permit Condition S.11 details requirements for Oil, Grease and Lubricant management. It requires submission of an Environmental Assessment and Liability (EAL) Evaluation Report, Oil and Grease Accountability Plan, and Oil and Grease Annual Report.

Wicket gates, in-line equipment, lubricated wire ropes, and Kaplan runners all use lubricants which may contact water. This may result in release of lubricants into water. Currently, oil and grease are the primary lubricants used for equipment. However, EALs are an alternative lubricant that are biodegradable and less harmful to aquatic life species. EALs also offer a reasonable alternative to longer-term, but costly solutions such as oil-less turbines. EALs prevent or minimize the generation and potential release of pollutants from the facility to the waters of the United States.

The permit requires the use of EALs for all equipment with oil to water grease interfaces, unless technically infeasible. EPA's 2011 Environmentally Acceptable Lubricants report defines EALs as "lubricants that have been demonstrated to meet standards for biodegradability, toxicity, and bioaccumulation potential that minimize their likely adverse consequences in the aquatic environment, compared to conventional lubricants." The permit requires that EALs used are consistent with the definition of EALs in EPA's 2011 Environmentally Acceptable Lubricants report.

VII. Monitoring

Continuous Monitoring and TMDL WLA

A Total Maximum Daily Load (TMDL) specifies the maximum amount of a pollutant that a waterbody can receive and still meet applicable Water Quality Standards. The facility will be required to meet the Wasteload Allocation set by the EPA's Columbia and Lower Snake River Temperature TMDL.

1. Permit Condition S.12 requires submission of a Monitoring Plan. The facility must adequately sample and analyze effluent for temperature, pH and Oil and Grease. The monitoring plan will include continuous temperature monitoring at cooling water and sump outfalls as well as details for calculating flows and heat loads. The monitoring plan must be presented to Ecology. The critical season months when the WLA limit will be effective are June 1 – October 31. Alternative temperature monitoring may be applied where appropriate. The facility will have to determine if continuous flow monitoring at all appurtenances is feasible.
2. Conduct all sampling and analysis in accordance with the guidelines given in Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies, Ecology Publication

04-03-030 (https://fortress.wa.gov/ecy/publications/documents/0403030.pdf).

A model Quality Assurance Plan specific for temperature is available at (https://fortress.wa.gov/ecy/publications/documents/0503202.pdf).

VIII. Cooling Water Intake Structure Requirements to Minimize Adverse Impacts from Impingement and Entrainment

Permit Condition S.13 requires the facility maintain Best Technology Available standards to minimize Adverse Impacts from impingement and entrainment. The design, location, construction, and capacity of the permittee's cooling water intake structures (CWISs) shall reflect the best technology available (BTA) for minimizing adverse environmental impacts from the impingement and entrainment of various life stages of fish (e.g., eggs, larvae, juveniles, adults) by the CWISs.

IX. PCB Management

The permits do not allow for the addition of toxic materials or chemicals and prohibit the discharge of PCBs. PCBs may be present in transformers and other equipment at hydroelectric generating facilities.

L. General conditions

Ecology bases the standardized General Conditions on state and federal law and regulations. They are included in all individual industrial NPDES permits issued by Ecology.

X. Permit Issuance Procedures

A. Permit modifications

Ecology may modify this permit to impose numerical limits, if necessary to comply with water quality standards for surface waters, with sediment quality standards, or with water quality standards for groundwaters, after obtaining new information from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

Ecology may also modify this permit to comply with new or amended state or federal regulations.

B. Proposed permit Issuance

This proposed permit includes all statutory requirements for Ecology to authorize a wastewater discharge. The permit includes limits and conditions to protect human health and aquatic life,

and the beneficial uses of waters of the state of Washington. Ecology proposes to issue this permit for a term of 5 years.

VIII. References for Text and Appendices

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. *Technical Support Document for Water Quality-based Toxics Control*. EPA/505/2-90-001.

1988. *Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling*. USEPA Office of Water, Washington, D.C.

1985. *Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water*. EPA/600/6-85/002a.

