

POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

SPOKANE COUNTY,

Appellant,

v.

STATE OF WASHINGTON, DEPARTMENT
OF ECOLOGY,

Respondent.

PCHB No.

NOTICE OF APPEAL

I. APPEALING PARTY

1.1 Spokane County
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Spokane, WA 99260-0170
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1.2 Representation:

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2.2 Washington State Department of Ecology, Respondent.

III. ORDER OR DECISION APPEALED FROM

3.1 Spokane County appeals National Pollutant Discharge Elimination System (NPDES) Permit (“the Permit”) No. WA0093317 issued on June 13, 2022, by the Washington State Department of Ecology (“Ecology”). A copy of the Permit is attached as Exhibit “A” and available at the following Ecology link: <https://ecology.wa.gov/Issues-and-local-projects/Environmental-projects/Improving-Spokane-Watershed#permits>. A copy of Ecology’s transmittal letter is attached as Exhibit “B.” The Permit’s Fact Sheet is attached as Exhibit “C.”

IV. STATEMENT OF FACTS AND GROUNDS FOR APPEAL

Spokane County (the “County”) is fully committed to preserving and protecting water quality in the Spokane River. This commitment is demonstrated by the fact that the County was the first Spokane River municipal discharger to construct filtered wastewater treatment technology at its sewage treatment plant, at a cost of approximately \$150 million. Since December 2011, all wastewater at the County’s Regional Water Reclamation Facility (“SCRWRF”) has been treated with MBR (membrane bioreactor) filtration treatment, with chemical phosphorus removal. The SCRWRF removes 99% of phosphorus and polychlorinated biphenyls (“PCBs”) from the County’s influent prior to discharge.

Ecology has recognized the County's commitment to improving the quality of the Spokane River. From 2018 through 2021, Ecology has awarded the SCRWRF the Outstanding Wastewater Treatment Plant Award. This award recognizes facilities that earned the

1 Outstanding Performance Award, which means that the facility regularly met pollution limits,
2 conducted monitoring, turned in reports on time, planned for spill prevention, pretreated waste,
3 and fulfilled operational demands outlined in its NPDES Permit. The County's receipt of this
4 award, four years in a row, demonstrates its strong and continuing commitment to the quality of
5 the Spokane River.

6 Additionally, the County voluntarily participated in the development and administration
7 of local community-based toxics reduction via the Spokane River Regional Toxics Task Force
8 ("Task Force"). The County has provided significant, voluntary in-kind services to the Task
9 Force, including leading and administering the Task Force for over a decade. The County also
10 developed a Toxics Management Plan, has collected PCB influent and effluent data associated
11 with the SCRWWF, and has collected samples in the County's sewer collection system in order
12 to better understand sources of PCBs. The County is fully committed to improving the quality of
13 the Spokane River. However, for many reasons, the Permit should not be issued at this time and
14 in its current form.
15

16
17 The County appeals the Permit on the basis that the following provisions are unlawful
18 and/or unreasonable for the reasons set forth in this Notice of Appeal and other reasons that will
19 be proved at the hearing of this matter:

20 4.1 The timing of this permitting process is unreasonable and inefficient for, among
21 others, the following reasons:

22 4.1.1 In April 2019, at Ecology's request, the County submitted to Ecology a
23 complete application for a PCB variance. In June 2020, Ecology issued preliminary draft
24 rule language for PCB variances for the five permitted dischargers to the Spokane River,
25
26

1 along with a technical support document for the variances. Ecology has not finalized the
2 variance rules.

3 4.1.2 To settle ongoing litigation with Ecology regarding human health criteria
4 for certain parameters, including PCBs, EPA entered into a stipulated motion to initiate
5 federal rulemaking for human health criteria for Washington State. Stipulated Mo. and
6 Proposed Order to Hold This Case in Abeyance Pending Voluntary Recons. and
7 Rulemaking at 3-4, *Washington v. U.S. Env'tl. Prot. Agency*, No. 2:19-cv-00884-RAJ
8 (W.D. Wash. June 30, 2021) (ECF Dkt. No. 84). In accordance with the stipulation, EPA
9 issued a proposed rule on March 28, 2022 to adopt new human health criteria for PCBs at
10 7 ppq (parts per quadrillion). 87 Fed. Reg. 19,046 (Apr. 1, 2022). The current PCB
11 water quality criteria is 170 ppq. The public comment for the proposed rule closed on
12 May 31, 2022. EPA estimates that it will require up to nine months to finalize the
13 proposed rule.
14

15 4.1.3 To resolve another litigation matter, in November 2021, EPA agreed to
16 issue Total Maximum Daily Loads ("TMDLs") for PCBs for segments of the Spokane
17 River. Consent Decree, *Sierra Club v. McLerran*, No. 2:11-cv-01759-BJR (W.D. Wash.
18 Feb. 11, 2022) (ECF Dkt. No. 253). Under the Consent Decree, EPA will develop these
19 TMDLs by September 30, 2024. The TMDLs will include waste load allocations for
20 permitted discharges containing PCBs, such as the SCRWRF and the other dischargers to
21 the Spokane River.
22

23 4.1.4 Finally, the portion of Ecology's Water Quality Permit Writer's Manual
24 that allows permit writers to use PCB test methods 1668C and 8082A for certain
25
26

1 purposes in NPDES permits is the subject of a case pending before the Washington
2 Supreme Court. Order Granting Pet. for Review, *Nw. Pulp & Paper Ass'n v. Dep't of*
3 *Ecology*, 199 Wn.2d 1010, 508 P.3d 671 (May 4, 2022). The only PCB test method that
4 EPA has approved for NPDES Permit compliance is Method 608. 40 C.F.R. § 136.

5 4.1.5 The Permit will likely be affected by the outcomes of the above noted
6 legal and regulatory matters and will require significant effort for Ecology, Spokane
7 County, and the other Spokane River dischargers to reopen and modify the permits.
8

9 4.2 Based on years of PCB data from the SCRWRF, and as calculated in the draft
10 Permit Fact Sheet prepared by Ecology, there is no reasonable potential for the County's current
11 effluent to exceed the PCB water quality standard and no PCB effluent limit is required.

12 4.3 The Permit imposes influent and effluent PCB monitoring (Condition S2) using
13 non-EPA approved test methods. Moreover, the Permit's PCB influent and effluent monitoring
14 provisions that require the use of non-EPA approved test methods fail to include any statement
15 acknowledging the inherent variability and unreliability of the required test methods and fail to
16 allow the County to make adjustments to the data through blank correction or other methods.
17 Finally, between the draft and final Permit, Ecology added quarterly effluent monitoring with
18 Method 1668.
19

20 4.4 Ecology improperly estimated the Spokane River critical season flows by, among
21 other things, failing to fully account for the minimum river flow provisions contained in the
22 Avista Federal Energy Regulatory Commission ("FERC") license issued to the Avista Post Falls
23 Dam on June 18, 2009. Also, Ecology's river flow estimate does not include all available
24 Spokane River flow data.
25
26

1 4.5 The total ammonia limits for average monthly and maximum daily imposed in the
2 Permit (Condition S1.A Table 2) are improper because, based on actual data from the SCRWRF
3 and the receiving water, there is no reasonable potential for effluent ammonia to cause or
4 contribute to a violation of receiving water quality criteria. Ammonia discharged is
5 appropriately limited in the Permit by seasonal effluent limits (Condition S1.A Table 3) making
6 the average month and maximum day limits unnecessary, unreasonable, and improper.

7
8 4.6 Based on existing SCRWRF effluent data and receiving water quality data from
9 the Spokane River, there is no reasonable potential for cadmium to cause or contribute to an
10 exceedance of the water quality criteria. Moreover, the Spokane River currently meets the
11 cadmium water quality criteria. The cadmium limits in the Permit should be deleted and
12 replaced with the cadmium limits in the prior Permit.

13 4.7 Condition S11 of the Permit requires a Receiving Water and Effluent Study of
14 Temperature even though ten years of low flow summer season temperature data already exist,
15 which makes the study unnecessary. In any event, the monthly reporting frequency requirement
16 is excessive and unreasonable. Access to the monitoring location is unsafe during high river
17 flow periods. Theft of the monitoring equipment has been and remains a problem. Moreover,
18 Ecology unreasonably increased the reporting frequency between the draft and final Permit.

19
20 4.8 Condition S16.B of the Permit improperly includes a requirement that the County
21 continue to work with the Spokane River Regional Toxics Task Force or an unidentified citizen
22 advisory organization or committee to identify strategies to reduce toxics in the Spokane River
23 Watershed even though this is an individual NPDES Permit, not a watershed-based permit, and
24 even though another condition in the Permit (S16.A) requires the County to develop a Toxics
25
26

1 Reduction Best Management Practices Plan to reduce toxicant loading to the Spokane River.
2 Moreover, because EPA is developing a PCB TMDL, it is unreasonable to impose a Regional
3 Toxics Task Force requirement in the Permit.

4 4.9 Ecology improperly revised General Condition G3 by stating that Ecology will
5 reopen the permit should the Human Health Criteria for PCBs be revised but failed to also allow
6 the Permit to be reopened when Ecology finalizes the PCB variance rulemaking on the County's
7 PCB variance application that is currently pending before Ecology.
8

9 Spokane County reserves the right to include additional grounds for appeal at a later date
10 and also reserves the right to add or clarify the grounds and issues for this appeal for a prehearing
11 order or amendment of the prehearing order as allowed by the Presiding Officer and the Board's
12 rules of practice and procedure.

13 **V. RELIEF REQUESTED**

14 Appellant, Spokane County, respectfully requests that the Board grant the following
15 relief:
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17 5.1 An Order invalidating all provisions of the Permit that are unlawful or
18 unreasonable; and

19 5.2 For such other and further relief as the Board deems appropriate.
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1 DATED this 12th day of July, 2022.

3 FOSTER GARVEY PC

4 

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12 *Attorneys for Appellant*

13 *Spokane County*

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on July 12, 2022, I filed the foregoing Notice of Appeal and attached Exhibits with the Pollution Control Hearings Board by electronic mail, with the original and one (1) copy placed in the mail utilizing U.S. first-class mail, postage paid, addressed to the following e-mail and mailing addresses:

pchb-shbappeals@elaho.wa.gov

Pollution Control Hearings Board
P.O. Box 40903
Olympia, WA 98504-0953

On the same day, I served a true and correct copy of this Notice of Appeal and attached Exhibits on the Department of Ecology by mailing the same via U.S. first-class mail, postage paid, to the following address and faxing the same to the following numbers:

Department of Ecology
Attn: Appeals Processing Desk
P.O. Box 47608
Olympia, WA 98504-7608
Fax number: 360-407-6989

and

Department of Ecology
Water Quality Program
Eastern Regional Office
4601 N. Monroe Street
Spokane, WA 99205-1295
Fax Number: 509-329-3596

I declare under penalty of perjury that the foregoing is true and correct.

DATED this 12th day of July, 2022, at Seattle, Washington.

FOSTER GARVEY PC

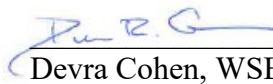

Devra Cohen, WSBA #49952

EXHIBIT A

Issuance Date: June 13, 2022

Effective Date: August 1, 2022

Expiration Date: July 31, 2027

National Pollutant Discharge Elimination System Waste Discharge Permit No. WA0093317

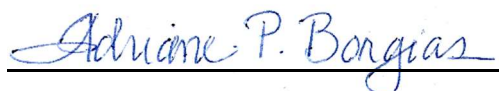
State of Washington
DEPARTMENT OF ECOLOGY
Eastern Regional Office
4601 North Monroe Street
Spokane, Washington 99205-1265

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1342 et. seq.

Spokane County Public Works Department
1026 W Broadway Ave
Spokane, Washington 99260-0050

is authorized to discharge in accordance with the Special and General Conditions that follow.

Plant Location: Spokane County Regional Water Reclamation Facility 1004 North Freya Street, Spokane, WA 99202	Receiving Water: Spokane River at River Mile 78.9 Latitude: 47.675833 Longitude: -117.34694
Treatment Type: Step-feed nitrification/denitrification membrane bioreactor with chlorine disinfection	SIC Codes 4952 Sewerage Systems 4953 Refuse Systems



Adriane P. Borgias
Water Quality Section Manager
Eastern Regional Office
Washington State Department of Ecology

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Summary of Permit Report Submittals

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Table 1: Summary of Permit Report Submittals

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.4.a	Monthly Discharge Monitoring Report (DMR)	1/month	September 15, 2022
S3.A.4.b	Quarterly Discharge Monitoring Report (DMR)	1/quarter	October 15, 2022
S3.A.4.c	Annual Discharge Monitoring Report (DMR)	1/year	January 15, 2023
S3.A.4.d	Permit Renewal Application Monitoring Data	Once	Submit data with the permit application; See S8.
S3.F.2.c	Reporting Permit Violations Five Day Written Report	As necessary	-
S4.B	Plans for Maintaining Adequate Capacity	As necessary	-
S4.D	Notification of New or Altered Sources	As necessary	-
S5.A.1	Operator Certification Renewal Card	1/year	May 15, 2023
S5.F	Bypass Notification	As necessary	-
S5.G.1	Operation & Maintenance Manual Update	Once	August 1, 2023
S6.A.2	Accidental Spill Prevention Program Update	1/permit cycle	August 1, 2024
S6.A.5	Pretreatment Report	1/year	May 1, 2023
S6.A.6	Request to make changes to approved local pretreatment program	As necessary	-
S8.	Application for Permit Renewal	1/permit cycle	July 31, 2026
S9.A.1	Spill Control Plan Update	1/permit cycle	August 1, 2024
S10.A.1	Effluent Mixing and Dye Tracer Plan of Study	Once	August 1, 2023
S10.A.3	Effluent Mixing and Dye Tracer Report	Once	August 1, 2026
S11.1	Quality Assurance Project Plan (QAPP) Update for Receiving Water and Effluent Study of Temperature	Once	August 1, 2023

Permit Section	Submittal	Frequency	First Submittal Date
S12.1	Quality Assurance Project Plan (QAPP) for Receiving Water Trace Metals, pH, DO, Hardness, and Alkalinity Study	Once	August 1, 2023
S12.4	Final Report for Receiving Water Trace Metals, pH, DO, Hardness, and Alkalinity Study	Once	August 1, 2026
S13.A	Sediment Sampling and Analysis Plan	Once	August 1, 2023
S13.B	Sediment Data Report	Once	August 1, 2025
S14.C.3	Acute Toxicity Compliance Monitoring Report	1/quarter	October 15, 2022
S14.D	Acute Toxicity: Response to noncompliance reporting	As necessary	-
S14.D	Acute Toxicity: TI/RE Plan	As necessary	-
S15.C.3	Chronic Toxicity Compliance Monitoring Report	1/quarter	October 15, 2022
S15.D.	Chronic Toxicity: Response to noncompliance reporting	As necessary	-
	Chronic Toxicity: TI/RE Plan	As necessary	-
	Toxics Reduction Best Management Practices Plan (BMPs Plan)	1/year	August 1, 2023
	Quality Assurance Project Plan (QAPP) Update for BMPs Plan	1/permit cycle	August 1, 2023
G1.	Notice of Change in Authorization	As necessary	-
G4.	Reporting Planned Changes	180 days prior to discharge	-
G5.	Engineering Report for Construction or Modification Activities	180 days prior to start of construction	-
G7.	Notice of Permit Transfer	As necessary	-
G10.	Duty to Provide Information	As necessary	-
G20.	Compliance Schedules	As necessary	-
G21.	Proposed Service Agreements, revisions, and updates	As necessary	-

Special Conditions

S1. Discharge limits

S1.A. Effluent limits

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit, the Permittee may discharge treated domestic wastewater to the Spokane River at the permitted location subject to compliance with the following limits:

Table 2: Effluent Limits: Outfall 001

Parameter	Average Monthly ^a	Average Weekly ^b
Carbonaceous Biochemical Oxygen Demand (5-day) (CBOD ₅) (November 1-February 29)	2.0 mg/L 142 lbs/day 85% removal of influent CBOD ₅	3.0 mg/L 213 lbs/day
Total Suspended Solids (TSS)	5.0 mg/L 354 lbs/day 85% removal of influent TSS	7.5 mg/L 532 lbs/day

Parameter	Minimum ^h	Maximum ^h
pH	6.5 standard units	8.5 standard units

Parameter	Monthly Geometric Mean	Weekly Geometric Mean
Fecal Coliform Bacteria ^c (Effective until E.coli limit is implemented)	100 CFU/100 mL	150 CFU/100 mL
E.coli ^c (Implement by 8/1/2024)	100 CFU/100 mL	150 CFU/100 mL

Parameter	Average Monthly	Maximum Daily ^d
Cadmium (Total as µg/L)	0.057 µg/L	0.126 µg/L
Lead (Total as µg/L)	0.202 µg/L	0.409 µg/L
Zinc (Total as µg/L)	38.5 µg/L	61.3 µg/L
Total Residual Chlorine ^e	16.8 µg/L	33.6 µg/L
PCBs (Total) ^f	170 pg/L	414 pg/L

Parameter	Average Monthly	Maximum Daily ^d
Total Ammonia (As NH ₃ -N)	1.83 mg/L	8.64 mg/L

Parameter	Effluent Limit
Acute Toxicity	No acute toxicity detected in a test concentration representing the acute critical effluent concentration (ACEC). The ACEC means the maximum concentration of effluent during critical conditions at the boundary of the acute mixing zone, defined in Section S1.B of this permit. The ACEC equals 50% effluent. See Section S14.
Chronic Toxicity	No toxicity detected in a test concentration representing the chronic critical effluent concentration (CCEC). The CCEC means the maximum concentration of effluent during critical conditions at the boundary of the mixing zone, defined in Section S1.B of this permit. The CCEC equals 6.4% effluent. See Section S15.