1983. *Water Quality Standards Handbook*. USEPA Office of Water, Washington, D.C. Tsivoglou, E.C., and J.R. Wallace.

1972. *Characterization of Stream Reaeration Capacity*. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

1979. *In-stream Deoxygenation Rate Prediction*. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology

July 2018. *Permit Writer's Manual*. Publication Number 92-109 (https://apps.ecology.wa.gov/publications/documents/92109.pdf)

September 2011. *Water Quality Program Guidance Manual – Supplemental Guidance on Implementing Tier II Antidegradation*. Publication Number 11-10-073 (https://apps.ecology.wa.gov/publications/summarypages/1110073.html)

October 2010 (revised). *Water Quality Program Guidance Manual – Procedures to Implement the State's Temperature Standards through NPDES Permits*. Publication Number 06-10-100 (https://apps.ecology.wa.gov/publications/summarypages/0610100.html)

February 2007. *Focus Sheet on Solid Waste Control Plan, Developing a Solid Waste Control Plan for Industrial Wastewater Discharge Permittees*, Publication Number 07-10-024. (https://apps.ecology.wa.gov/publications/documents/0710024.pdf) Wright, R.M., and A.J. McDonnell.

Laws and Regulations (https://leg.wa.gov/state-laws-and-rules/)

Permit and Wastewater Related Information (https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance)

Permit Literature Resources

April 2004. Hanford Reach Fall Chinook Protection Plan.

June 2004. Total Maximum Daily Load for Total Dissolved Gas in the Mid-Columbia River and Lake Roosevelt Submittal Report. Ecology Publication Number 04-03-002. USEPA, WADOE, Spokane Tribe of Indians.

April 2008. 123 FERC 61049 United States of America Federal Energy Regulatory Commission Project No. 2114-116. Order Issuing New License.

April 2008. 401 Certification Hydropower Project. Order No. 4219 Relicensing of the Hydroelectric Project (FERC No. 2114).

2011. Clean Water Act_Federal Water Pollution Control Act_Title 33-Navigation_Navigable Waters_Chap. 26-Water Pollution Prevention_Control

February 2018. DRAFT Temperature Water Quality Standards for the Columbia, Lower Columbia, and Lower Snake Rivers.

December 2018. Quality Assurance Project Plan for Monitoring Selected Water Quality Parameters within the Hydroelectric Project: 2018 Update. Public Utility District No. 2 of Grant County.

January 2019. 2019-2023 (5-Year) Total Dissolved Gas Abatement Plan. Public Utility District No. 2 of Grant County.

February 2019. Spill Prevention, Control and Countermeasures Plan (SPCC). Priest Rapids Development. Hydroelectric Project. Public Utility District No. 2 of Grant County.

May 2019. Sampling Plan for a National Pollutant Discharge Elimination System Permit Application. Public Utility District No. 2 of Grant County.

March 2019. 2018 Summary Results of the Water Quality Fixed-Site Monitoring Program Within the Hydroelectric Project. Keeler, Carson.

November 2019. RE: Public Comment on Grant County Public Utility District's National Pollution Discharge Elimination System Permit Application for the Priest Rapids Dam. Anter, Simone.

Alkalinity Budget of the Columbia River. Park, P. Kilho. Webster, George. Yamamoto, Roy.

U.S. Army Corps of Engineers. 2015. Memorandum for Walla Walla District Projects, Subject: Oil Accountability Program. CENWW-OD-T, SOP 200-1-1. April 21, 2015.

Appendix A — Public Involvement Information

Ecology proposes to issue a permit to CCRID. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and Ecology's reasons for requiring permit conditions.

Ecology placed a Public Notice of Application on November 10, 2020 in the Wenatchee World to inform the public about the submitted application and to invite comment on the issuance of this permit.

Ecology placed a Public Notice of Draft on October 18, 2024 in Wenatchee World to inform the public and to invite comment on the proposed draft National Pollutant Discharge Elimination System permit and fact sheet.

The notice:

- Tells where copies of the draft Permit and Fact Sheet are available for public evaluation (a local public library, the closest Regional or Field Office, posted on our website).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Urges people to submit their comments, in writing, before the end of the Comment Period.
- Tells how to request a public hearing of comments about the proposed NPDES permit.
- Explains the next step(s) in the permitting process.

NOTICE: ANNOUNCEMENT OF AVAILABILITY OF DRAFT PERMIT

PERMIT NO.: WA0991032

APPLICANT: Public Utility District No. 1 of Chelan County

FACILITY: Rock Island Dam, Permit No. WA0991032
Hwy 28, 12 miles south of Wenatchee, WA

Public Utility District No. 1 of Chelan County has applied for a National Pollutant Discharge Elimination System (NPDES) permit in accordance with the provisions of Chapter 90.48 Revised Code of Washington (RCW) and Chapter 173-220 Washington Administrative Code (WAC), and the Federal Clean Water Act.

Following evaluation of the application and other available information, a draft permit has been developed which would allow the discharge of industrial wastewater (non-contact cooling water/sumps) to the Columbia River. All discharges to be in compliance with the Department of Ecology's Water Quality Standards for a permit to be issued.

A tentative determination has been made on the effluent limitations and special permit conditions that will prevent and control pollution. A final determination will not be made until all timely comments received in response to this notice have been evaluated.

PUBLIC COMMENT AND INFORMATION

The draft permit and fact sheet may be viewed at the Department of Ecology (Department) website: https://apps.ecology.wa.gov/paris/DocumentSearch.aspx?PermitNumber=WA0991032&FacilityName=&City=&County=&Region=0&PermitType=0&DocumentType=0. The application, fact sheet, proposed permit, and other related documents are also available at the Department's Central Regional Office for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m., weekdays. To obtain a copy or to arrange to view copies at the Central Regional Office, please e-mail publicrecordsofficer@ecy.wa.gov or write to the address listed below.

Interested persons are invited to submit written comments regarding the proposed permit. All comments must be submitted within 30 days after publication of this notice to be considered for the final determination.

Submit comments online at: https://wq.ecology.commentinput.com?id=j8fFaurHc. Written comments should be sent to: Water Quality Permit Coordinator by email at crowqpermits@ecy.wa.gov or by mail at Department of Ecology, Central Regional Office, 1250 West Alder Street, Union Gap, WA 98903-0009.

Any interested party may request a public hearing on the proposed permit within 30 days of the publication date of this notice. The request for a hearing shall state the interest of the party and the reasons why a hearing is necessary. The request should be sent to the above address. The Department will hold a hearing if it determines that there is significant public interest. If a hearing is to be held, public notice will be published at least 30 days in advance of the hearing date. Any party responding to this notice with comments will be mailed a copy of a hearing public notice.

Please bring this public notice to the attention of persons who you know would be interested in this matter. The Department is an equal opportunity agency. If you need this publication in an alternate format, please contact us at (509) 575-2490 or TTY (for the speech and hearing impaired) at 711 or 1-800-833-6388.

Publication date of this Notice is October 18, 2024.

Ecology has published a document entitled *Frequently Asked Questions about Effective Public Commenting* which is available on our website at https://apps.ecology.wa.gov/publications/SummaryPages/0307023.html

You may obtain further information from Ecology by telephone, (509) 575-2490 or by writing to the address listed below.

Water Quality Permit Coordinator
Department of Ecology

Central Regional Office
1250 West Alder Street
Union Gap, WA 98903

The primary author of this permit and fact sheet is Keith Primm .

Appendix B — Your Right to Appeal

You have a right to appeal this permit to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of the final permit. 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) (see glossary).

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

File your appeal and a copy of this permit 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 permit 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.

Table 8 – Appeal Address and Location Information

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

Appendix C — Glossary

1-DMax or 1-day maximum temperature – The highest water temperature reached on any given day. This measure can be obtained using calibrated maximum/minimum thermometers or continuous monitoring probes having sampling intervals of thirty minutes or less.

7-DADMax or 7-day average of the daily maximum temperatures – The arithmetic average of seven consecutive measures of daily maximum temperatures. The 7-DADMax for any individual day is calculated by averaging that day's daily maximum temperature with the daily maximum temperatures of the three days prior and the three days after that date.