Table 3: Effluent Limits: Outfall 001 DO TMDL WLA (March-October)

Parameter	Seasonal Average ^g
Total Ammonia (as NH ₃ -N)	March 1 – March 31: 129.7 lbs/day April 1 – May 31: 66.7 lbs/day June 1 – September 30: 16.7 lbs/day October 1 – 31: 66.7 lbs/day
Total Phosphorus	3.34 lbs/day
CBOD ₅	133.4 lbs/day

Table 2 & 3 Footnotes:

^a **Average monthly effluent limit** means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. See footnote c for fecal coliform calculations.

^b **Average weekly discharge limit** means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges' measured during that week. See footnote c for bacteria calculations.

- ^c Ecology provides directions to calculate the monthly and the weekly geometric mean in Ecology [Publication No. 04-10-020](https://apps.ecology.wa.gov/publications/SummaryPages/0410020.html), **Information Manual for Treatment Plant Operators** available online at <https://apps.ecology.wa.gov/publications/SummaryPages/0410020.html>.
- ^d **Maximum daily effluent limit** is the highest allowable daily discharge. The daily discharge is the average discharge of a pollutant measured during a calendar day. For pollutants with limits expressed in units of mass, calculate the daily discharge as the total mass of the pollutant discharged over the day. This does not apply to pH or temperature.
- ^e **Chlorine limits** apply only during periods when chlorine is used for partial or full disinfection of the effluent. When UV disinfection is the only disinfection method used, chlorine limits do not apply. When not using chlorine for disinfection during the monitoring period, leave the cell blank.
- ^f **40 CFR Part 136 Method 608** monitoring will be used to evaluate compliance. Any detection using this method is a violation of the permit limit.
- ^g Compliance with the effluent limitation for CBOD₅, NH₃-N, and TP will be based on a seasonal average, reported on a monthly basis.
- ^h pH between 5.5 and 6.5, or 8.5 and 9.5 will not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 26 minutes per month. Any excursions below 5.5 and above 9.5 are violations. The instantaneous maximum and minimum pH shall be reported daily.

S1.B. Mixing zone authorization

Mixing zone for Outfall 001

The following paragraphs define flow-volume restriction of the mixing zones:

Chronic mixing zone

The mixing zone must not use more than 25 percent of the flow in the receiving water. The width of the chronic mixing zone is limited to a distance of 40 feet (12.2 meters). The length of the chronic mixing zone extends 100 feet (30.5 meters) upstream and 300 feet (91.4 meters) downstream of the outfall. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Acute mixing zone

The mixing zone must not use more than 2.5 percent of the flow in the receiving water. The width of the acute mixing zone is limited to a distance of 4 feet (1.2 meters) in any horizontal direction from the outfall. The length of the acute mixing zone extends 10 feet (3.0 meters) upstream and 30 feet (9.1 meters) downstream of the outfall. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the acute zone must meet acute aquatic life criteria.

Table 4: Available Dilution (dilution factor)

Criteria	Factor
Acute Aquatic Life Criteria	2.0
Chronic Aquatic Life Criteria	15.7
Human Health Criteria - Carcinogen	47.8
Human Health Criteria - Non-carcinogen	21.6

S1.C. Land Treatment

Wastewater used for irrigation must not exceed the agronomic capacity of the vegetation.

S2. Monitoring requirements

The Permittee must monitor in accordance with the following schedule and the requirements specified in Appendix A.

Table 5: Wastewater influent

Wastewater Influent means the raw sewage flow from the collection system into the treatment facility. Sample the wastewater entering the headworks of the treatment plant excluding any side-stream returns from inside the plant.

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Flow at County Facility (Daily Total)	Million gallons per day (mgd)	Continuous ^b	Measurement
Flow sent from the County to the City of Spokane (Daily Total) ^a	Million gallons per day (mgd)	Continuous ^b	Measurement
pH ^c (Daily Min. & Daily Max.)	Standard units (s.u.)	Continuous ^b	Measurement
Temperature ^d (Daily Max.)	Degrees C	Continuous ^b	Measurement
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	mg/L	5/week ^g	24-Hour Composite ^e
CBOD ₅	lbs/day ^f	5/week ^g	Calculated
Total Suspended Solids (TSS)	mg/L	5/week ^g	24-Hour Composite ^e
TSS	lbs/day ^f	5/week ^g	Calculated

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Biochemical Oxygen Demand (BOD ₅)	mg/L	1/month	24-Hour Composite ^e
BOD ₅	lbs/day ^f	1/month	Calculated
Cadmium	µg/L	1/quarter ^h	24-Hour Composite ^e
Lead	µg/L	1/quarter ^h	24-Hour Composite ^e
Zinc	µg/L	1/quarter ^h	24-Hour Composite ^e
PCBs ⁱ	pg/L	1/quarter ^j	24-Hour Composite ^e
PBDEs ⁱ	pg/L	1/quarter ^j	24-Hour Composite ^e

Table 5 Footnotes:

^a Spokane County must report the flows sent to the City from the County. This includes flows sent as a result of SCRWRF bypass during maintenance, flows that are sent due to exceeding flow capacity of the SCRWRF, and flows from areas of the County that are added to the City's collection system. The SCRWRF has an agreement of 10 mgd of capacity with the City. This must be monitored and reported. When total flow to the City exceeds 85% of the agreement capacity three months in a row, the County must submit a plan for maintaining adequate capacity

^b **Continuous** means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes. The Permittee must sample every two hours when continuous monitoring is not possible.

^c The Permittee must report the instantaneous maximum and minimum pH daily. Do not average pH values.

^d If measuring temperature continuously, the Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.

^e **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

^f **lbs/day** = Concentration (mg/L) x Flow (in MGD) x 8.34

^g **5/week** means sampling five times in every week except those weeks with Washington State recognized holidays. Weeks with recognized holidays will have 5/week minus the number of recognized holidays in the given week.

^h **Quarterly sampling** periods are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring for the quarter beginning on 7/1/2022 and submit results by 10/15/2022.

ⁱ Use high-resolution methods for evaluation and characterization of PCBs (Method 1668) and PBDEs (Method 1614).

^j PCB and PBDE samples will be submitted annually with BMP plan assessment.

Table 6: Final wastewater effluent

Final Wastewater Effluent means wastewater exiting the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD₅ analysis before or after the disinfection process. If taken after, the Permittee must dechlorinate and reseed the sample.

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Flow	Million gallons per day (mgd)	Continuous ^a	Measurement
pH ^c (Daily Min. & Daily Max.)	Standard Units	Continuous ^a	Measurement
Dissolved Oxygen ^b (Daily Min.)	mg/L	5/week ^h (Until Continuous instrument is installed)	Measurement
Dissolved Oxygen ^b (Daily Min.)	mg/L	Continuous ^a (begins 1 year from effective date)	Measurement
Temperature ^d (Daily Max.)	°C	Continuous ^a	Measurement
7-DAD Max Temperature ^e (Daily Max)	°C	1/day	Calculated
Chlorine (Total Residual)	µg/L	1/day	Grab ^f
CBOD ₅ ^g	mg/L	5/week ^h	24-Hour Composite ⁱ
CBOD ₅	lbs/day ^j	5/week ^h	Calculated
CBOD ₅	% removal ^k	5/week ^h	Calculated
TSS	mg/L	5/week ^h	24-Hour Composite ⁱ
TSS	lbs/day ^j	5/week ^h	Calculated
TSS	% removal ^k	5/week ^h	Calculated
Total Ammonia	mg/L as N	5/week ^h	24-Hour Composite ⁱ
Fecal Coliform ^{l,m,t}	Organisms/100 mL	5/week ^h (first two years of the permit cycle)	Grab ^g
E.coli ^{l,n}	Organisms/100 mL	5/week ^h	Grab ^g
Total Phosphorus	µg/L as P	5/week ^h	24-Hour Composite ⁱ

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
BOD ₅ ^g	mg/L	1/month ^o	24-Hour Composite ⁱ
BOD ₅	lbs/day ^j	1/month ^o	Calculated
Nitrate plus Nitrite Nitrogen	mg/L as N	1/month ^o	24-Hour Composite ⁱ
Total Kjeldahl Nitrogen (TKN)	mg/L as N	1/month ^o	24-Hour Composite ⁱ
PCBs ^r	ng/L	1/month ^o	24-Hour Composite ⁱ
Cadmium	µg/L	1/month ^o	24-Hour Composite ⁱ
Lead	µg/L	1/month ^o	24-Hour Composite ⁱ
Zinc	µg/L	1/month ^o	24-Hour Composite ⁱ
Hardness	mg/L as CaCO ₃	1/month ^o	24-Hour Composite ⁱ
Alkalinity	mg/L as CaCO ₃	1/month ^o	24-Hour Composite ⁱ
Mercury	ng/L	1/month ^o	Grab ^g
PBDEs ^q	pg/L	1/quarter ^{p,s}	24-Hour Composite ⁱ
PCB ^q	pg/L	1/quarter ^{p,s}	24-Hour Composite ⁱ

Table 6 Footnotes:

^a **Continuous** means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes. The Permittee must sample every two hours when continuous monitoring is not possible.

^b Report the daily minimum dissolved oxygen concentration and the minimum for the reporting period.

^c **pH** - The Permittee must report the instantaneous maximum and minimum pH daily. Do not average pH values.

^d The Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.

^e **7DAD Max** - Calculate a 7-DAD Max for each day by averaging each days' maximum temperature value with the daily maximum temperatures of the three days prior and the three days after that specific date.

^f **Grab** means an individual sample collected over a 15-minute, or less, period.

^g Take effluent samples for the CBOD₅ and BOD₅ analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.

^h **5/week** means sampling five times in every week except those weeks with Washington State recognized holidays. Weeks with recognized holidays will have 5/week minus the number of recognized holidays in the given week.

ⁱ **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

^j **lbs/day** = Concentration (mg/L) x Flow (in MGD) x 8.34

^k % Calculate the percent (%) removal of BOD₅ and TSS using equation below.

$$\text{removal} = \% \text{ removal} = \left[\frac{(\text{Influent concentration (mg/L)} - \text{Effluent concentration (mg/L)})}{\text{Influent concentration (mg/L)}} \right] \times 100$$

^l Report a numerical value for fecal coliforms and E.coli following the procedures in Ecology's [Publication Number 04-10-020, Information Manual for Wastewater Treatment Plant Operators](https://apps.ecology.wa.gov/ecy/publications/SummaryPages/0410020.html), available online at <https://apps.ecology.wa.gov/ecy/publications/SummaryPages/0410020.html>. Do not report a result as too numerous to count (TNTC)

^m **Sample fecal coliforms** by using the following method: MPN SM 9221 E

ⁿ **Sample E.coli** by using the following method: SM 9223 B Colilert® 24 QTray®

^o **Monthly** means once every calendar month during alternating weeks.

^p **Quarterly sampling** periods are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring for the quarter beginning on 7/1/2022 and submit results by 10/15/2022.

^q Use high-resolution methods for evaluation and characterization of PCBs (Method 1668) and PBDEs (Method 1614).

^r **PCB compliance sampling** uses Method 608 as identified in Appendix A.

^s PCB and PBDE samples will be submitted annually with BMP plan update and assessment.

^t Dual testing is only needed for the first two years of the permit cycle.

Table 7: Whole effluent toxicity testing – final wastewater effluent

Additional requirements specified in Special Condition S14 and S15.

Parameter	Minimum Sampling Frequency	Sample Type
Acute Toxicity Testing	1/quarter ^a	24-Hour Composite ^b
Chronic Toxicity Testing	1/quarter ^a	24-Hour Composite ^b

Table 7 Footnotes:

^a **1/quarter** sampling periods are January through March, April through June, July through September, and October through December. The Permittee must take samples in a different month for each sampling period beginning after the permit is issued. The Permittee must begin quarterly monitoring for the quarter beginning on 7/1/2022 and submit results when the specific quarter is due. Quarters are due by April 15, July 15, October 15, and January 15.

^b **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

Pretreatment Monitoring Requirements

The Permittee must monitor the following parameters in the influent at the headworks, and biosolids in accordance with the Pretreatment requirements in Special Condition S6.B.

The schedule for pH below applies only to influent and biosolids since the effluent monitoring schedule above requires more frequent effluent monitoring for that parameter. Oil and grease monitoring applies only to the influent and effluent.

Table 8: Influent Pretreatment Monitoring Requirements

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
pH	Standard Units	1/quarter ^a	Grab ^b
Total Dissolved Solids	mg/L	1/quarter ^a	Grab ^b
Oil and Grease	mg/L	1/quarter ^a	Grab ^b
Cyanide	µg/L	1/quarter ^a	Grab ^b
Total Phenolic Compounds	µg/L	1/quarter ^a	Grab ^b
Priority Pollutants (PP) – Total Metals ^c	µg/L; ng/L for mercury	1/year ^e	24-Hour Composite ^d Grab for mercury
PP – Volatile Organic Compounds	µg/L	1/year ^e	Grab ^b
PP – Acid-extractable Compounds	µg/L	1/year ^e	24-Hour Composite ^d
PP – Base-neutral Compounds	µg/L	1/year ^e	24-Hour Composite ^d
PP – Pesticides/PCBs	µg/L or ng/L	1/year ^e	24-Hour Composite ^d

Table 9: Effluent Pretreatment Monitoring Requirements

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Total Dissolved Solids	mg/L	1/quarter ^a	Grab ^b
Oil and Grease	mg/L	1/quarter ^a	Grab ^b
Cyanide	µg/L	1/quarter ^a	Grab ^b
Total Phenolic Compounds	µg/L	1/quarter ^a	Grab ^b

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Priority Pollutants (PP) – Total Metals ^c	µg/L; ng/L for mercury	1/year ^e	24-Hour Composite ^d Grab for mercury
PP – Volatile Organic Compounds	µg/L	1/year ^e	Grab ^b
PP – Acid-extractable Compounds	µg/L	1/year ^e	24-Hour Composite ^d
PP – Base-neutral Compounds	µg/L	1/year ^e	24-Hour Composite ^d
PP – Pesticides/PCBs	µg/L or ng/L	1/year ^e	24-Hour Composite ^d

Table 10: Biosolids Pretreatment Monitoring Requirements

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Cyanide	µg/L	1/quarter ^a	Grab ^b
Total Phenolic Compounds	µg/L	1/quarter ^a	Grab ^b
Priority Pollutants (PP) – Total Metals ^c	µg/L; ng/L for mercury	1/year ^e	24-Hour Composite ^d Grab for mercury
PP – Volatile Organic Compounds	µg/L	1/year ^e	Grab ^b
PP – Acid-extractable Compounds	µg/L	1/year ^e	24-Hour Composite ^d
PP – Base-neutral Compounds	µg/L	1/year ^e	24-Hour Composite ^d
PP – Pesticides/PCBs	µg/L or ng/L	1/year ^e	24-Hour Composite ^d

Table 8 - 10 Footnotes:

^a **1/quarter sampling periods** are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring for the quarter beginning on 7/1/2022 and submit results by 10/15/2022.

^b **Grab** means an individual sample collected over a 15-minute, or less, period.

^c **Priority Pollutant Scans for Total Metals** must use total recoverable metal laboratory methods for all parameters except for hexavalent chromium. The 40 CFR 136 method for hexavalent chromium measures only its dissolved form.

^d **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

^e **1/year sampling** must be taken in a different quarter each year with data submitted when the specific quarter is due. See quarter monitoring period footnote for due dates.

Table 11: Receiving water temperature study

As specified in Section S11.

Submit a sampling Quality Assurance Plan for Ecology review and approval.	Submit updated QAPP by 8/1/2023.
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Table 12: Receiving water Trace Metals, DO, pH, Alkalinity, and Hardness study

As specified in Section S12.

Submit a sampling Quality Assurance Plan (QAPP) for Ecology review and approval.	Submit QAPP by 8/1/2023.
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Table 13: Sediment study

As specified in Section S13.

Submit a Sediment and Analysis Plan (SAP) for Ecology review and approval.	Submit SAP by 8/1/2023.
Sampling Period	August 15 through September 30
Final Study Report	August 1, 2025

Table 14: Permit renewal application requirements – final wastewater effluent

The Permittee must record and report the wastewater treatment plant flow discharged on the day it collects the sample for priority pollutant testing with the discharge monitoring report.

Submit data with the permit application as specified in Special Condition S8.