Acute toxicity – The lethal effect of a compound on an organism that occurs in a short time period, usually 48 to 96 hours.

AKART – The acronym for "all known, available, and reasonable methods of prevention, control and treatment." AKART is a technology-based approach to limiting pollutants from wastewater discharges, which requires an engineering judgment and an economic judgment. AKART must be applied to all wastes and contaminants prior to entry into waters of the state in accordance with RCW 90.48.010 and RCW 90.48.520, WAC 173-200-030(2)(c)(ii), and WAC 173-216-110(1)(a).

Alternate point of compliance – An alternative location in the groundwater from the point of compliance where compliance with the groundwater standards is measured. It may be established in the groundwater at locations some distance from the discharge source, up to, but not exceeding the property boundary and is determined on a site specific basis following an AKART analysis. An "early warning value" must be used when an alternate point is established. An alternate point of compliance must be determined and approved in accordance with WAC 173-200-060(2).

Ambient water quality – The existing environmental condition of the water in a receiving water body.

Ammonia – Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Annual average design flow (AADF) – average of the daily flow volumes anticipated to occur over a calendar year.

Average monthly (intermittent) discharge limit – The average of the measured values obtained over a calendar months' time taking into account zero discharge days.

Average monthly discharge limit – The average of the measured values obtained over a calendar months' time.

Background water quality – The concentrations of chemical, physical, biological or radiological constituents or other characteristics in or of groundwater at a particular point in time upgradient of an activity that has not been affected by that activity, [WAC 173-200-020(3)]. Background water quality for any parameter is statistically defined as the 95% upper tolerance interval with a 95% confidence based on at least eight hydraulically upgradient water quality samples. The eight

samples are collected over a period of at least one year, with no more than one sample collected during any month in a single calendar year.

Best management practices (BMPs) – Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD5 – Determining the five-day Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD5 is used in modeling to measure the reduction of dissolved oxygen in receiving waters after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD_5 is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass – The intentional diversion of waste streams from any portion of a treatment facility.

Categorical pretreatment standards – National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties, which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Chlorine – A chemical used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic toxicity – The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean water act (CWA – The federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance inspection-without sampling – A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance inspection-with sampling – A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations. In addition, it includes as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Ecology may conduct additional sampling.

Composite sample – A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample

volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction activity – Clearing, grading, excavation, and any other activity, which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous monitoring – Uninterrupted, unless otherwise noted in the permit.

Critical condition – The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Date of receipt – This is defined in RCW 43.21B.001(2) as five business days after the date of mailing; or the date of actual receipt, when the actual receipt date can be proven by a preponderance of the evidence. The recipient's sworn affidavit or declaration indicating the date of receipt, which is unchallenged by the agency, constitutes sufficient evidence of actual receipt. The date of actual receipt, however, may not exceed forty-five days from the date of mailing.

Detection limit – The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the pollutant concentration is above zero and is determined from analysis of a sample in a given matrix containing the pollutant.

Dilution factor (DF) – A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction, for example, a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Distribution uniformity – The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Early warning value – The concentration of a pollutant set in accordance with WAC 173-200-070 that is a percentage of an enforcement limit. It may be established in the effluent, groundwater, surface water, the vadose zone or within the treatment process. This value acts as a trigger to detect and respond to increasing contaminant concentrations prior to the degradation of a beneficial use.

Enforcement limit – The concentration assigned to a contaminant in the groundwater at the point of compliance for the purpose of regulation, [WAC 173-200-020(11)]. This limit assures that a groundwater criterion will not be exceeded and that background water quality will be protected.

Engineering report – A document that thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report must contain the appropriate information required in WAC 173-240-060 or WAC 173-240-130.

Enterococci – A subgroup of fecal streptococci that includes *S. faecalis, S. faecium, S. gallinarum,* and *S. avium.* The enterococci are differentiated from other streptococci by their ability to grow in 6.5% sodium chloride, at pH 9.6, and at 10°C and 45°C.