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Temperature	°C	Once/July Once/December	Measurement
BOD ₅ ^a	mg/L	1/year	24-Hour Composite ^b
Fecal Coliform ^c	Organisms/100 mL	1/year	Grab ^d
<i>E.coli</i>	Organisms (OR MPN)/100 mL	1/year	Grab ^d
Total Residual Chlorine	mg/L	1/year	Grab ^d
Dissolved Oxygen	mg/L	1/year	24-Hour Composite ^b

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Total Kjeldahl Nitrogen	mg/L as N	1/year	24-Hour Composite ^b
Total Ammonia	mg/L as N	1/year	24-Hour Composite ^b
Nitrate plus Nitrite	mg/L as N	1/year	24-Hour Composite ^b
Oil and Grease	mg/L	1/year	Grab ^d
Phosphorus (Total)	mg/L as P	1/year	24-Hour Composite ^b
Total Dissolved Solids	mg/L	1/year	24-Hour Composite ^b
Total Hardness	mg/L	1/year	24-Hour Composite ^b
Cyanide	µg/L	1/year	Grab ^d
Total Phenolic Compounds	µg/L	1/year	Grab ^d
Priority Pollutants (PP) – Total Metals	µg/L; ng/L for mercury	1/year	24-Hour Composite ^b Grab ^d for mercury
PP – Volatile Organic Compounds	µg/L	1/year	Grab ^d
PP – Acid-extractable Compounds	µg/L	1/year	24-Hour Composite ^b
PP – Base-neutral Compounds	µg/L	1/year	24-Hour Composite ^b
PP – Pesticides	µg/L or ng/L	1/year	24-Hour Composite ^b

Table 14 Footnotes:

^a Take effluent samples for the CBOD₅ and BOD₅ analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.

^b **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

^c Report a numerical value for fecal coliforms and E.coli following the procedures in Ecology's [Publication Number 04-10-020, Information Manual for Wastewater Treatment Plant Operators](https://apps.ecology.wa.gov/ecy/publications/SummaryPages/0410020.html), available online at <https://apps.ecology.wa.gov/ecy/publications/SummaryPages/0410020.html>. Do not report a result as too numerous to count (TNTC).

^d **Grab** means an individual sample collected over a 15-minute, or less, period.

Table 15: Land Treatment reporting

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Wastewater applied	Gallons per day	Daily when irrigating with wastewater	Measurement
BOD ₅	lbs/acre/day	Weekly when irrigating with wastewater	Calculation ^a
Total Nitrogen	lbs/acre/day	Weekly when irrigating with wastewater	Calculation ^a

Table 15 footnote:

^a Calculate using the method identified in the O&M Section S5.G.b.10.

S2.A. Flow measurement, field measurement, and continuous monitoring devices

The Permittee must:

1. Select and use appropriate flow measurement, field measurement, and continuous monitoring devices and methods consistent with accepted scientific practices.
2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard, the manufacturer's recommendation, and approved O&M manual procedures for the device and the waste stream.
3. Calibrate continuous monitoring instruments weekly unless it can demonstrate a longer period is sufficient based on monitoring records.

The Permittee:

- a. May calibrate apparatus for continuous monitoring of dissolved oxygen by air calibration.
 - b. Must calibrate continuous pH measurement instruments according to the manufacturer's requirements.
 - c. Must calibrate continuous chlorine measurement instruments using a grab sample analyzed in the laboratory within 15 minutes of sampling.
4. Calibrate micro-recording temperature devices, known as thermistors, using protocols from [Ecology's Quality Assurance Project Plan Development Tool](https://apps.ecology.wa.gov/publications/SummaryPages/1803205.html), **Standard Operating Procedures for Continuous Temperature Monitoring of Fresh Water Rivers and Streams**, Version 2.1, April 2018, available online at <https://apps.ecology.wa.gov/publications/SummaryPages/1803205.html>.

Calibration as specified in this document is not required if the Permittee uses recording devices certified by the manufacturer.

5. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.
6. Establish a calibration frequency for each device or instrument in the O&M manual that conforms to the frequency recommended by the manufacturer.
7. Calibrate flow-monitoring devices at a minimum frequency of at least one calibration per year.
8. Maintain calibration records for at least three years.

S2.B. Laboratory accreditation

The Permittee must ensure that all monitoring data required by Ecology for specified parameters is prepared by a laboratory registered or accredited under the provisions of [Chapter 173-50 WAC](#), **Accreditation of Environmental Laboratories**. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. The Permittee must obtain accreditation for conductivity and pH if it must receive accreditation or registration for other parameters.

S2.C. Request for reduction in monitoring

The Permittee may request a reduction of the sampling frequency after 12 months of monitoring. Ecology will review each request and at its discretion grant or deny the request when it reissues the permit or by a permit modification.

The Permittee must:

1. Provide a written request.
2. Clearly state the parameters for which it is requesting reduced monitoring.
3. Clearly state the justification for the reduction.

S3. Reporting and recording requirements

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit.

S3.A. Discharge monitoring reports

The first monitoring period begins on the effective date of the permit (unless otherwise specified).

The Permittee must:

1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic discharge monitoring report (DMR) form provided by Ecology within the Water Quality Permitting Portal.

Include data for each of the parameters tabulated in Special Condition S2 and as required by the form. Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form. To find out more information and to [sign up](#) for the **Water Quality Permitting Portal** go to <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance>.

2. Electronically submit DMRs no later than the dates specified below, unless otherwise specified in this permit.
3. Upon request, the Permittee must also submit an electronic copy of the laboratory report that includes QA/QC results and chain of custody if using a contract laboratory.
4. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below.

The Permittee must:

- a. **Submit monthly DMRs** by the 15th day of the following month.
 - b. **Submit quarterly DMRs** by the 15th day of the month following the monitoring period. Quarterly sampling periods are January through March, April through June, July through September, and October through December with data due April 15, July 15, October 15, and January 15. The Permittee must submit the first quarterly DMR on 10/15/2022 for the quarter beginning on 7/1/2022.
 - c. **Submit annual DMRs** by January 15 for the previous calendar year. The annual sampling period is the calendar year.
 - d. **Submit permit renewal application monitoring data** with the permit renewal application by 7/31/2026, as specified in Section S8.
5. Enter the “No Discharge” reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.
 6. Report single analytical values below detection as “less than the detection level (DL)” by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR.

If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.

7. Report single analytical values between the detection level (DL) and the quantitation level (QL) by entering the estimated value, the code for estimated value/below quantitation limit (j) and any additional information in the comments. Submit a copy of the laboratory report as an attachment using WQWebDMR.

8. Not report zero for bacteria monitoring. Report as required by the laboratory method.
9. Calculate and report an arithmetic average value for each day for bacteria if multiple samples were taken in one day.
10. Calculate the geometric mean values for bacteria (unless otherwise specified in the permit) using:
11. The reported numeric value for all bacteria samples measured above the detection value except when it took multiple samples in one day. If the Permittee takes multiple samples in one day it must use the arithmetic average for the day in the geometric mean calculation.
12. The detection value for those samples measured below detection.
13. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A and S2.
14. Calculate average values and calculated total values (unless otherwise specified in the permit) using:
 - a. The reported numeric value for all parameters measured between the detection value and the quantitation value for the sample analysis.
 - b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.
 - c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.
15. Report single-sample grouped parameters (for example; priority pollutants, PAHs, pulp and paper chlorophenolics, TTOs) on the WQWebDMR form and include; sample date, concentration detected, detection limit (DL) (as necessary), and laboratory quantitation level (QL) (as necessary).

S3.B. Permit Submittals and Schedules

The Permittee must use the Water Quality Permitting Portal – Permit Submittals application (unless otherwise specified in the permit) to submit all other written permit-required reports by the date specified in the permit.

When another permit condition requires submittal of a paper (hard-copy) report, the Permittee must ensure that it is postmarked or received by Ecology no later than the dates specified by this permit.

Send these paper reports to Ecology at:

Water Quality Program
Department of Ecology
Eastern Regional Office
4601 North Monroe Street
Spokane, WA 99205-1265

S3.C. Records retention

The Permittee must retain records of all monitoring information **for a minimum of three years**. Such information must include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit.

The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

S3.D. Recording of results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place, method, and time of sampling or measurement.
2. The individual who performed the sampling or measurement.
3. The dates the analyses were performed.
4. The individual who performed the analyses.
5. The analytical techniques or methods used.
6. The results of all analyses.

S3.E. Additional monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Special Condition S2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR unless otherwise specified by Special Condition S2.

S3.F. Reporting permit violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.
2. If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within 30-days of sampling.

a. Immediate reporting

The Permittee must **immediately** report to Ecology and Spokane County Regional Health District (at the numbers listed below), all:

- Failures of the disinfection system.
- Collection system overflows discharging to a waterbody used as a source for drinking water.
- Plant bypasses resulting in a discharge to a waterbody used as a source of drinking water.
- Any other failures of the sewage system (pipe breaks, etc.).

Ecology Eastern Regional Office (509) 329-3400

Spokane County Regional Health District (509) 324-1500

b. Twenty-four-hour reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone numbers listed above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances:

1. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.
2. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S5.F, "Bypass Procedures").
3. Any upset that causes an exceedance of an effluent limit in the permit (See G.15, "Upset").
4. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.
5. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit.

c. Report within five days

The Permittee must also **submit a written report within five days** of the time that the Permittee becomes aware of any reportable event under subparts a or b, above.

The report must contain:

1. A description of the noncompliance and its cause.
2. The period of noncompliance, including exact dates and times.

3. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.
4. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
5. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of written reports

Ecology may waive the written report required in subpart c, above, on a case-by-case basis upon request if the Permittee has submitted a timely oral report.

e. All other permit violation reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in subpart c, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

S3.G. Other reporting

a. Spills of Oil or Hazardous Materials

The Permittee must [Report a Spill](#) of oil or hazardous materials in accordance with the requirements of RCW 90.56.280 and chapter 173-303-145 WAC.

Instructions on how to report a spill are available on Ecology's website at <https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue/Report-a-spill>.

b. Failure to submit relevant or correct facts

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to Ecology, it must submit such facts or information promptly.

S3.H. Maintaining a copy of this permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

S4. Facility loading

S4.A. Design criteria

The flows or waste loads for the permitted facility must not exceed the following design criteria:

Table 16: Design criteria

Parameter	Unit
Maximum Month Design Flow (MMDF) Plus 10 MGD at City of Spokane	8.5 MGD
Maximum Flow to City of Spokane	10 MGD
BOD ₅ Influent Loading for Maximum Month	18,200 lbs/day
TSS Influent Loading for Maximum Month	20,000 lbs/day

S4.B. Plans for maintaining adequate capacity

a. Conditions triggering plan submittal

The Permittee must submit a plan and a schedule for continuing to maintain capacity to Ecology when both of the following are met three months in a row:

1. The maximum month design flow of 8.5 MGD at the Permittee's treatment facility is exceeded, and
2. The Permittee's wastewater flow treated at the City of Spokane exceeds 8.5 MGD.

b. Plan and schedule content

The plan and schedule must identify the actions necessary to maintain adequate capacity for the expected population growth and to meet the limits and requirements of the permit. The Permittee must consider the following topics and actions in its plan.

1. Analysis of the present design and proposed process modifications
2. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system
3. Limits on future sewer extensions or connections or additional waste loads
4. Modification or expansion of facilities
5. Reduction of industrial or commercial flows or waste loads

Engineering documents associated with the plan must meet the requirements of WAC 173-240-060, "Engineering Report," and be approved by Ecology prior to any construction.

S4.C. Duty to mitigate

The Permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

S4.D. Notification of new or altered sources

1. The Permittee must submit written notice to Ecology whenever any new discharge or a substantial change in volume or character of an existing discharge into the wastewater treatment plant is proposed which:
 - a. Would interfere with the operation of, or exceed the design capacity of, any portion of the wastewater treatment plant.
 - b. Is not part of an approved general sewer plan or approved plans and specifications.
 - c. Is subject to pretreatment standards under 40 CFR Part 403 and Section 307(b) of the Clean Water Act.
2. This notice must include an evaluation of the wastewater treatment plant's ability to adequately transport and treat the added flow and/or waste load, the quality and volume of effluent to be discharged to the treatment plant, and the anticipated impact on the Permittee's effluent [40 CFR 122.42 (b)].

S5. Operation and maintenance

The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls, and appropriate quality assurance procedures. This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.

S5.A. Certified operator

This permitted facility must be operated by an operator certified by the State of Washington for at least a Class IV plant. This operator must be in responsible charge of the day-to-day operation of the wastewater treatment plant. An operator certified for at least a Class IV plant must be in charge during all regularly scheduled shifts.

The Permittee must:

1. Submit an electronic copy of operator certification renewal card for the current operator in responsible charge **by May 15 each year**.
2. **Immediately notify Ecology** when the facility does not have a properly certified operator in responsible charge or if the current properly certified operator in responsible charge loses their certification.

3. **Notify Ecology within 30 days** when the operator in responsible charge at the facility changes.
 - a. Provide the new operators' name, certification number and certification level.
 - b. Provide a current copy of the contract if a contract operator is used.

S5.B. Operation and maintenance program

The Permittee must:

1. Institute an adequate operation and maintenance program for the entire sewage system.
2. Keep maintenance records on all major electrical and mechanical components of the treatment plant, as well as the sewage system and pumping stations. Such records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed.
3. Make maintenance records available for inspection at all times.

S5.C. Short-term reduction

The Permittee must schedule any facility maintenance, which might require interruption of wastewater treatment and degrade effluent quality, during non-critical water quality periods, and carry this maintenance out according to the approved O&M manual or as otherwise approved by Ecology.

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limits on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee must:

1. Give written notification to Ecology, if possible, 30-days prior to such activities.
2. Detail the reasons for, length of time of, and the potential effects of the reduced level of treatment.

This notification does not relieve the Permittee of its obligations under this permit.

S5.D. Electrical power failure

The Permittee must ensure that adequate safeguards prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the treatment plant and/or sewage lift stations. Adequate safeguards include, but are not limited to, alternate power sources, standby generator(s), or retention of inadequately treated wastes.

The Permittee must maintain Reliability Class I (EPA 430-99-74-001) at the wastewater treatment plant. Reliability Class I requires a backup power source sufficient to operate all vital components, critical lighting and ventilation during peak wastewater flow conditions.

S5.E. Prevent connection of inflow

The Permittee must strictly enforce its sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system.

S5.F. Bypass procedures

A bypass is the intentional diversion of waste streams from any portion of a treatment facility. This permit prohibits all bypasses except when the bypass is for essential maintenance, as authorized in special condition S5.F.1, or is approved by Ecology as an anticipated bypass following the procedures in S5.F.2.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

This permit allows bypasses for essential maintenance of the treatment system when necessary to ensure efficient operation of the system. The Permittee may bypass the treatment system for essential maintenance only if doing so does not cause violations of effluent limits. The Permittee is not required to notify Ecology when bypassing for essential maintenance. However the Permittee must comply with the monitoring requirements specified in special condition S2.B.

2. Anticipated bypasses for non-essential maintenance

Ecology may approve an anticipated bypass under the conditions listed below. This permit prohibits any anticipated bypass that is not approved through the following process.

- a. If a bypass is for non-essential maintenance, the Permittee must notify Ecology, if possible, at least ten days before the planned date of bypass.

The notice must contain:

- A description of the bypass and the reason the bypass is necessary.
- An analysis of all known alternatives which would eliminate, reduce, or mitigate the potential impacts from the proposed bypass.
- A cost-effectiveness analysis of alternatives.
- The minimum and maximum duration of bypass under each alternative.
- A recommendation as to the preferred alternative for conducting the bypass.
- The projected date of bypass initiation.
- A statement of compliance with SEPA.
- A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.
- Details of the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

- b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during the project planning and design process. The project-specific engineering report as well as the plans and specifications must include details of probable construction bypasses to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.
- c. Ecology will determine if the Permittee has met the conditions of special condition S5.F.2 a and b and consider the following prior to issuing a determination letter, an administrative order, or a permit modification as appropriate for an anticipated bypass:
 - If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.
 - If the bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.
 - If feasible alternatives to the bypass exist, such as:
 - The use of auxiliary treatment facilities.
 - Retention of untreated wastes.
 - Stopping production.
 - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.
 - Transport of untreated wastes to another treatment facility.

S5.G. Operations and maintenance (O&M) manual

a. O&M manual submittal and requirements

The Permittee must:

1. **Update the Operations and Maintenance (O&M) Manual** that meets the requirements of 173-240-080 WAC and submit it to Ecology for review and approval **by August 1, 2023**.
2. Review the O&M Manual at least annually.

3. Submit to Ecology for review and approval substantial changes or updates to the O&M Manual.
4. Keep the approved O&M Manual at the permitted facility.
5. Follow the instructions and procedures of this manual.

b. O&M manual components

In addition to the requirements of WAC 173-240-080(1) through (5), the O&M Manual must be consistent with the guidance in Table G1-3 in the [Criteria for Sewage Works Design \(Orange Book\) 2008](https://apps.ecology.wa.gov/publications/documents/9837.pdf) (<https://apps.ecology.wa.gov/publications/documents/9837.pdf>).

The O&M Manual must include:

1. Emergency procedures for cleanup in the event of wastewater system upset or failure.
2. A review of system components which if failed could pollute surface water or could impact human health. Provide a procedure for a routine schedule of checking the function of these components.
3. Wastewater system maintenance procedures that contribute to the generation of process wastewater.
4. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit.
5. Any directions to maintenance staff when cleaning or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).
6. The treatment plant process control monitoring schedule.
7. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.
8. O&M for collection systems and pump stations.
9. Irrigation plan that prevents exceedance of the agronomic capacity of the irrigated area.
10. Method for calculating the loading applied when irrigating wastewater.
11. Safety requirements to protect the public from wastewater used to irrigate the vegetation in the publicly accessible areas around the facility.

S6. Pretreatment

S6.A. General requirements

1. The Permittee must implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the Permittee's approved pretreatment program submittal entitled "Industrial Pretreatment Program", any approved revisions thereto, and the General Pretreatment Regulations (40 CFR Part 403). At a minimum, the Permittee must undertake the following pretreatment implementation activities:
 - a. Enforce categorical pretreatment standards under Section 307(b) and (c) of the Federal Clean Water Act (hereinafter, the Act), prohibited discharge standards as set forth in 40 CFR 403.5, local limits specified in Section 8.03A.0204 of Spokane County Code of Ordinances, or state standards, whichever are most stringent or apply at the time of issuance or modification of a local industrial waste discharge permit.

Locally-derived limits are defined as pretreatment standards under Section 307(d) of the Act and are not limited to categorical industrial facilities.

- b. Issue industrial waste discharge permits to all significant industrial users [SIUs, as defined in 40 CFR 403.3(v)(i)(ii)] contributing to the treatment system, including those from other jurisdictions. Industrial waste discharge permits must contain, as a minimum, all the requirements of 40 CFR 403.8 (f)(l)(iii). The Permittee must coordinate the permitting process with Ecology regarding any industrial facility that may possess a State Waste Discharge Permit issued by Ecology. Once issued, an industrial waste discharge permit takes precedence over a state-issued waste discharge permit.
 - c. Maintain and update, as necessary, records identifying the nature, character, and volume of pollutants contributed by industrial users to the POTW. The Permittee must maintain records for at least a three-year period.
 - d. Perform inspections, surveillance, and monitoring activities on industrial users to determine or confirm compliance with pretreatment standards and requirements. The Permittee must conduct a thorough inspection of SIUs annually. The Permittee must conduct regular local monitoring of SIU wastewaters commensurate with the character and volume of the wastewater but not less than once per year. The Permittee must collect and analyze samples in accordance with 40 CFR Part 403.12(b)(5)(ii)-(v) and 40 CFR Part 136.
 - e. Enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements. Once it identifies violations, the Permittee must take timely and appropriate enforcement action to address the noncompliance. The Permittee's action must follow its enforcement response procedures and any amendments, thereof.

- f. Publish, at least annually in the largest daily newspaper in the Permittee's service area, a list of all non-domestic users which, at any time in the previous 12 months, were in significant noncompliance as defined in 40 CFR 403.8(f)(2)(viii).
- g. If the Permittee elects to conduct sampling of an SIU's discharge in lieu of requiring user self-monitoring, it must satisfy all requirements of 40 CFR Part 403.12. This includes monitoring and record keeping requirements of 40 CFR 403.12(g) and (o). For SIUs subject to categorical standards (CIUs), the Permittee may either complete baseline and initial compliance reports for the CIU (when required by 40 CFR 403.12(b) and (d)) or require these of the CIU. The Permittee must ensure that it provides SIUs the results of sampling in a timely manner, inform SIUs of their right to sample, their obligations to report any sampling they do, to respond to non-compliance, and to submit other notifications.

These include a slug load report (403.12(f)), notice of changed discharge (403.12(j)), and hazardous waste notifications (403.12(p)). If sampling for the SIU, the Permittee must not sample less than once in every six-month period unless the Permittee's approved program includes procedures for reduction of monitoring for Middle-Tier or Non-Significant Categorical Users per 403.12(e)(2) and (3) and those procedures have been followed.

- h. Develop and maintain a data management system designed to track the status of the Permittee's industrial user inventory, industrial user discharge characteristics, and compliance status.
- i. Maintain adequate staff, funds, and equipment to implement its pretreatment program.
- j. Establish, where necessary, contracts or legally binding agreements with contributing jurisdictions to ensure compliance with applicable pretreatment requirements by commercial or industrial users within these jurisdictions.

These contracts or agreements must identify the agency responsible to perform the various implementation and enforcement activities in the contributing jurisdiction. In addition, the Permittee must develop a Memorandum of Understanding (or Inter-local Agreement) that outlines the specific roles, responsibilities, and pretreatment activities of each jurisdiction.

- 2. The Permittee must **develop and submit to Ecology for approval, an updated Accidental Spill Prevention Program by August 1, 2024**. The program must include a schedule for implementation. The Ecology-approved program becomes an enforceable part of these permit conditions.
- 3. The Permittee must evaluate, at least once every two years, whether each Significant Industrial User needs a plan to control slug discharges. For purposes of this section, a slug discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or non-customary batch discharge. The Permittee must make the results of this evaluation available to Ecology upon request. If the Permittee decides that a slug control plan is needed, the plan must contain, at a minimum, the following elements:
 - a. Description of discharge practices, including non-routine batch discharges.

- b. Description of stored chemicals.
 - c. Procedures for immediately notifying the Permittee of slug discharges, including any discharge that would violate a prohibition under 40 CFR 403.5(b), with procedures for follow-up written notification within five days.
 - d. If necessary, procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment necessary for emergency response.
4. Whenever Ecology determines that any waste source contributes pollutants to the Permittee's treatment works in violation of Section (b), (c), or (d) of Section 307 of the Act, and the Permittee has not taken adequate corrective action, Ecology will notify the Permittee of this determination. If the Permittee fails to take appropriate enforcement action within 30 days of this notification, Ecology may take appropriate enforcement action against the source or the Permittee.

5. Pretreatment Report

The Permittee must provide to Ecology an annual report that briefly describes its program activities during the previous calendar year.

The Permittee must **submit the annual report to Ecology by May 1 each year.**

The report must include the following information:

- a. An updated non-domestic inventory.
- b. Results of wastewater sampling at the treatment plant as specified in S6.B. The Permittee must calculate removal rates for each pollutant and evaluate the adequacy of the existing local limits in Section 8.03A.0204 of Spokane County Code of Ordinances in prevention of treatment plant interference, pass through of pollutants that could affect receiving water quality, and sludge contamination.
- c. Status of program implementation, including:
 - Any substantial modifications to the pretreatment program as originally approved by Ecology, including staffing and funding levels.
 - Any interference, upset, or permit violations experienced at the POTW that are directly attributable to wastes from industrial users.
 - Listing of industrial users inspected and/or monitored, and a summary of the results.
 - Listing of industrial users scheduled for inspection and/or monitoring for the next year, and expected frequencies.
 - Listing of industrial users notified of promulgated pretreatment standards and/or local standards as required in 40 CFR 403.8(f)(2)(iii). The list must indicate which industrial users are on compliance schedules and the final date of compliance for each.

- Listing of industrial users issued industrial waste discharge permits.
 - Planned changes in the approved local pretreatment program. (See Subsection A.6 below).
- d. Status of compliance activities, including:
- Listing of industrial users that failed to submit baseline monitoring reports or any other reports required under 40 CFR 403.12 and in Chapter 8.03A Article 4 of the Permittee's pretreatment program, dated November 1, 2020.
 - Listing of industrial users that were at any time during the reporting period not complying with federal, state, or local pretreatment standards or with applicable compliance schedules for achieving those standards, and the duration of such noncompliance.
 - Summary of enforcement activities and other corrective actions taken or planned against non-complying industrial users. The Permittee must supply to Ecology a copy of the public notice of facilities that were in significant noncompliance.
6. The Permittee must request and obtain approval from Ecology before making any significant changes to the approved local pretreatment program. The Permittee must follow the procedure in 40 CFR 403.18 (b) and (c).

S6.B. Monitoring requirements

The Permittee must:

1. Monitor its influent, effluent, and sludge for the priority pollutants identified in Tables II and III of [Appendix D of 40 CFR Part 122](#) as amended, any compounds identified because of Special Condition S6.B.4, and any other pollutants expected from non-domestic sources using U.S. EPA-approved procedures for collection, preservation, storage, and analysis. Appendix D of 40 CFR Part 122 is available online at https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-122#ap40.24.122_164.d.
2. Test influent, effluent, and sludge samples for the priority pollutant metals (Table III, 40 CFR 122, Appendix D) on a quarterly basis throughout the term of this permit.
3. Test influent, effluent, and sludge samples for the organic priority pollutants (Table II, 40 CFR 122, Appendix D) on an annual basis. The Permittee may use the data collected for application purposes using Appendix A test methods to meet this requirement.
4. Sample POTW influent and effluent on a day when industrial discharges are occurring at normal-to-maximum levels.
5. Obtain 24-hour composite samples for the analysis of acid and base/neutral extractable compounds and metals.

6. Collect grab samples at equal intervals for a total of four grab samples per day for the analysis of volatile organic compounds. The laboratory may run a single analysis for volatile pollutants (EPA Method 624) for each monitoring day by compositing equal volumes of each grab sample directly in the GC purge and trap apparatus in the laboratory, with no less than 1 mL of each grab included in the composite.
7. Ensure that all reported test data for metals represents the total amount of the constituents present in all phases, whether solid, suspended, or dissolved elemental or combined, including all oxidation states unless otherwise indicated.
8. Handle, prepare, and analyze all wastewater samples taken for GC/MS analysis in accordance with the U.S. EPA Method 624 and EPA Method 625 (October 26, 1984).
9. Collect a sludge sample concurrently with a wastewater sample as a single grab of residual sludge. Sludge organic priority pollutant sampling and analysis must conform to U.S. EPA Method 624 and EPA Method 625 unless the Permittee requests an alternate method and Ecology has approved. Sludge metals priority pollutant sampling and analysis must conform to U.S. EPA SW 846 6000 Series Methods and EPA SW 846 7000 Series Methods unless the Permittee requests an alternate method and Ecology has approved.
10. Collect grab samples for cyanide, phenols, and oils. Measure hexane soluble oils (or equivalent) only in the influent and effluent.
11. Make a reasonable attempt to identify all other substances and quantify all pollutants shown to be present by gas chromatograph/mass spectrometer (GC/MS) analysis per 40 CFR 136, Appendix A, EPA Method 624 and EPA Method 625, in addition to quantifying pH, oil and grease, and all priority pollutants.

The Permittee should attempt to make determinations of pollutants for each fraction, which produces identifiable spectra on total ion plots (reconstructed gas chromatograms). The Permittee should attempt to make determinations from all peaks with responses 5% or greater than the nearest internal standard. The 5% value is based on internal standard concentrations of 30 µg/L, and must be adjusted downward if higher internal standard concentrations are used or adjusted upward if lower internal standard concentrations are used. The Permittee may express results for non-substituted aliphatic compounds as total hydrocarbon content.
12. Use a laboratory whose computer data processing programs are capable of comparing sample mass spectra to a computerized library of mass spectra, with visual confirmation by an experienced analyst.
13. Conduct additional sampling and appropriate testing to determine concentration and variability, and to evaluate trends for all detected substances determined to be pollutants.

S6.C. Reporting of monitoring results

The Permittee must submit data from each sampling event electronically on quarterly and annual DMRs through the WQWebDMR system, as outlined in Special Condition S3.A. The Permittee must also include a summary of monitoring results in the Annual Pretreatment Report.

S6.D. Local limit development

As sufficient data becomes available, the Permittee, in consultation with Ecology, must reevaluate its local limits in order to prevent pass through or interference. If Ecology determines that any pollutant present causes pass through or interference, or exceeds established sludge standards, the Permittee must establish new local limits or revise existing local limits as required by 40 CFR 403.5.

Ecology may also require the Permittee to revise or establish local limits for any pollutant discharged from the POTW that has a reasonable potential to exceed the Water Quality Standards, Sediment Standards, or established effluent limits, or causes whole effluent toxicity. Ecology makes this determination in the form of an Administrative Order.

Ecology may modify this permit to incorporate additional requirements relating to the establishment and enforcement of local limits for pollutants of concern.

S7. Solid wastes

S7.A. Solid waste handling

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

S7.B. Leachate

The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

S8. Application for permit renewal or modification for facility changes

The Permittee must submit an application for renewal of this permit **by July 31, 2026**.

Mail the **original, signed application** to the Water Quality Program, Eastern Regional Office, Department of Ecology, 4601 N. Monroe Street, Spokane, Washington 99205-1265.

Send an electronic copy of the application (preferably as a PDF) by email to the Permit Specialist at stra461@ecy.wa.gov. Scan any attachments to the application and submit them with the application.

The Permittee must also submit a new application or addendum at least 180 days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

S9. Spill control plan

S9.A. Spill control plan submittals and requirements

The Permittee must:

1. **Submit an update to the existing spill control plan to Ecology by August 1, 2024.**
2. Review the plan at least annually and update the spill plan as needed.
3. Send changes to the plan to Ecology.
4. Follow the plan and any supplements throughout the term of the permit.

S9.B. Spill control plan components

The spill control plan must include the following:

1. A list of all oil and petroleum products and other materials used and/or stored on-site, which when spilled, or otherwise released into the environment, designate as Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070. Include other materials used and/or stored on-site that may become pollutants or cause pollution upon reaching state waters.
2. A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.
3. A description of the reporting system the Permittee will use to alert responsible managers and legal authorities in the event of a spill.
4. A description of operator training to implement the plan.

The Permittee may submit plans and manuals required by 40 CFR Part 112, contingency plans required by Chapter 173-303 WAC, or other plans required by other agencies, which meet the intent of this section.

S10. Effluent mixing and dye tracer study

S10.A. General requirements

The Permittee must:

1. **Submit a Plan of Study to Ecology for review by August 1, 2023.** Additionally, **MEET WITH ECOLOGY** at least 60 days prior to initiation of the effluent mixing study. The dye study should be the primary tool. The most appropriate model should be the one that best validates against the dye results.

In addition to information typically identify using a dye tracer and mixing study, the study must include:

- An evaluation of the possible overlap of mixing zone with the City of Spokane CSOs
 - An estimate of the low flow, including the estimated groundwater contribution to flow, at the point of discharge
 - An accurate evaluation of the physical features of the river bed upstream, downstream and at the location of the diffuser
 - Dye tracer results for the diffuser during typical low flow period for the river.
 - Identification any shoreline interactions and bottom attachments.
2. Use the Guidance for Conducting Mixing Zone Analyses (**Appendix C of Ecology's Permit Writer's Manual**; 2018) and the protocols identified in S10.C.
 3. Include the results of the effluent mixing study in the Effluent Mixing Report and submit it to Ecology for approval **by August 1, 2026**.
 4. If the results of the mixing study, toxicity tests, and chemical analysis indicate that the concentration of any pollutant(s) exceeds or has a reasonable potential to exceed the state water quality standards, chapter 173-201A WAC, Ecology may issue an administrative order to require a reduction of pollutants or modify this permit to impose effluent limits to meet the water quality standards.

S10.B. Reporting requirements

The mixing zone study must include:

1. A statement confirming that AKART has been applied to the discharge.
2. A description of the size of the mixing zone allowed under chapter 173-201A WAC.
3. An analysis showing how bank outfall mixing zones have been minimized using the lowest dilution from hydraulic limitations, width limitations, distance limitations and those predicted by the model.
4. A clear description of the critical conditions used for dilution factors:

- i. For ambient freshwater (unidirectional flow) use 7Q10 flows for acute, chronic and non-carcinogenic pollutants, and harmonic flow for carcinogens.
 - ii. Use density profile that gives the lowest dilution. Evaluate both maximum and minimum stratification. For human health, use average density profiles to estimate dilution.
 - iii. For unidirectional flow use centerline dilution factor for acute and chronic conditions, while flux average for human health dilution factors.
- 5. Discharge information:
 - i. Location, orientation, description and dimensions of outfall.
 - ii. Plan view maps showing the mixing zone size and dimensions in relation to the bank outfall.
 - iii. Schematic of waterbody cross-section, showing channel width, depth, and bank outfall.
- 6. Discharge characteristics:
 - i. Existing and projected maximum daily, maximum monthly average, and annual average flows.
 - ii. Discharge density (temperature and salinity).
- 7. Ambient water characteristics:
 - i. Critical stream flow statistics (7Q10, 30Q5, harmonic flow).
 - ii. Velocity profile upstream, at the outfall, and downstream of the outfall.
 - iii. Temporal density (temperature and salinity) profiles near the outfall. Include seasonal variability.
 - iv. Manning's roughness coefficient, if used.
 - v. Available information regarding background concentrations of chemical substances in the receiving water for which there are criteria in chapter 173-201A WAC.
- 8. Model selection and results:
 - i. Model selection and application discussion. Consider model applicability to bank discharge and potential plume attachment to boundaries.
 - ii. Description of mixing and plume dynamics (near-field, far-field).
 - iii. Sensitivity analysis.
 - iv. Calibration to empirical data (tracer studies), if applicable.
 - v. Provide model output and summary table of results.

S10.C. Protocols

The Permittee must determine the dilution ratio using protocols outlined in the following references, approved modifications thereof, or by another method approved by Ecology:

Doneker, R.L. and G.H. Jirka, [CORMIX User Manual: A Hydrodynamic Mixing Zone Model and Decision Support System for Pollutant Discharges into Surface Waters, EPA-823-K-07-001](http://www.mixzon.com/downloads/), Dec. 2007. (<http://www.mixzon.com/downloads/>).

[A complete list of general reference for CORMIX](http://www.cormix.info/references.php)
(<http://www.cormix.info/references.php>).

Frick, W.E., Roberts, P.J.W., Davis, L.R., Keyes, D.J., Baumgartner, George, K.P. 2003. [Dilution Models for Effluent Discharges, 4th Edition \(Visual Plumes\)](https://www.epa.gov/sites/default/files/documents/VP-Manual.pdf). Ecosystems Research Div., USEPA, Athens, GA, USA.
(<https://www.epa.gov/sites/default/files/documents/VP-Manual.pdf>)

Ecology, [Water Quality Program, Permit Writer's Manual.2018](https://apps.ecology.wa.gov/publications/documents/92109.pdf). Washington State Department of Ecology. Publication No. 92-109, Revised July 2018.
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(https://pubs.usgs.gov/twri/twri3-a16/pdf/TWRI_3-A16.pdf).