E. coli – A bacterium in the family Enterobacteriaceae named Escherichia coli and is a common inhabitant of the intestinal tract of warm-blooded animals, and its presence in water samples is an indication of fecal pollution and the possible presence of enteric pathogens.

Fecal coliform bacteria – Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab sample – A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Groundwater – Water in a saturated zone or stratum beneath the surface of land or below a surface water body.

Industrial user – A discharger of wastewater to the sanitary sewer that is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial wastewater – Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated stormwater and, also, leachate from solid waste facilities.

Interference – A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local limits – Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Major facility – A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum daily discharge limit – The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Maximum day design flow (MDDF) – The largest volume of flow anticipated to occur during a one-day period, expressed as a daily average.

Maximum month design flow (MMDF) – The largest volume of flow anticipated to occur during a continuous 30-day period, expressed as a daily average.

Maximum week design flow (MWDF) – The largest volume of flow anticipated to occur during a continuous 7-day period, expressed as a daily average.

Method detection level (MDL) – See Detection Limit.

Minor facility -- A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing zone – An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The permit specifies the area of the authorized mixing zone that Ecology defines following procedures outlined in state regulations (chapter 173-201A WAC).

National pollutant discharge elimination system (NPDES) – The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both state and federal laws.

pH – The pH of a liquid measures its acidity or alkalinity. It is the negative logarithm of the hydrogen ion concentration. A pH of 7 is defined as neutral and large variations above or below this value are considered harmful to most aquatic life.

Pass-through – A discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

Peak hour design flow (PHDF) – The largest volume of flow anticipated to occur during a one-hour period, expressed as a daily or hourly average.

Peak instantaneous design flow (PIDF) – The maximum anticipated instantaneous flow.

Point of compliance – The location in the groundwater where the enforcement limit must not be exceeded and a facility must comply with the Ground Water Quality Standards. Ecology determines

this limit on a site-specific basis. Ecology locates the point of compliance in the groundwater as near and directly downgradient from the pollutant source as technically, hydrogeologically, and geographically feasible, unless it approves an alternative point of compliance.

Potential significant industrial user (PSIU) – A potential significant industrial user is defined as an Industrial User that does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

Ecology may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation level (QL) – Also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to (1, 2, or 5) x 10^n, where n is an integer. (64 FR 30417[6]).
ALSO GIVEN AS:
The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

Reasonable potential – A reasonable potential to cause or contribute to a water quality violation, or loss of sensitive and/or important habitat.

Responsible corporate officer – A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Sample Maximum – No sample may exceed this value.

Significant industrial user (SIU) –

[6] https://www.govinfo.gov/content/pkg/FR-1999-06-08/pdf/FR-1999-06-08.pdf

1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;

2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug discharge – Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate that may cause interference or pass through with the POTW or in any way violate the permit conditions or the POTW's regulations and local limits.

Soil scientist – An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5, 3, or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

Solid waste – All putrescible and non-putrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, contaminated soils and contaminated dredged material, and recyclable materials.

Soluble BOD_5 – Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD_5 test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2 um filter prior to running the standard BOD_5 test is sufficient to remove the particulate organic fraction.

State waters – Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater – That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based effluent limit – A permit limit based on the ability of a treatment method to reduce the pollutant.

Total coliform bacteria – A microbiological test, which detects and enumerates the total coliform group of bacteria in water samples.

Total dissolved solids – That portion of total solids in water or wastewater that passes through a specific filter.

Total maximum daily load (TMDL) – A determination of the amount of pollutant that a water body can receive and still meet water quality standards.

Total suspended solids (TSS) – Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Upset – An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water quality-based effluent limit – A limit imposed on the concentration of an effluent parameter to prevent the concentration of that parameter from exceeding its water quality criterion after discharge into receiving waters.