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https://pubs.usgs.gov/twri/twri3-a12/pdf/TWRI_3-A12.pdf).

S11. Receiving water and effluent study of temperature

The Permittee must collect information on the effluent and receiving water to determine if the effluent has a reasonable potential to cause or contribute to a violation of the water quality standards. If reasonable potential exists, Ecology will use this information to calculate effluent limits.

The Permittee must:

1. **Submit an updated Sampling Quality Assurance Project Plan (QAPP)** for Ecology review and approval **by August 1, 2023**.
2. Conduct all sampling and analysis in accordance with the guidelines given in Ecology [Publication Number 04-03-030, Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies](https://apps.ecology.wa.gov/ecy/publications/summarypages/0403030.html) available online at <https://apps.ecology.wa.gov/ecy/publications/summarypages/0403030.html>.

A [model Quality Assurance Plan specific for temperature](https://ecology.wa.gov/Asset-Collections/Doc-Assets/Water-quality/Water-Quality-Permits/Guidance/QAPPMunicipaltemplate) is available at <https://ecology.wa.gov/Asset-Collections/Doc-Assets/Water-quality/Water-Quality-Permits/Guidance/QAPPMunicipaltemplate>.

3. Measure temperature in the ambient water upstream of the outfall, specify a location outside the effluent mixing zone for the discharge. Permittee must sample the receiving water year round beginning the month after the updated QAPP is approved and continuing temperature sampling for three years.
4. Use micro-recording temperature devices known as thermistors to measure temperature. Ecology's Quality Assurance Project Plan Development Tool, [Publication Number 18-03-205](https://apps.ecology.wa.gov/ecy/publications/documents/1803205.pdf), **Standard Operating Procedures for Continuous Temperature Monitoring of Fresh Water Rivers and Streams**, contains protocols for continuous temperature sampling and is available online at <https://apps.ecology.wa.gov/ecy/publications/documents/1803205.pdf>.

Calibrate the devices as specified in this document unless using recording devices certified by the manufacturer. Ecology does not require manufacture-specific equipment as given in this document; however, if the Permittee wishes to use measuring devices from another company, it must demonstrate the accuracy is equivalent.
5. Set the recording devices to record at one-half-hour intervals.
6. Report temperature monitoring data as daily maximum, seven-day running average of the daily maximums (three days prior to and three days after sampled day), the monthly maximum of the seven-day running average and monthly maximum day. The model Quality Assurance Project Plan shows an example of these calculations.
7. Submit **the daily maximum temperature data for each month at the time of submittal of the discharge monitoring report**. Data collection starts upon Ecology approval of the Quality Assurance Project Plan collection proceeds through permit expiration.

S12. Receiving water trace metals, pH, DO, hardness, and alkalinity study

The Permittee must collect receiving water information necessary to determine if the effluent has a reasonable potential to cause or contribute to a violation of the water quality standards for, metals, pH, and DO at the edge of the chronic mixing zone. If reasonable potential exists, Ecology will use the study information to calculate effluent limits.

The Permittee must:

1. **Submit a Sampling and Quality Assurance Project Plan** for Ecology review and approval **by August 1, 2023**.

Prepare all quality assurance plans in accordance with the guidelines given in Ecology [Publication Number 04-03-030](https://fortress.wa.gov/ecy/publications/documents/0403030.pdf), **Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies** available online at <https://fortress.wa.gov/ecy/publications/documents/0403030.pdf>.

2. Conduct all sampling and analysis in accordance with the approved quality assurance project plan.
 - a. Locate the receiving water sampling locations outside the zone of influence of the effluent.
 - b. Use sampling station accuracy requirements of ± 20 meters.
 - c. Time the sampling to reflect seasonal variations.
 - d. Follow the clean sampling techniques, [Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels](https://www.epa.gov/sites/default/files/2015-10/documents/method_1669_1996.pdf), EPA Publication No. 821-R-95-034, April 1995 available online https://www.epa.gov/sites/default/files/2015-10/documents/method_1669_1996.pdf.
 - e. Collect at least ten receiving water samples that reflect seasonal variation in concentration and analyze the samples for dissolved oxygen, total suspended solids, hardness, temperature, pH, salinity, mercury, and arsenic, and for both the total and dissolved fractions for the following metals: zinc, copper, lead, silver, cadmium, nickel, and chromium.
 - f. Conduct all chemical analysis using the methods and the detection levels identified in Appendix A or method appropriate to identify the concentration in the water (highly sensitive methods).
3. Submit sediment, chemical, and biological data to Ecology's Environmental Information Management System (EIM) (linked below). Submit data to EIM according to the instructions on the EIM website. The data submittal portion of the EIM website (linked below) provides information and help on formats and requirements for submitting tabular data. Submit specific questions about data submittal to the EIM Data Coordinator.
 - [Environmental Information Management System \(EIM\)](https://apps.ecology.wa.gov/ecy/eimreporting/default.aspx)
<https://apps.ecology.wa.gov/ecy/eimreporting/default.aspx>
 - [Data submittal portion of EIM website](https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/EIM-submit-data)
<https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/EIM-submit-data>
4. **Submit the final report**, summarizing the results of the study to Ecology **by August 1, 2026**. **The final report must document when the data was successfully loaded into EIM.**

Any subsequent sampling and analysis must also meet these requirements. The Permittee may conduct a cooperative receiving water study with other NPDES Permittees discharging in the same vicinity.

S13. Sediment monitoring

S13.A. Sediment sampling and analysis plan

The Permittee must **submit a sediment sampling and analysis plan** to Ecology for review and approval that includes a pre-sampling plan to identify sediments depositional areas downstream of the discharge **by August 1, 2023**. The purpose of the plan is to characterize sediment (the nature and extent of chemical contamination and biological toxicity) quality near the Permittee's discharge locations.

The Permittee must follow the guidance provided in Ecology [Publication 12-09-057](#), the **Sediment Cleanup User's Manual, Appendix A: Sampling Guidance for NPDES Permits under the Sediment Management Standards** (Ecology, 2019) or the latest edition.

Note: Sediment sampling must be between August 15 and September 30. The approval of the plan takes up to six months, plan sampling appropriately.

S13.B. Sediment data report

Following Ecology approval of the sediment sampling and analysis plan, the Permittee must collect sediments between August 15 and September 30. The Permittee must **submit to Ecology a sediment data report or pre-sampling findings report** containing the results of the sediment sampling and analysis or findings regarding the lack of sediment deposition downstream of the outfall **by August 1, 2025**.

The sediment data report must conform to the approved sediment sampling and analysis plan. The Permittee must follow the guidance provided in Ecology [Publication 12-09-057](#), the **Sediment Cleanup User's Manual, Appendix A: Sampling Guidance for NPDES Permits under the Sediment Management Standards** (Ecology, 2019) or the latest edition.

The report must document when the data was successfully loaded into EIM as required below.

In addition to a sediment data report, submit the sediment chemical and biological data to **Ecology's EIM database** (linked below). Submit data to EIM according to the instructions on the EIM website.

The data submittal portion of the EIM website (linked below) provides information and help on formats and requirements for submitting tabular data.

- [Environmental Information Management System \(EIM\)](#)
<https://apps.ecology.wa.gov/eim/search/default.aspx>
- [Data submittal portion of EIM website](#)
<https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/EIM-submit-data>
- [MyEIM tools](#)
<https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/Using-MyEIM>

In addition to the EIM data submittal, Ecology's [MyEIM tools](#) must be used to confirm that the submitted data was accurately entered into EIM. Any differences between the MyEIM analytical results and sediment data report must be identified and explained.

S14. Acute toxicity

S14.A. Effluent limit for acute toxicity

The effluent limit for acute toxicity is:

No acute toxicity detected in a test concentration representing the acute critical effluent concentration (ACEC).

The ACEC means the maximum concentration of effluent during critical conditions at the boundary of the acute mixing zone, defined in Section S1.B of this permit. The ACEC equals 50 % effluent.

S14.B. Compliance with the effluent limit for acute toxicity

Compliance with the effluent limit for acute toxicity means the results of the testing specified in Section D show no statistically significant difference in survival between the control and the ACEC.

If the test results show a statistically significant difference in survival between the control and the ACEC, and Ecology had not determined the test result to be anomalous under Section E, and the test is otherwise valid, the result is a violation of the effluent limit for acute toxicity. The Permittee must immediately conduct the additional testing described in Section E.

The Permittee must determine the statistical significance by conducting a hypothesis test at the 0.05 level of significance (Appendix H, EPA/600/4-90/001). If the difference in survival between the control and the ACEC is less than 10%, the Permittee must conduct the hypothesis test at the 0.01 level of significance.

S14.C. Compliance testing for acute toxicity

The Permittee must:

1. Perform the acute toxicity tests with 100% effluent, the ACEC, and a control, or with a full dilution series.
2. **Conduct acute toxicity testing on the final effluent once per quarter.** The Permittee must take samples in a different month for each sampling period beginning after the permit is issued. The Permittee must begin quarterly monitoring for the quarter beginning on 7/1/2022.
3. **After each quarter's testing is conducted, submit a written report to Ecology.** The report is due when the specific quarter is due. Quarters are due by April 15, July 15, October 15, and January 15. Further instructions on testing conditions and test report content are in Section F below.
4. The Permittee must perform compliance tests using each of the species and protocols listed below on a rotating basis.

Table 17: Acute Toxicity Tests

Acute Toxicity Tests	Species	Method
Fathead minnow 96-hour static-renewal test	<i>Pimephales promelas</i>	EPA-821-R-02-012
Daphnid 48-hour static test	<i>Ceriodaphnia dubia</i> , <i>Daphnia pulex</i> , OR <i>Daphnia magna</i>	EPA-821-R-02-012

S14.D. Response to noncompliance with the effluent limit for acute toxicity

If a toxicity test conducted under Section D determines a statistically significant difference in response between the ACEC and the control, using the statistical test described in Section C, the Permittee must begin additional testing within one week from the time of receiving test results.

The Permittee must:

1. Conduct one additional test each week for four consecutive weeks, using the same test and species as the failed compliance test.
2. Test at least five effluent concentrations and a control to determine appropriate point estimates. One of these effluent concentrations must equal the ACEC. The results of the test at the ACEC will determine compliance with the effluent limit for acute toxicity as described in Section C.
3. Return to the original monitoring frequency in Section D after completion of the additional compliance monitoring.

Anomalous test results: If a toxicity test conducted under Section D indicates noncompliance with the acute toxicity limit and the Permittee believes that the test result is anomalous, the Permittee may notify Ecology that the compliance test result may be anomalous. The Permittee may take one additional sample for toxicity testing and wait for notification from Ecology before completing the additional testing. The Permittee must submit the notification with the report of the compliance test result and identify the reason for considering the compliance test result to be anomalous.

If Ecology determines that the test result was not anomalous, the Permittee must complete all of the additional monitoring required in this section. Or,

If the one additional sample fails to comply with the effluent limit for acute toxicity, then the Permittee must complete all of the additional monitoring required in this section. Or,

If Ecology determines that the test result was anomalous, the one additional test result will replace the anomalous test result for the purpose of determining compliance with the acute toxicity limit.

If all of the additional testing in S14.E.1 complies with the permit limit, the Permittee must submit a report to Ecology on possible causes and preventive measures for the transient toxicity event, which triggered the additional compliance monitoring.

This report must include a search of all pertinent and recent facility records, including:

- Operating records
- Monitoring results
- Inspection records
- Spill reports
- Weather records
- Production records
- Raw material purchases
- Pretreatment records, etc.

If the additional testing in this section shows another violation of the acute toxicity limit, the Permittee must submit a Toxicity Identification/Reduction Evaluation (TI/RE) plan to Ecology within 60-days after the sample date (WAC 173-205-100(2)).

S14.E. Sampling and reporting requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of [Ecology Publication No. WQ-R-95-80](https://apps.ecology.wa.gov/publications/documents/9580.pdf), **Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria** (<https://apps.ecology.wa.gov/publications/documents/9580.pdf>). Reports must contain toxicity data, bench sheets, and reference toxicant results for test methods. In addition, the Permittee must submit toxicity test data in electronic format (CETIS export file preferred) for entry into Ecology's database.
2. The Permittee must collect 24-hour composite effluent samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.
3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of [Ecology Publication No. WQ-R-95-80](https://apps.ecology.wa.gov/publications/documents/9580.pdf), **Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria** (<https://apps.ecology.wa.gov/publications/documents/9580.pdf>).
4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods listed in Subsection C and the [Ecology Publication No. WQ-R-95-80](https://apps.ecology.wa.gov/publications/documents/9580.pdf), **Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria** (<https://apps.ecology.wa.gov/publications/documents/9580.pdf>). If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.
5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods listed in Section A or pristine natural water of sufficient quality for good control performance.

6. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.
7. The Permittee may choose to conduct a full dilution series test during compliance testing in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the acute critical effluent concentration (ACEC). The ACEC equals 50% effluent.
8. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing must comply with the acute statistical power standard of 29% as defined in WAC 173-205-020. If the test does not meet the power standard, the Permittee must repeat the test on a fresh sample with an increased number of replicates to increase the power.

S15. Chronic toxicity

S15.A. Effluent limit for chronic toxicity

The effluent limit for chronic toxicity is:

No toxicity detected in a test concentration representing the chronic critical effluent concentration (CCEC).

The CCEC means the maximum concentration of effluent during critical conditions at the boundary of the mixing zone, defined in Section S1.B of this permit. The CCEC equals 6.4% effluent.

S15.B. Compliance with the effluent limit for chronic toxicity

Compliance with the effluent limit for chronic toxicity means the results of the testing specified in Subsection D. show no statistically significant difference in response between the control and the CCEC.

If the test results show a statistically significant difference in survival between the control and the CCEC, and Ecology has not determined the test result to be anomalous under Section E, and the test is otherwise valid, the result is a violation of the effluent limit for chronic toxicity. The Permittee must immediately conduct the additional testing described in Section E.

The Permittee must determine the statistical significance by conducting a hypothesis test at the 0.05 level of significance (Appendix H, EPA/600/4-90/001). If the difference in response between the control and the CCEC is less than 20%, the Permittee must conduct the hypothesis test at the 0.01 level of significance.

Ecology will reevaluate the need for the chronic toxicity limit in future permits. Therefore, the Permittee must also conduct this same hypothesis test (Appendix H, EPA/600/4-90/001) to determine whether a statistically significant difference in response exists between the acute critical effluent concentration (ACEC) and the control.

S15.C. Compliance testing for chronic toxicity

The Permittee must:

9. Perform the chronic toxicity tests using the CCEC, the ACEC, and a control, or with a full dilution series.
10. **Conduct chronic toxicity testing on the final effluent once per quarter.** The Permittee must take samples in a different month for each sampling period beginning after the permit is issued. The Permittee must begin quarterly monitoring for the quarter beginning on 7/1/2022.
11. **After each quarter's testing is conducted, submit a written report to Ecology.** The report is due when the specific quarter is due. Quarters are due by April 15, July 15, October 15, and January 15. Further instructions on testing conditions and test report content are in Section F below.
12. Perform compliance tests using the following species on a rotating basis and the most recent version of the following protocols:

Table 18: Freshwater Chronic Test

Freshwater Chronic Test	Species	Method
Fathead minnow survival and growth	<i>Pimephales promelas</i>	EPA-821-R-02-013
Water flea survival and reproduction	<i>Ceriodaphnia dubia</i>	EPA-821-R-02-013

S15.D. Response to noncompliance with the effluent limit for chronic toxicity

If a toxicity test conducted under Subsection D determines a statistically significant difference in response between the CCEC and the control using the statistical test described in Subsection C, the Permittee must begin additional testing within one week from the time of receiving the test results.

The Permittee must:

Conduct additional testing each month for three consecutive months using the same test and species as the failed compliance test.

1. Use a series of at least five effluent concentrations and a control to determine appropriate point estimates. One of these effluent concentrations must equal the CCEC. The results of the test at the CCEC will determine compliance with the effluent limit for chronic toxicity as described in Subsection B.
2. Return to the original monitoring frequency in Subsection D after completion of the additional compliance monitoring.

Anomalous test results: If a toxicity test conducted under Subsection D indicates noncompliance with the chronic toxicity limit and the Permittee believes that the test result is anomalous, the Permittee may notify Ecology that the compliance test result may be anomalous.

The Permittee may take one additional sample for toxicity testing and wait for notification from Ecology before completing the additional testing. The Permittee must submit the notification with the report of the compliance test result and identify the reason for considering the compliance test result to be anomalous.

If Ecology determines that the test result was not anomalous, the Permittee must complete all of the additional monitoring required in this section. Or,

If the one additional sample fails to comply with the effluent limit for chronic toxicity, then the Permittee must complete all of the additional monitoring required in this section. Or,

If Ecology determines that the test result was anomalous, the one additional test result will replace the anomalous test result for the purpose of determining compliance with the chronic toxicity limit.

If all of the additional testing required in S15.C.1 complies with the permit limit, the Permittee must submit a report to Ecology on possible causes and preventive measures for the transient toxicity event, which triggered the additional compliance monitoring. This report must include a search of all pertinent and recent facility records, including:

- Operating records
- Monitoring results
- Inspection records
- Spill reports
- Weather records
- Production records
- Raw material purchases
- Pretreatment records, etc.