Appendix D — Technical Calculations

Simple Mixing:

Ecology uses simple mixing calculations to assess the impacts of certain conservative pollutants, such as the expected increase in fecal coliform bacteria at the edge of the chronic mixing zone boundary. Simple mixing uses a mass balance approach to proportionally distribute a pollutant load from a discharge into the authorized mixing zone. The approach assumes no decay or generation of the pollutant of concern within the mixing zone. The predicted concentration at the edge of a mixing zone (C_{mz}) is based on the following calculation:

$$C_{mz} = Ca + \frac{(Ce - Ca)}{DF}$$

where: Ce = Effluent Concentration
Ca = Ambient Concentration
DF = Dilution Factor

Reasonable Potential Analysis:

The spreadsheets Input 2 – Reasonable Potential, and LimitCalc in Ecology's PermitCalc Workbook determine reasonable potential (to violate the aquatic life and human health water quality standards) and calculate effluent limits. The process and formulas for determining reasonable potential and effluent limits in these spreadsheets are taken directly from the *Technical Support Document for Water Quality-based Toxics Control*, (EPA 505/2-90-001)[7]. The adjustment for autocorrelation is from EPA (1996a), and EPA (1996b).

Calculation of Water Quality-Based Effluent Limits:

Water quality-based effluent limits are calculated by the two-value wasteload allocation process as described on page 100 of the TSD (EPA, 1991) and shown below.

1. Calculate the acute wasteload allocation WLA_a by multiplying the acute criteria by the acute dilution factor and subtracting the background factor. Calculate the chronic wasteload allocation (WLA_c) by multiplying the chronic criteria by the chronic dilution factor and subtracting the background factor.

$$WLA_a = (\text{acute criteria} \times DF_a) - [(\text{background conc.} \times (DF_a - 1)]$$
$$WLA_c = (\text{chronic criteria} \times DF_c) - [(\text{background conc.} \times (DF_c - 1)]$$

where: DF_a = Acute Dilution Factor
DF_c = Chronic Dilution Factor

2. Calculate the long term averages (LTA_a and LTA_c) which will comply with the wasteload allocations WLA_a and WLA_c.

[7] https://www3.epa.gov/npdes/pubs/owm0264.pdf

$LTA_a = WLA_a \times e^{[0.5\sigma^2 - z\sigma]}$

where: $\sigma^2 = \ln[CV^2 + 1]$

$z = 2.326$

CV = coefficient of variation = std. dev/mean

$LTA_c = WLA_c \times e^{[0.5\sigma^2 - z\sigma]}$

where: $\sigma^2 = \ln[(CV^2 \div 4) + 1]$

$z = 2.326$

3. Use the smallest LTA of the LTA_a or LTA_c to calculate the maximum daily effluent limit and the monthly average effluent limit.

MDL=Maximum Daily Limit

$MDL = LTA \times e^{(z\sigma - 0.5\sigma^2)}$

where: $\sigma^2 = \ln[CV^2 + 1]$

$z = 2.326$ (99th percentile occurrence)

LTA = Limiting long term average

AML = Average Monthly Limit

$AML = LTA \times e^{(z\sigma_n - 0.5\sigma_n^2)}$

where: $\sigma^2 = \ln[(CV^2 \div n) + 1]$

n = number of samples/month

$z = 1.645$ (95^{th} % occurrence probability)

LTA = Limiting long term average

SW Toolbox Results

Program SWStat U.S. GEOLOGICAL SURVEY Seq 00001
Ver. 5.0 Log-Pearson & Pearson Type III Statistics Run Date / Time
03/13/2018 based on USGS Program A193 11/7/2022 11:09 AM

Notice -- Log-Pearson Type III or Pearson Type III distributions are used for these computations. Users are responsible for assessment and interpretation.

Description: 12462600 COLUMBIA RIVER BELOW ROCK ISLAND DAM, WA
Year Boundaries: April 1 - March 31
Period in report: April 1, 1991 - March 31, 2023
Parameter: 30-day low
Non-zero values: 30
Zero values: 0
Negative values: 2 (ignored)

Input time series (zero and negative values not included in listing.)