If the additional testing required by this section shows another violation of the chronic toxicity limit, the Permittee must **submit a Toxicity Identification/Reduction Evaluation (TI/RE) plan to Ecology within 60 days after the sample date (WAC 173-205-100(2)).**

S15.E. Sampling and reporting requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of [Ecology Publication No. WQ-R-95-80, Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria](https://apps.ecology.wa.gov/publications/documents/9580.pdf) (<https://apps.ecology.wa.gov/publications/documents/9580.pdf>). Reports must contain toxicity data, bench sheets, and reference toxicant results for test methods. In addition, the Permittee must submit toxicity test data in electronic format (CETIS export file preferred) for entry into Ecology's database.
2. The Permittee must collect 24-hour composite effluent samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.

3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of [Ecology Publication No. WQ-R-95-80](https://apps.ecology.wa.gov/publications/documents/9580.pdf), **Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria** (<https://apps.ecology.wa.gov/publications/documents/9580.pdf>).
4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods listed in Section C. and the [Ecology Publication no. WQ-R-95-80](https://apps.ecology.wa.gov/publications/documents/9580.pdf), **Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria** (<https://apps.ecology.wa.gov/publications/documents/9580.pdf>). If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.
5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods listed in Subsection C or pristine natural water of sufficient quality for good control performance.
6. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.
7. The Permittee may choose to conduct a full dilution series test during compliance testing in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the CCEC and the ACEC. The CCEC and the ACEC may either substitute for the effluent concentrations that are closest to them in the dilution series or be extra effluent concentrations. The CCEC equals 6.4% effluent. The ACEC equals 50% effluent.
8. All whole effluent toxicity tests that involve hypothesis testing must comply with the chronic statistical power standard of 39% as defined in WAC 173-205-020. If the test does not meet the power standard, the Permittee must repeat the test on a fresh sample with an increased number of replicates to increase the power.

S16. Spokane River Watershed Toxics Reduction Strategy

S16.A. Best Management Practices and Implementation Plan

The Permittee must **submit a Toxics Reduction Best Management Practices Plan (BMP Plan)** to Ecology for review and approval **by August 1, 2023** and annually thereafter).

The BMPs must be implemented throughout the Spokane County sewer shed to reduce toxicant (PCBs and PBDEs) loading to both the treatment plant and the Spokane River.

The Permittee must use information generated from the most recent Toxics Management Plan developed during the previous permit cycle to continue the reduction strategy.

The BMP Plan must:

- Identify actions to be taken
- Include a method for assessing efficacy of the identified action(s)
- Quantify toxic reductions as a result of the actions

The Plan must detail specific implementation actions used and refine their application annually based upon monitoring results. The Plan should include figures, maps, and other illustrations depicting BMP placement, use, and implementation.

The Permittee must **submit an updated Quality Assurance Project Plan (QAPP) by August 1, 2023**. All monitoring for BMP effectiveness must use appropriately sensitive test methods. All sampling and analysis for the BMP plan must be in accordance with the approved QAPP. All lab sheets and a spreadsheet of raw data should accompany submission of the annual BMP plan. Spokane County must upload data to the Environmental Information Management System (or other) database as it becomes available.

Prepare all quality assurance plans in accordance with the guidelines given in Ecology [Publication Number 04-03-030](https://apps.ecology.wa.gov/publications/SummaryPages/0403030.html), **Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies** available online at <https://apps.ecology.wa.gov/publications/SummaryPages/0403030.html>.

In addition to Permittee identified appropriate BMPs for the sewer shed, the Permittee must implement the following:

The continued source identification and removal actions for PCBs and PBDEs remaining within the Permittee's municipal wastewater sewer system. Continuation of the public outreach and education effort.

S16.B. Community Based Toxics Reduction

The Permittee must continue to work with the Spokane River Regional Toxics Task Force to identify strategies for reducing toxics in the Spokane River Watershed. Participation in an equivalent citizen advisory organization or committee may substitute for the requirement to participate in the Spokane River Regional Toxics Task Force.

General Conditions

G1. Signatory requirements

1. All applications submitted to Ecology must be signed and certified.
 - a. In the case of corporations, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - 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, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - b. In the case of a partnership, by a general partner.
 - c. In the case of sole proprietorship, by the proprietor.
 - d. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

Applications for permits for domestic wastewater facilities that are either owned or operated by, or under contract to, a public entity shall be submitted by the public entity.

2. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to Ecology.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to authorization. If an authorization under paragraph G1.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G1.2, above, must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section must make the following certification:

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. Right of inspection and entry

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials:

1. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.
2. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.
3. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.
4. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. Permit actions

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon Ecology's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 40 CFR 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

Under condition 2.d below, Ecology will reopen the permit should the Human Health Criteria for PCBs be revised.

1. The following are causes for terminating this permit during its term, or for denying a permit renewal application:
 - a. Violation of any permit term or condition.
 - b. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
 - c. A material change in quantity or type of waste disposal.
 - d. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination.
 - e. A change in any condition that requires either a temporary or permanent reduction, or elimination of any discharge or sludge use or disposal practice controlled by the permit.

- f. Nonpayment of fees assessed pursuant to RCW 90.48.465.
- g. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.
- 2. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:
 - a. A material change in the condition of the waters of the state.
 - b. New information not available at the time of permit issuance that would have justified the application of different permit conditions.
 - c. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.
 - d. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.
 - e. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.
 - f. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.
 - g. Incorporation of an approved local pretreatment program into a municipality's permit.
- 3. The following are causes for modification or alternatively revocation and reissuance:
 - a. When cause exists for termination for reasons listed in 1.a through 1.g of this section, and Ecology determines that modification or revocation and reissuance is appropriate.
 - b. When Ecology has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G7) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

G4. Reporting planned changes

The Permittee must, as soon as possible, but no later than 180 days prior to the proposed changes, give notice to Ecology of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in:

- 1. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).
- 2. A significant change in the nature or an increase in quantity of pollutants discharged.
- 3. A significant change in the Permittee's sludge use or disposal practices.

Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. Plan review required

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

G6. Compliance with other laws and statutes

Nothing in this permit excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. Transfer of this permit

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to Ecology.

1. Transfers by Modification

Except as provided in paragraph (2) below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

2. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

- a. The Permittee notifies Ecology at least thirty (30) days in advance of the proposed transfer date.
- b. The notice includes a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them.
- c. Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under this subparagraph may also be a minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G8. Reduced production for compliance

The Permittee, in order to maintain compliance with its permit, must control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G9. Removed substances

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G10. Duty to provide information

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

G11. Other requirements of 40 CFR

All other requirements of 40 CFR 122.41 and 40 CFR 122.42 are incorporated in this permit by reference.

G12. Additional monitoring

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. Payment of fees

The Permittee must submit payment of fees associated with this permit as assessed by Ecology.

G14. Penalties for violating permit conditions

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to \$10,000 and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit may incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to \$10,000 for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is deemed to be a separate and distinct violation.

G15. Upset

Definition – “Upset” means 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, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the Permittee can identify the cause(s) of the upset.
2. The permitted facility was being properly operated at the time of the upset.
3. The Permittee submitted notice of the upset as required in Special Condition S3.F.
4. The Permittee complied with any remedial measures required under S3.F of this permit.

In any enforcement action the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. Property rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. Duty to comply

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. Toxic pollutants

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G19. Penalties for tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or by both.

G20. Compliance schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.

G21. Service agreement review

The Permittee must submit to Ecology any proposed service agreements and proposed revisions or updates to existing agreements for the operation of any wastewater treatment facility covered by this permit. The review is to ensure consistency with chapters 90.46 and 90.48 RCW as required by RCW 70.150.040(9). In the event that Ecology does not comment within a 30-day period, the Permittee may assume consistency and proceed with the service agreement or the revised/updated service agreement.

APPENDIX A

List of Pollutants with Analytical Methods, Detection Limits and Quantitation Levels

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136. If the Permittee uses an alternative method, not specified in the permit and as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.

If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to Ecology with appropriate laboratory documentation.

When the permit requires the Permittee to measure the base neutral compounds in the list of priority pollutants, it must measure all of the base neutral pollutants listed in the table below. The list includes EPA required base neutral priority pollutants and several additional polynuclear aromatic hydrocarbons (PAHs). The Water Quality Program added several PAHs to the list of base neutrals below from Ecology's Persistent Bioaccumulative Toxics (PBT) List. It only added those PBT parameters of interest to Appendix A that did not increase the overall cost of analysis unreasonably.

Ecology added this appendix to the permit in order to reduce the number of analytical "non-detects" in permit-required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost.

The lists below include conventional pollutants (as defined in CWA section 502(6) and 40 CFR Part 122.), toxic or priority pollutants as defined in CWA section 307(a)(1) and listed in 40 CFR Part 122 Appendix D, 40 CFR Part 401.15 and 40 CFR Part 423 Appendix A), and nonconventionals. 40 CFR Part 122 Appendix D (Table V) also identifies toxic pollutants and hazardous substances which are required to be reported by dischargers if expected to be present. This permit appendix A list does not include those parameters.

Conventional Pollutants

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Biochemical Oxygen Demand		SM5210-B		2 mg/L
Biochemical Oxygen Demand, Soluble		SM5210-B ³		2 mg/L
Fecal Coliform		SM 9221E,9222	N/A	Specified in method sample aliquot dependent
Oil and Grease (HEM) (Hexane Extractable Material)		1664 A or B	1,400	5,000
pH		SM4500-H ⁺ B	N/A	N/A
Total Suspended Solids		SM2540-D		5 mg/L

Nonconventional Pollutants

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Alkalinity, Total		SM2320-B		5 mg/L as CaCO ₃
Aluminum, Total	7429-90-5	200.8	2.0	10
Ammonia, Total (as N)		SM4500-NH ₃ -B and C/D/E/G/H		20
Barium Total	7440-39-3	200.8	0.5	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)		EPA SW 846 8021/8260	1	2
Boron, Total	7440-42-8	200.8	2.0	10.0
Chemical Oxygen Demand		SM5220-D		10 mg/L

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
Chloride		SM4500-Cl B/C/D/E and SM4110 B		Sample and limit dependent
Chlorine, Total Residual		SM4500 Cl G		50.0
Cobalt, Total	7440-48-4	200.8	0.05	0.25
Color		SM2120 B/C/E		10 color units
Dissolved oxygen		SM4500-OC/OG		0.2 mg/L
E.coli		SM 9221B, 9221F, 9223B	N/A	Specified in method - sample aliquot dependent
Enterococci		SM 9230B, 9230C, 9230D	N/A	Specified in method - sample aliquot dependent
Flow		Calibrated device		
Fluoride	16984-48-8	SM4500-F E	25	100
Hardness, Total		SM2340B		200 as CaCO ₃
Iron, Total	7439-89-6	200.7	12.5	50
Magnesium, Total	7439-95-4	200.7	10	50
Manganese, Total	7439-96-5	200.8	0.1	0.5
Molybdenum, Total	7439-98-7	200.8	0.1	0.5
Nitrate + Nitrite Nitrogen (as N)		SM4500-NO ₃ - E/F/H		100
Nitrogen, Total Kjeldahl (as N)		SM4500-N _{org} B/C and SM4500NH ₃ - B/C/D/EF/G/H		300
NWTPH Dx ⁴		Ecology NWTPH Dx	250	250
NWTPH Gx ⁵		Ecology NWTPH Gx	250	250

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
Phosphorus, Total (as P)		SM 4500 PB followed by SM4500-PE/PF	3	10
Salinity		SM2520-B		3 practical salinity units or scale (PSU or PSS)
Settleable Solids		SM2540 -F		Sample and limit dependent
Soluble Reactive Phosphorus (as P)		SM4500-P E/F/G	3	10
Sulfate (as mg/L SO ₄)		SM4110-B		0.2 mg/L
Sulfide (as mg/L S)		SM4500- S ² F/D/E/G		0.2 mg/L
Sulfite (as mg/L SO ₃)		SM4500-SO3B		2 mg/L
Temperature (max. 7-day avg.)		Analog recorder or Use micro- recording devices known as thermistors		0.2° C
Tin, Total	7440-31-5	200.8	0.3	1.5
Titanium, Total	7440-32-6	200.8	0.5	2.5
Total Coliform		SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total Organic Carbon		SM5310-B/C/D		1 mg/L
Total dissolved solids		SM2540 C		20 mg/L

Priority Pollutants
Metals, Cyanide & Total Phenols

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
Antimony, Total	114	7440-36-0	200.8	0.3	1.0
Arsenic, Total	115	7440-38-2	200.8	0.1	0.5
Beryllium, Total	117	7440-41-7	200.8	0.1	0.5
Cadmium, Total	118	7440-43-9	200.8	0.05	0.25
Chromium (hex) dissolved	119	18540-29-9	SM3500-Cr C	0.3	1.2
Chromium, Total	119	7440-47-3	200.8	0.2	1.0
Copper, Total	120	7440-50-8	200.8	0.4	2.0
Lead, Total	122	7439-92-1	200.8	0.1	0.5
Mercury, Total	123	7439-97-6	1631E	0.0002	0.0005
Nickel, Total	124	7440-02-0	200.8	0.1	0.5
Selenium, Total	125	7782-49-2	200.8	1.0	1.0
Silver, Total	126	7440-22-4	200.8	0.04	0.2
Thallium, Total	127	7440-28-0	200.8	0.09	0.36
Zinc, Total	128	7440-66-6	200.8	0.5	2.5
Cyanide, Total	121	57-12-5	335.4	5	10
Cyanide, Weak Acid Dissociable	121		SM4500-CN I	5	10
Cyanide, Free Amenable to Chlorination (Available Cyanide)	121		SM4500-CN G	5	10

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Phenols, Total	65		EPA 420.1		50

Acid Compounds

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
2-Chlorophenol	24	95-57-8	625.1	3.3	9.9
2,4-Dichlorophenol	31	120-83-2	625.1	2.7	8.1
2,4-Dimethylphenol	34	105-67-9	625.1	2.7	8.1
4,6-dinitro-o-cresol (2-methyl-4,6-dinitrophenol)	60	534-52-1	625.1/1625B	24	72
2,4 dinitrophenol	59	51-28-5	625.1	42	126
2-Nitrophenol	57	88-75-5	625.1	3.6	10.8
4-Nitrophenol	58	100-02-7	625.1	2.4	7.2
Parachlorometa cresol (4-chloro-3-methylphenol)	22	59-50-7	625.1	3.0	9.0
Pentachlorophenol	64	87-86-5	625.1	3.6	10.8
Phenol	65	108-95-2	625.1	1.5	4.5
2,4,6-Trichlorophenol	21	88-06-2	625.1	2.7	8.1

Volatile Compounds

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Acrolein	2	107-02-8	624.1	5	10
Acrylonitrile	3	107-13-1	624.1	1.0	2.0
Benzene	4	71-43-2	624.1	4.4	13.2
Bromoform	47	75-25-2	624.1	4.7	14.1
Carbon tetrachloride	6	56-23-5	624.1/601 or SM6230B	2.8	8.4
Chlorobenzene	7	108-90-7	624.1	6.0	18.0
Chloroethane	16	75-00-3	624/601	1.0	2.0
2-Chloroethylvinyl Ether	19	110-75-8	624.1	1.0	2.0
Chloroform	23	67-66-3	624.1 or SM6210B	1.6	4.8
Dibromochloromethane (chlorodibromomethane)	51	124-48-1	624.1	3.1	9.3
1,2-Dichlorobenzene	25	95-50-1	624.1	1.9	7.6
1,3-Dichlorobenzene	26	541-73-1	624.1	1.9	7.6
1,4-Dichlorobenzene	27	106-46-7	624.1	4.4	17.6
Dichlorobromomethane	48	75-27-4	624.1	2.2	6.6
1,1-Dichloroethane	13	75-34-3	624.1	4.7	14.1
1,2-Dichloroethane	10	107-06-2	624.1	2.8	8.4
1,1-Dichloroethylene	29	75-35-4	624.1	2.8	8.4
1,2-Dichloropropane	32	78-87-5	624.1	6.0	18.0

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene) ⁶	33	542-75-6	624.1	5.0	15.0
Ethylbenzene	38	100-41-4	624.1	7.2	21.6
Methyl bromide (Bromomethane)	46	74-83-9	624/601	5.0	10.0
Methyl chloride (Chloromethane)	45	74-87-3	624.1	1.0	2.0
Methylene chloride	44	75-09-2	624.1	2.8	8.4
1,1,2,2-Tetrachloroethane	15	79-34-5	624.1	6.9	20.7
Tetrachloroethylene	85	127-18-4	624.1	4.1	12.3
Toluene	86	108-88-3	624.1	6.0	18.0
1,2-Trans-Dichloroethylene (Ethylene dichloride)	30	156-60-5	624.1	1.6	4.8
1,1,1-Trichloroethane	11	71-55-6	624.1	3.8	11.4
1,1,2-Trichloroethane	14	79-00-5	624.1	5.0	15.0
Trichloroethylene	87	79-01-6	624.1	1.9	5.7
Vinyl chloride	88	75-01-4	624/SM6200 B	1.0	2.0

Base/Neutral Compounds (Compounds in **Bold** are Ecology PBTS)