77853.000 58410.000 53650.000 56567.000 68487.000 91427.000 99053.000 66883.000
90323.000 72700.000 51213.000 70147.000 62823.000 75297.000 66097.000 64537.000
58690.000 56710.000 51823.000 56283.000 73257.000 63340.000 69800.000 62537.000
68600.000 67967.000 59353.000 60127.000 52293.000 65967.000

LOG PEARSON TYPE III Frequency Curve Parameters
(based on logs of the non-zero values)

Mean (logs)	4.816
Variance (logs)	0.005
Standard Deviation (logs)	0.072
Skewness (logs)	0.744
Standard Error of Skewness (logs)	0.427
Serial Correlation Coefficient (logs)	0.335
Coefficient of Variation (logs)	0.015

Frequency Curve - Parameter values at selected probabilities

Non-exceedance Probability	Recurrence Interval	Parameter Value	Variance of Estimate	95-Pct Confidence Intervals Lower	Upper
0.2000	5.00	56858.000	1.007	53635.000	60357.000

Appendix E — Response to Comments

Ecology should add in explicit language that the use of EAL's is a technology-based effluent limitation.

This approach is not implemented in EPA Permits and may be incongruent with how technology-based limits are developed.

Technology-based effluent limits are set according to the level of treatment that is achievable using available technology. EPA establishes technology-based effluent limits through effluent limitation guidelines (ELG's). In the absence of guidelines for oil and grease at hydroelectric facilities, the permitting authority must use BPJ to determine technology-based effluent limits. Any BPJ-based effluent limits would be less stringent than the numeric water quality-based effluent limit that has been established for oil and grease to meet the Washington's narrative water quality standard for deleterious materials and aesthetics. This permit establishes an oil and grease numeric effluent limit along with BPJ-based EAL-specific conditions which constitute the appropriate technology-based effluent limit for this specific discharge.

Ecology must add language stating that the agency has authority over the Permitee's EAL selection and include an approval or disapproval mechanism in the Final NPDES Permit for EAL Plans to ensure it is not authorizing an illegal self-regulatory scheme.

The Ecology Hydropower Permits were developed following the structure and requirements of EPA's issued Hydropower Permits. The permits require the permittee to select EALs for all oil-to-water interfaces unless technically infeasible. The EAL Plan is the means to achieve that requirement and does not constitute an effluent limit.

Ecology should include a list of specific products that qualify as EALs in the Final Permit.

EAL's consistent with the definition of EPA's 2011 report, Environmentally Acceptable Lubricants are allowable for use.

Annual EAL Report, should include a specific requirement that the Permittee document in recordkeeping whether and why EALs are deemed technologically infeasible.

Special Condition S.11.B.2 requires an evaluation of the technical feasibility for using EAL's.

Where EALs are deemed infeasible, the Permittee must report the use of any Non-environmentally Acceptable Lubricants.

Special Condition S.11.B.1 requires the identification of equipment and the type of lubricant used.

Add requirement that the Permittee account for all oils, greases, and lubricants delivered to the dam. While this is a requirement in the Spill Control Plan, it should also be required in the OGAP as they serve different functions.

The permit accounts for this in the Spill Control Plan which is a required submission.

Ecology should include in the OGAP, annual reporting requirements that describe the locations, amounts, types, and other uses of all aforementioned oils, greases, and lubricants.

This is function of the SPCC, Special Condition S.11.B, and Special Condition S.11.C

Ecology should require that Permittees maintain an accounting of the oil inputs and outputs at the dam to better identify leaks that could otherwise go unnoticed.

The permit considers this in Special condition S.11.C.

Ecology should require the Permittee to upload these documents to the Water Quality Permitting and Reporting Information System (PARIS).

Permittees utilize the WQWebPortlal for Required Permit Submittals which then becomes publicly available in PARIS.

All reports, including the monthly Discharge Monitoring Reports (DMRs) and annual reports, must include the results of and any updates to the OGAP and the Spill Control Plan.

All updates are required to be submitted either annually or as-needed, and are submitted through the WQWebPortal, and appear in Public PARIS.

While continuous water temperature monitoring from June 1 to October 31 is appropriate, Ecology should require that, during the rest of the year, the Permittee conduct temperature sampling at least twice per day.

The permittee is required to calculate heat load during the critical season, consistent with EPA permitting.

The Draft Permit states that continuous monitoring from June 1 to October 31 must take place within two years of permit issuance; however, this delay is unnecessary. The Final Permit should shorten the time the Permittee is allowed to implement the continuous monitoring requirement.