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Acenaphthene	1	83-32-9	625.1	1.9	5.7
Acenaphthylene	77	208-96-8	625.1	3.5	10.5
Anthracene	78	120-12-7	625.1	1.9	5.7
Benzidine	5	92-87-5	625.1	44	132
Benzyl butyl phthalate	67	85-68-7	625.1	2.5	7.5
Benzo(a)anthracene	72	56-55-3	625.1	7.8	23.4
Benzo(b)fluoranthene (3,4-benzofluoranthene) ⁷	74	205-99-2	610/625.1	4.8	14.4
Benzo(j)fluoranthene⁷		205-82-3	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene) ⁷	75	207-08-9	610/625.1	2.5	7.5
Benzo(r,s,t)pentaphene		189-55-9	625	1.3	5.0
Benzo(a)pyrene	73	50-32-8	610/625.1	2.5	7.5
Benzo(ghi)Perylene	79	191-24-2	610/625.1	4.1	12.3
Bis(2-chloroethoxy)methane	43	111-91-1	625.1	5.3	15.9
Bis(2-chloroethyl)ether	18	111-44-4	611/625.1	5.7	17.1
Bis(2-chloro-1-methylethyl)Ether (Bis(2-chloroisopropyl)ether) ¹⁰	42	108-60-1	625.1	5.7	17.1
Bis(2-ethylhexyl)phthalate	66	117-81-7	625.1	2.5	7.5

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
4-Bromophenyl phenyl ether	41	101-55-3	625.1	1.9	5.7
2-Chloronaphthalene	20	91-58-7	625.1	1.9	5.7
4-Chlorophenyl phenyl ether	40	7005-72-3	625.1	4.2	12.6
Chrysene	76	218-01-9	610/625.1	2.5	7.5
Dibenzo (a,h)acridine		226-36-8	610M/625M	2.5	10.0
Dibenzo (a,j)acridine		224-42-0	610M/625M	2.5	10.0
Dibenzo(a-h)anthracene (1,2,5,6-dibenzanthracene)	82	53-70-3	625.1	2.5	7.5
Dibenzo(a,e)pyrene		192-65-4	610M/625M	2.5	10.0
Dibenzo(a,h)pyrene		189-64-0	625M	2.5	10.0
3,3-Dichlorobenzidine	28	91-94-1	605/625.1	16.5	49.5
Diethyl phthalate	70	84-66-2	625.1	1.9	5.7
Dimethyl phthalate	71	131-11-3	625.1	1.6	4.8
Di-n-butyl phthalate	68	84-74-2	625.1	2.5	7.5
2,4-dinitrotoluene	35	121-14-2	609/625.1	5.7	17.1
2,6-dinitrotoluene	36	606-20-2	609/625.1	1.9	5.7
Di-n-octyl phthalate	69	117-84-0	625.1	2.5	7.5
1,2-Diphenylhydrazine (as Azobenzene)	37	122-66-7	1625B	5.0	20

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Fluoranthene	39	206-44-0	625.1	2.2	6.6
Fluorene	80	86-73-7	625.1	1.9	5.7
Hexachlorobenzene	9	118-74-1	612/625.1	1.9	5.7
Hexachlorobutadiene	52	87-68-3	625.1	0.9	2.7
Hexachlorocyclopentadiene	53	77-47-4	1625B/625	2.0	4.0
Hexachloroethane	12	67-72-1	625.1	1.6	4.8
Indeno(1,2,3-cd)Pyrene	83	193-39-5	610/625.1	3.7	11.1
Isophorone	54	78-59-1	625.1	2.2	6.6
3-Methylcholanthrene		56-49-5	625	2.0	8.0
Naphthalene	55	91-20-3	625.1	1.6	4.8
Nitrobenzene	56	98-95-3	625.1	1.9	5.7
N-Nitrosodimethylamine	61	62-75-9	607/625	2.0	4.0
N-Nitrosodi-n-propylamine	63	621-64-7	607/625	0.5	1.0
N-Nitrosodiphenylamine	62	86-30-6	625	1.0	2.0
Perylene		198-55-0	625	1.9	7.6
Phenanthrene	81	85-01-8	625.1	5.4	16.2
Pyrene	84	129-00-0	625.1	1.9	5.7
1,2,4-Trichlorobenzene	8	120-82-1	625.1	1.9	5.7

Dioxin

Priority Pollutant	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (2,3,7,8 TCDD)	129	1746-01-6	1613B	1.3 pg/L	5 pg/L

Pesticides/PCBS

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Aldrin	89	309-00-2	608.3	4.0 ng/L	12 ng/L
alpha-BHC	102	319-84-6	608.3	3.0 ng/L	9.0 ng/L
beta-BHC	103	319-85-7	608.3	6.0 ng/L	18 ng/L
gamma-BHC (Lindane)	104	58-89-9	608.3	4.0 ng/L	12 ng/L
delta-BHC	105	319-86-8	608.3	9.0 ng/L	27 ng/L
Chlordane ⁸	91	57-74-9	608.3	14 ng/L	42 ng/L
4,4'-DDT	92	50-29-3	608.3	12 ng/L	36 ng/L
4,4'-DDE	93	72-55-9	608.3	4.0 ng/L	12 ng/L
4,4' DDD	94	72-54-8	608.3	11ng/L	33 ng/L
Dieldrin	90	60-57-1	608.3	2.0 ng/L	6.0 ng/L
alpha-Endosulfan	95	959-98-8	608.3	14 ng/L	42 ng/L
beta-Endosulfan	96	33213-65-9	608.3	4.0 ng/L	12 ng/L
Endosulfan Sulfate	97	1031-07-8	608.3	66 ng/L	198 ng/L
Endrin	98	72-20-8	608.3	6.0 ng/L	18 ng/L
Endrin Aldehyde	99	7421-93-4	608.3	23 ng/L	70 ng/L
Heptachlor	100	76-44-8	608.3	3.0 ng/L	9.0 ng/L
Heptachlor Epoxide	101	1024-57-3	608.3	83 ng/L	249 ng/L
PCB-1242 ⁹	106	53469-21-9	608.3	0.065	0.195

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
PCB-1254	107	11097-69-1	608.3	0.065	0.195
PCB-1221	108	11104-28-2	608.3	0.065	0.195
PCB-1232	109	11141-16-5	608.3	0.065	0.195
PCB-1248	110	12672-29-6	608.3	0.065	0.195
PCB-1260	111	11096-82-5	608.3	0.065	0.195
PCB-1016 ⁹	112	12674-11-2	608.3	0.065	0.195
Toxaphene	113	8001-35-2	608.3	240 ng/L	720 ng/L

Analytical Methods

1. **Detection level (DL)** – or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.
2. **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 $(1, 2, \text{ or } 5) \times 10^n$, where n is an integer. (64 FR 30417). **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).
3. **Soluble Biochemical Oxygen Demand** – method note: First, filter the sample through a Millipore Nylon filter (or equivalent) - pore size of 0.45-0.50 μm (prep all filters by filtering 250 ml of laboratory grade deionized water through the filter and discard). Then, analyze sample as per method 5210-B.
4. **Northwest Total Petroleum Hydrocarbons Diesel Extended Range OR NWTPH Dx** – [Analytical Methods for Petroleum Hydrocarbons](https://fortress.wa.gov/ecy/publications/documents/97602.pdf)
<https://fortress.wa.gov/ecy/publications/documents/97602.pdf>.
5. **Northwest Total Petroleum Hydrocarbons Gasoline Extended Range OR NWTPH Gx** – [Analytical Methods for Petroleum Hydrocarbons](https://fortress.wa.gov/ecy/publications/documents/97602.pdf)
<https://fortress.wa.gov/ecy/publications/documents/97602.pdf>.
6. **1, 3-dichloropropylene (mixed isomers)** – You may report this parameter as two separate parameters: cis-1, 3-dichloropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).
7. **Total Benzofluoranthenes** – Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.
8. **Chlordane** – You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 14/42 ng/L.
9. **PCB 1016 & PCB 1242** – You may report these two PCB compounds as one parameter called PCB 1016/1242.
10. **Bis(2-Chloro-1-Methylethyl) Ether** – This compound was previously listed as Bis(2-Chloroisopropyl) Ether (39638-32-9)

EXHIBIT B



**STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY**

Eastern Region Office

4601 North Monroe St., Spokane, WA 99205-1295 • 509-329-3400

June 13, 2022

Robert Lindsay
Water Programs Manager
Spokane County – Environmental Services
1004 North Freya Street
Spokane, Washington 99202

RE: Issuance of National Pollutant Discharge Elimination System (NPDES) Permit
WA0093317 – Spokane County Regional Water Reclamation Facility (SCRWRF)

Dear Robert Lindsay:

NPDES wastewater discharge permit WA0093317 is enclosed. This NPDES permit satisfies the requirements of both federal and state laws. The Department of Ecology (Ecology) issues this permit in accordance with Chapter 90.48 RCW, as amended, and the Federal Water Pollution Control Act, as amended.

Ecology published a legal notice of draft on March 18, 2022 in the Spokesman Review to inform the public that a draft permit and fact sheet were available for review.

Permit Fees

The Department of Ecology, in response to the passage of Initiative 97 in 1988, has adopted a regulation to recover costs associated with issuing and administering wastewater discharge permits (Chapter 173-224 WAC).

Ecology calculates the annual fee for both industrial and municipal/domestic discharges according to the permit fee schedules contained in WAC 173-224-040. We notify permit holders of fee charges by mailed billing statements. Failure to pay the applicable permit fee may result in the suspension or revocation of the permit, and could result in the issuance of civil penalties or actions to enjoin the activity under the permit.

Appeal Process

You have the right to appeal this permit (chapter 43.21B RCW). The Board must RECEIVE your appeal within 30 days of the “receipt” date. Failure to comply with the 30-day filing deadline will result in termination or dismissal of the appeal.

File the original and one copy of the appeal with the Pollution Control Hearings Board by mail or hand delivery (addresses below). Filing means actual receipt with the PCHB during regular business hours.

Robert Lindsay
Spokane County
June 13, 2022
Page 2 of 3

Mailing address:

Pollution Control Hearings Board
P.O. Box 40903
Lacey, Washington 98504-0903

Physical address for hand delivery:

Pollution Control Hearings Board
1111 Israel Road Southwest, Suite 301
Lacey, Washington 98504-0903

Effective February 17, 2015, you can file with the PCHB by e-mail provided you follow-up with required hard copies postmarked the same day they are e-mailed (See WAC 371-08-305(6) and 335(3)).

PCHB E-filing address: PCHB-SHBappeals@eluhho.wa.gov

Within 30 days of receipt of the permit, you must also serve a copy of your appeal with the Department of Ecology Appeals Processor and Eastern Regional Office. Ecology only accepts copies of appeals by hand delivery or by mail. Email is not accepted.

To serve Ecology Appeals Processor:

Department of Ecology
Appeals Processor
P.O. Box 47608
Olympia, Washington 98504-7608

To serve Ecology Eastern Regional Office

Department of Ecology
Water Quality Program
Eastern Regional Office
4601 N. Monroe Street
Spokane, Washington 99205-1265

Please direct questions relating to the permit to Diana Washington at (509) 385-5529 or by email at dwas461@ecy.wa.gov.

Sincerely,



Adriane P. Borgias
Section Manager
Water Quality Program
Eastern Regional Office

APB:sj

Enclosures (Permit and fact sheet)

cc: Valerie Garcia, Jacobs Engineering Group
Ben Brattebo, Spokane County
Dale Brambrick, NMFS
Michelle Eames, US Fish and Wildlife
Shayne Cothorn, Department of Natural Resources
Meghan Lunney, Avista
Rachael Osborn, Center for Environmental Law and Policy
Jerry White Jr., Spokane Riverkeeper
Peter North, US Senator Patty Murray's Office



Jennifer Wu, US EPA Region 10
Cody Piscitelli, US EPA Region 10
Brian Nickel, US EPA Region 10
Susan Poulsom, US EPA Region 10
Andy C. Joseph Jr., Colville Confederated Tribes
Rodney Cawston, Colville Confederated Tribes
Douglas Marconi, Jr., Colville Confederated Tribes
Cody Desautel, Colville Confederated Tribes
Carol Evans, Spokane Tribe of Indians
Chad McCrea, Spokane Tribe of Indians
Glen D. Nenema, Kalispel Tribe of Indians
Deane Osterman, Kalispel Tribe of Indians
Ken Merrill, Kalispel Tribe of Indians
Chief Allan, Coeur d'Alene Tribe
Caj Matheson, Coeur d'Alene Tribe
Scott Fields, Coeur d'Alene Tribe
Ecology Permit Fee Unit
Diana Washington, PE, WQP Permit Manager, Ecology Eastern Region
Art Jenkins, PE, WQP Permit Unit Supervisor, Ecology Eastern Region



EXHIBIT C

Fact Sheet for NPDES Permit WA0093317

Spokane County Regional Water Reclamation Facility (SCRWRF)

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 Spokane County Regional Water Reclamation Facility (SCRWRF).

This fact sheet complies with Section 173-220-060 of the Washington Administrative Code (WAC), which requires Ecology to prepare a draft permit and accompanying fact sheet for public evaluation before issuing an NPDES permit.

Ecology makes the draft permit and fact sheet available for public review and comment at least 30-days before issuing the final permit. Copies of the fact sheet and draft permit for SCRWRF NPDES permit WA0093317, are available for public review and comment from March 18, 2022 until May 3, 2022. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

Spokane County Environmental Services Department and Jacobs Engineering (Jacobs), the contract operator, reviewed the draft permit and fact sheet for factual accuracy. Ecology corrected any errors or omissions regarding the facility's location, history, wastewater 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

The Spokane County Regional Water Reclamation Facility (SCRWRF) treats mixed domestic and industrial wastewater, and then discharges to the Spokane River. The facility receives domestic wastewater from parts of the Cities of Spokane Valley, Millwood, Liberty Lake, and unincorporated areas in Spokane County. Additionally, they receive industrial wastewater from facilities permitted by the Spokane County Pretreatment Program.

Jacobs operates the SCRWRF under a design, build, and operate contract with Spokane County. Jacobs provides all operations and maintenance of the facility. Under a separated contract, Spokane County also manages the biosolids produced at the facility.

The proposed permit has more stringent toxics limits for cadmium, lead, zinc, and adds a numeric limits for PCBs. The permit has limits that are more stringent for CBOD₅ based on technology performance. The permit has a few less stringent limits due to identified calculation errors in the last permit and updated flow information for the Spokane River based on the FERC relicensing.

The proposed permit requires Spokane County to conduct a mixing zone and dye tracer evaluation for the outfall. Additionally, the proposed permit requires Spokane County to conduct a receiving water study for trace metals, DO, pH, alkalinity, and hardness. The proposed permit expands the receiving water temperature study. The proposed permit requires an updated O&M manual that includes the management of the irrigated wastewater applied to the onsite vegetation.

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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 domestic wastewater NPDES permits:

- Procedures Ecology follows for issuing NPDES permits (chapter 173-220 WAC)
- Technical criteria for discharges from municipal wastewater treatment facilities (chapter 173-221 WAC)
- Water quality criteria for surface waters (chapter 173-201A WAC)
- Water quality criteria for groundwaters (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 treatment 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 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	Spokane County Environmental Services Department
Facility Name and Address	Spokane County Regional Water Reclamation Facility 1004 North Freya Street, Spokane, WA 99202
Contact at Facility	Valerie Garcia, Project Manager Jacobs Engineering Group (509) 536-3702
Responsible Official	Robert Lindsay, Environmental Services Administrator 1026 W Broadway Ave, Spokane, WA 99260-0050 (509) 477-7576 Email: rlindsay@spokanecounty.org
Type of Treatment	Biological Nutrient Removal Membrane Bioreactor
Facility Location (NAD83/WGS84 reference datum)	Latitude: 47.6678 Longitude: -117.3566
Discharge Waterbody Name and Location (NAD83/WGS84 reference datum)	Spokane River at River Mile 78.9 Latitude: 47.675833 Longitude: -117.346944
Legal Description of Treated Effluent Irrigation Application Area	At the SCRWRF site, generally in the North 1/2 of the Southwest 1/4 of the Northeast 1/4 of Section 15 Township 25 North Range 43 East, Willamette Meridian

Table 2: Permit Status

Issuance Date of Previous Permit	November 29, 2011
Application for Permit Renewal Submittal Date	October 1, 2015 and January 27, 2021
Date of Ecology Acceptance of Application	November 6, 2015 and March 5, 2021

Table 3: Inspection Status

Date of Last Non-sampling Inspection Date	September 19, 2018

Figure 1: Facility Location Map



A. Facility description

History

Spokane County (the County) began the process of eliminating septic systems above the sole source Spokane Valley-Rathdrum Prairie Aquifer in 1980. Spokane County developed its first comprehensive wastewater plan for unincorporated areas in Spokane County east of the City of Spokane in 1981. This area was incorporated as the City of Spokane Valley in 2003. Most septic tanks within the County sewer service area have now been decommissioned and residents are connected to the County-operated collection system. Before the construction of the County's wastewater treatment system (SCRWRF), Spokane County's collection system delivered customers' raw wastewater to the City of Spokane's Advanced Wastewater Treatment Plant (AWWTP) for treatment. Planning for the SCRWRF started with the 2001 Comprehensive Wastewater Management Plan.

At the time of drafting this proposed permit, the County estimates their treatment plant serves approximately 114,000 customers. The SCRWRF primarily serves residences of the City of Spokane Valley with a County-owned sewer collection system; however, a small fraction of the sewer shed includes areas located within the City of Spokane, Millwood, City of Liberty Lake, and unincorporated Spokane County.

As reported in the previous permit, the planning area for Spokane County Environmental Services divides the County into the 8,359-acre North Spokane Section and the 31,103-acre Spokane Valley Section. Two major interceptors divide the Spokane Valley section into the North Valley Service Area interceptor (NVI) and the Spokane Valley Service Area Interceptor (SVI).