This is consistent with timelines approved in other Ecology hydropower permits. As these facilities are not treating water and sampling was not a forethought of design, the facilities have been given time to evaluate and engineer the solutions appropriate to their facility.

Requiring the Permittee to submit any known information related to the spill incident to Ecology within 24 hours of first detection.

Special Condition S.4.F. and S.4.G. detail requirements for reporting permit violations.

Requiring a follow-up report to Ecology detailing the steps the Permittee has taken and will take to bring the spill incident into compliance. This follow-up report should be submitted to Ecology after the initial containment effort is complete but no later than three days after initial detection.

Special Condition S.4.F. details requirements for reporting permit violations.

Increased sampling for pollutants at the site where the spill occurred for seven days after hydrocarbons have stopped being detected.

Spill response and remediation is determined by other agency interests.

The Final Permit should include terms and conditions that give Ecology authority to decide when the Permittee can put turbines back online after a spill incident. The Permittee may only bring a turbine

back online once Ecology gives written permission. At minimum, this permission should only be granted by Ecology under certain circumstances including the turbine has stopped leaking, the Permittee has fixed the problem, and the turbine is deemed unlikely to resume leaking.

Special Condition S.4.F requires the facility "Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem." Spills Response and leaks have their own protocol and are also considered unpermitted discharges. Lack of Operations and Maintenance leading to leaks, spills, or other unanticipated wastewater or unpermitted discharges may also be rationale for further enforcement.

Ecology should make compliance with Washington's 401 Water Quality Certification conditions an explicit permit condition in the Final Permit. While we understand that the applicable 401 Certification conditions are independently enforceable, having this language would improve clarity and is not an onerous addition.

Compliance with the 401 Certification is already a condition of the 401 Certification. The conditions of the river as related to the 401 Certification are independent of the conditions of the proposed industrial discharge and its impact on the river.

Page 6, Table 2, Effluent Limits: Outfall RI01-RI24

Table 2 outlines the effluent limits for outfalls RI01-RI24. Outfalls RI22-24 discharge only non-contact cooling water. Consistently with how the permit applies effluent limits to other non-contact cooling water outfalls, an effluent limit for the oil and grease parameter should not be applied to outfalls RI22-24.

Change applied.

Page 7, Table 3, Effluent Monitoring

Table 3 outlines effluent monitoring requirements and includes outfalls RI22-24. Outfalls RI22-24 discharge only non-contact cooling water and should therefore be removed from the requirement to monitor for oil and grease.

Change applied.

Page 9, Table 5, Permit Renewal Application Requirements – Outfalls RI01, RI02, RI17, RI18, RI22-24

Table 5, Permit Renewal Application Requirements, outlines the outfalls that must be monitored for Priority Pollutants – Total Metals and PCBs. Outfalls RI22-24 should be removed from this requirement as these outfalls discharge only non-contact cooling water.

Change applied.

Page 9, S2.C., Flow Measurement, Field Measurement, and Continuous Monitoring Devices

Section S2.C. describes measurement and calibration requirements for monitoring equipment. Please clarify that it is acceptable for the Facility to implement a calibration frequency for flow and temperature devices based on the recommendations of the manufacturer.

The facility should detail any calibration frequencies recommended by the manufacturer which are less frequent than required by the permit, in the Sampling Plan or O/M Plan.

Page 20, S12, Monitoring Plan and Installation Report

Page 20, Monitoring and Installation Report, requires that the facility "adequately monitor effluent flow and temperature to ensure compliance with their heat load limits." Chelan PUD intends to monitor a subset of cooling water outfalls, and the methodology and calculations will be documented in the Monitoring Plan for Flow and Temperature submittal report as authorized by Section S12.

This is an allowable approach which should be appropriately documented in the facility Monitoring Plan.

Fact Sheet Comments

Page 9 Update Powerhouse Units for clarity. Update Waste Treatment Process for accuracy.

Page 10 Update Outfall descriptions for accuracy and/or clarity.

Page 11 Update Image for accuracy.

Page 17 Update TBEL description for accuracy.