These two interceptors deliver an average of 8 million gallons per day (mgd) to the SCRWRF, built in 2010-2011 and which began discharging under the extended NPDES permit on December 1, 2011. The final effluent from SCRWRF had to meet requirements from the 2010 Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load (TMDL) on day one. The County has the option to expand its treatment capacity from 8 mgd, in 4 mgd increments, up to 24 mgd at buildout. The County maintains 10 mgd of capacity at the City of Spokane's AWWTP, which alleviates the need for immediate capacity increase.

Collection system status

The County has a relatively new collection system constructed over the past 30 years in conjunction with the septic tank elimination program. Sewers consist primarily of PVC pipe and flow monitoring indicates less than 10% infiltration and inflow. The County has an active operations and maintenance (O&M) program that cleans and inspects the collection system. During the design process for the system, the County estimated 80.5 gallons per capita per day (gpcd) for use in designing the collection system.

The County collects a portion of north Spokane County but ties into the City of Spokane's interceptor system, which the City treats at the AWWTP. The North and Spokane Valley Interceptor pump stations deliver flows to the SCRWRF. The operators direct flows in excess of the capacity of the SCRWRF to the City of Spokane AWWTP.

Treatment processes

You can find basic information describing [wastewater treatment processes](https://www.wef.org/resources/for-the-public/public-information/) included in a booklet at the Water Environment Federation website at <https://www.wef.org/resources/for-the-public/public-information/>.

SCRWRF provides advanced wastewater treatment to approximately 8 mgd of wastewater daily. A flow schematic is available in **Appendix F**, Figure 1. The County financed and owns the treatment plant's construction, but CH2M (acquired by Jacobs in 2017) entered into a design-build-operate agreement with the County. As part of this agreement, Jacobs continues to operate, maintain, and repair the facility. Under a separate contract, the County manages biosolids offsite under Ecology permit number BT1103.

This facility includes the following treatment processes:

- Headworks and primary treatment:
 - Fine screening, grit removal, primary clarification, equalization basin
- Advanced Secondary treatment:
 - Step-feed nitrification/denitrification membrane bioreactor utilizing chemical phosphorus removal
- Disinfection:
 - Sodium hypochlorite disinfection, liquid sodium bisulfite dechlorination
- Solids handling:
 - Anaerobic and aerobic digestion, gravity belt thickening for primary and waste activated sludge, centrifuge dewatering, chemical feed systems and odor control systems
- Other components of the facility include:
 - An administration building with a laboratory, a water resource/education center, and a maintenance building
- The County reuses the highly treated effluent to water landscaping around the facility. The facility does not have a reclaimed water permit. Therefore, they must prevent the public from coming into contact with the landscape watering in publicly accessible areas. The County installed subsurface drip watering in areas with public access. They have an operations and maintenance inspection process for this area to assure that the water is not surfacing or puddling in publicly available areas.

The SCRWRF is a Group IV facility and requires that a Group IV operator oversee the day-to-day operations due to the flow (8 mgd) and advanced treatment processes. A Group III operator must be in charge of each scheduled shift. The SCRWRF currently staffs seven days a week from 7:30 AM - 4:00 PM. They have a standby operator who covers the unstaffed hours.

Ecology conditionally approved the 2007 Spokane County Wastewater Facilities Plan Amendment - Revised Final Draft December 2007, on March 14, 2008. Ecology conditionally approved the Facility Plan due to the delay in providing assessment of the treatment facilities' ability to meet the Spokane River Dissolved Oxygen TMDL wasteload allocations. The County submitted an amendment to the 2007 Plan on June 16, 2010. Ecology approved the amended plan on December 14, 2010. Ecology did not approve the range of offsets in the Delta Elimination Plan. Ecology determined the actual values of the offsets for the three parameters during permit development.

Ecology delegated Spokane County authority for an Industrial Pretreatment Program November 10, 1998. The County has one Significant Industrial Users (SIUs) and six Categorical Industrial Users (CIUs) under permit and discharging to the County's collection system.

Significant Industrial Users:

- American On-Site Services: Porta Potty Rental

Categorical Industrial Users:

- Galaxy Compound Semiconductors
- Honeywell
- Kemira Water Solutions
- Lloyd Industries
- Novation
- US Wax and Polymer

Contract operations

Spokane County contracts the operation and maintenance of the wastewater treatment plant with Jacobs by the terms and conditions contained in a mutually agreed upon service contract. Ecology reviewed the service agreement to ensure it is consistent with chapters 90.46 RCW and 90.48 RCW as required by RCW 70.150.040(9) and provided written comments in 2011. The agreement identifies the responsibilities of both the contractor and the owner.

It is the Water Quality Program's standard procedure to identify contract operators as co-permittees on individual municipal NPDES permits, to address both state and federal requirements for permittees. However, it is not required in every case. Ecology may consider issuing the permit only to the owner; Ecology staff and managers should:

1. Consider the extent of the operator's control over the treatment system, as described in the service agreement.
2. Consider the experience and record of the operator at other facilities.
3. Consider the performance and enforcement provisions in the service agreement between the owner and the operator.
4. Review the recommendations or comments from the Attorney General's office.
5. Make a reasoned decision based on the facts, Ecology guidance, and the manner in which the entities' service agreement defines the responsibilities each will have.

Ecology decided not to include the contractor as co-permittee because Jacobs has been running the facility as designed. The Ecology Attorney General (AG) reviewed the contract between the County and Jacobs and found it holds Jacobs accountable for running the facility to meet water quality NPDES permit requirements. If the domestic wastewater facility does not comply with permit conditions, Ecology will consider the roles identified in the reviewed contract between the owner and operator when it develops both formal and informal enforcement actions.

Solid wastes/Residual Solids

The treatment facilities removes solids during the operations and maintenance of the collection system, treatment of the wastewater at the headworks (grit and screenings), and at the primary clarifiers. In addition to incidental solids (rags, scum, and other debris) removed as part of the routine maintenance of the equipment, SCRWRF drains grit, rags, scum, and screenings, and disposes this solid waste at the Spokane Waste to Energy Facility. Solids removed from the primary clarifiers and membrane bioreactors are treated via anaerobic and aerobic digestion, gravity belt thickening, centrifuge dewatering, chemical feed systems and odor control systems.

Under permit BT1103, the County has a contract with Barr-Tech to take solids. Barr-Tech then composts them under a permit from the Department of Ecology (Permit No. BT1006). This facility has met the solid waste requirements for screening, as required by WAC 173-308-205.

Discharge outfall

The treated and disinfected effluent flows into the Spokane River through a single port 36-inch diameter outfall pipe coupled with a duckbill-style Tideflex valve to prevent backflow during high flow periods. The outfall extends north into the river approximately 75 feet beyond the ordinary high water level on the south bank of the river. The top of the pipe is roughly 15 feet below the ordinary high water line. At the outfall location, river width varies between 200 and 150 feet depending on volumetric flow.

B. Description of the receiving water

The Spokane County Regional Water Reclamation Facility (SCRWRF) discharges to the Spokane River. Upstream of the discharge there are two of the City of Spokane's combined sewer overflows (CSO), Inland Empire Paper and Kaiser. Downstream of the discharge are several City of Spokane CSOs. Significant nearby non-point sources of pollutants include various agricultural discharges and septic tanks. No nearby drinking water intakes surround the outfall. Section III E of this fact sheet describes any receiving waterbody impairments.

The ambient background data used for this permit includes the following from Spokane County Environmental Services Receiving Water Studies (2013-2020).

Table 4: Ambient Background Data – Critical Season

Parameter	Value Used	Data Source
Temperature (highest annual 1-DMax) (90 th percentile)	16.2°C	County Receiving Water Study
pH (Minimum/Maximum)	6.48/7.88 standard units	County Receiving Water Study
Dissolved Oxygen (10 th percentile)	7.76 mg/L	County Receiving Water Study

Parameter	Value Used	Data Source
Total Ammonia-N (90 th percentile)	0.01 mg/L (Non Detect)	County Receiving Water Study
Fecal Coliform (90 th percentile)	204 cfu/100 mL	EIM Study ID AMS001 Spokane River at Green Street. 2017-2019
Total Phosphorus-P (90 th percentile)	0.0097 mg/L	County Receiving Water Study
Nitrite and Nitrate-N (90 th percentile)	0.92 mg/L as N	County Receiving Water Study
Hardness (10 th percentile)	30.6 mg/L as CaCO ₃	County Receiving Water Study
Alkalinity (10 th percentile)	28.3 mg/L as CaCO ₃	County Receiving Water Study
Total Cadmium (90 th percentile) estimated	0.22 µg/L	County Receiving Water Study
Total Lead (90 th percentile)	2.7 µg/L	County Receiving Water Study
Total Zinc (90 th percentile)	2.75 µg/L	County Receiving Water Study
PCBs (90 th percentile)	50.5 pg/L	April 2019 water quality criteria variance request
PCBs (Geomean)	19.9 pg/L	April 2019 water quality criteria variance request
PCBs (max)	102.1 pg/L	April 2019 water quality criteria variance request

C. Wastewater influent characterization

SCRWRF reported the concentration of influent pollutants in discharge monitoring reports. Additionally, Ecology requested toxics data used to develop the Toxics Management Plan and meet the Permit-required toxics monitoring. SCRWRF collects influent samples from the North Valley Interceptor (NVI) and the Spokane Valley Interceptor (SVI). The concentration for the influent is the flow-weighted concentration for the total influent.

Ecology requested toxics data from Spokane County, sample date range 2016-2021. The PCB concentrations were analyzed using Method 1668 C and are blank corrected and censored. SCRWRF censored the PCB data submitted to Ecology for Table 5 Wastewater Influent Characterization using a 10 times the method blank.

SCRWRF collected 51 samples for Dioxin (TCDD), of those, the NVI and SVI had three and two samples above the method detection limit respectively. For all pollutants reported with values below the method detection limit, Ecology used half the detection limit value reported on the DMR. For all values reported below the quantitation limit, Ecology used the reported estimated value.

The influent wastewater is characterized as follows:

Table 5: Wastewater Influent Characterization

Parameter	Units	# of Samples	Average Value	Maximum Value
Flow	mgd	1,764	7.68	8.92
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	mg/L	1,762	136.3	293
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	lbs/day	1,762	8,769	19,786
Total Suspended Solids (TSS)	mg/L	1,764	269	606
Total Suspended Solids (TSS)	lbs/day	1,764	17,218	38,754
Phosphorus (as P)	µg/L	1,764	5,640	13,700
Phosphorus (as P)	lbs/day	1,764	361	893
Ammonia	mg/L	876	30.1	52.4
Ammonia	lbs/day	876	1,982	3,520
Nitrite and Nitrate	mg/L	454	0.7	3.07
Total Nitrogen (TKN+NO ₃ +NO ₂)	mg/L	546	40.7	81.7
Total Nitrogen (TKN+NO ₃ +NO ₂)	lbs/day	546	2,586	5,283
pH Minimum	Standard Units	1,764	--	2.5
pH Maximum	Standard Units	1,764	--	11.9
Temperature 1-DADMAX	Degrees C	1,764	--	22.3

Parameter	Units	# of Samples	Average Value	Maximum Value
Arsenic	µg/L	129	2.8	4
Cadmium	µg/L	150	0.1	0.77
Copper	µg/L	129	39.3	66.4
Lead	µg/L	129	0.22	6.73
Mercury	µg/L	62	0.046	0.166
Silver	µg/L	64	0.206	1.2
Zinc	µg/L	129	129	209
PCB	pg/L	32	11,462	24,374
PBDEs	pg/L	22	229,035	534,165
TCDD North Valley Interceptor (NVI)	pg/L	3	---	1.03
TCDD Spokane Valley Interceptor (SVI)	pg/L	2	---	1.87

D. Wastewater effluent characterization

SCRWRF reported the concentration of pollutants in the discharge in the permit application and in discharge monitoring reports. The tabulated data represents the quality of the wastewater effluent discharged from 2016-2021. The tables below includes a summary of values from the permit application as well as from data collected as required for the delegated pretreatment program. Priority Pollutant PCBs were evaluated using method 608. All values were non-detect. The tables include results for effluent testing for PCBs using Method 1668 as required by toxics management plans. The other toxics identified in Table 6 result from industrial and municipal discharges.

For all pollutants reported with values below the method detection limit, Ecology used half the detection limit value reported on the DMR. For all values reported below the quantitation limit, Ecology used the reported estimated value.

The wastewater effluent is characterized as follows:

Table 6: Wastewater Effluent Characterization

Parameter	Units	# of Samples	Average Value	Maximum Value
Flow	mgd	1,556	7.69	9.15

Parameter	Units	# of Samples	Average Value	Maximum Value
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	mg/L	1,556	1.09	9.9
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	lbs/day	1,556	69.8	642.7
Total Suspended Solids (TSS)	mg/L	1,764	.51	8.6
Total Suspended Solids (TSS)	lbs/day	1,764	33.3	591.8
Ammonia	mg/L	1,764	0.221	9.21
Ammonia	lbs/day	1,764	14.4	727.4
Nitrate/Nitrite	mg/L	439	18.1	41.2
Nitrate/Nitrite	lbs/day	439	1,172	2,794
Total Nitrogen (TKN+NO ₃ +NO ₂)	mg/L	439	18.7	41.5
Total Nitrogen (TKN+NO ₃ +NO ₂)	lbs/day	439	1,218	2,807
Phosphorus	µg/L	1,764	82.6	715
Phosphorus	lbs/day	1,764	5.40	50.7
Dissolved Oxygen	mg/L	1,764	6.85	2.4 (minimum)
Chlorine	µg/L	1,764	3.9	12
Alkalinity	mg/L as CaCO ₃	756	77.9	130
Hardness	mg/L as CaCO ₃	254	137	255
Antimony	µg/L	20	3.87	14.4
Arsenic	µg/L	129	0.6	1.4
Cadmium	µg/L	147	.031	0.179
Chromium	µg/L	20	0.311	0.73

Parameter	Units	# of Samples	Average Value	Maximum Value
Copper	µg/L	129	3.0	11.3
Lead	µg/L	129	0.11	0.27
Mercury	µg/L	61	0.00045	0.0032
Molybdenum	µg/L	20	1.72	3.13
Nickel	µg/L	20	3.16	8.01
Selenium	µg/L	20	0.556	1.24
Silver	µg/L	64	0.018	0.290
Thallium	µg/L	20	0.085	.5
Zinc	µg/L	129	26.5	58.5
BHC-Beta	µg/L	5	0.011	0.032
Bis(2-ethylhexyl)phthalate	µg/L	5	0.18	0.30
Chlorodibromomethane	µg/L	5	0.332	1.01
Chloroform	µg/L	5	1.33	2.83
Cyanide	µg/L	20	0.0091	0.03
Dichlorobromomethane	µg/L	5	0.608	2.26
Diethyl phthalate	µg/L	5	0.47	0.90
Dimethyl phthalate	µg/L	5	0.34	0.90
Endosulfan Sulfate	µg/L	5	0.0085	0.019
Tetrachloroethylene	µg/L	5	0.399	1.17
Phenols	µg/L	20	14.38	25
PCBs (Method 1668)	pg/L	21	78	304
PBDEs (Method 1614)	pg/L	21	708	1529
TCDD (Method 1613)	pg/L	36	No samples above MDL	No samples above MDL

Table 7: Wastewater Effluent Characterization – Fecal Coliforms

Parameter	Units	# of Samples	Maximum Monthly Geometric Mean	Maximum Weekly Geometric Mean
Fecal Coliforms	CFU/100 mL	757	2	11

Table 8: Wastewater Effluent Characterization - pH

Parameter	Units	# of Samples	Minimum Value	Maximum Value
pH	standard units	1,764	6.2	10.8

Table 9: Wastewater Effluent Characterization – Temperature July 1-Sept 14

Parameter	Units	# of Samples	1 DADMAX	7-DADMAX
Temperature (95 th percentile)	Degrees C	1,764	23.8	23.8

E. Summary of compliance with previous permit issued

The previous permit placed effluent limits on:

- Carbonaceous biochemical oxygen demand (5-day)
- Total Phosphorus
- Ammonia
- Total suspended solids
- PCBs (narrative limits)
- pH
- Fecal Coliform Bacteria
- Cadmium, total
- Lead, total
- Zinc, total
- Total residual chlorine

The Spokane County permit was set up in the Permit and Reporting Information System (PARIS) without considering the reserve capacity at the City of Spokane treatment facility. As a result, PARIS flagged several violations and permit triggers during the first six years of the permit issued November 29, 2011.

SCRWRF reported three cadmium violations in 2012, two cadmium violations in 2013 and did not conduct metals analysis in June of 2015. Ecology identified the permit setup error in late 2017. Ecology corrected erroneous violations and permit triggers going forward. SCRWRF has not had any violation in the last three years.

The following table summarizes compliance with report submittal requirements over the permit term.

Table 10: Permit Submittals

Submittal Name	Submittal Status	Due Date	Received Date
Annual Toxics Management Report	Approved	4/15/2013	4/15/2013
Annual Toxics Management Report	Received	4/15/2014	4/15/2014
Annual Toxics Management Report	Received	4/15/2015	4/15/2015
Annual Toxics Management Report	Received	4/15/2016	4/15/2016
Annual Toxics Management Report	Received	4/15/2017	4/14/2017
Annual Toxics Management Report	Received	4/15/2018	4/13/2018
Annual Toxics Management Report	Submitted	4/15/2019	4/12/2019
Annual Toxics Management Report	Submitted	4/15/2020	4/14/2020
Annual Toxics Management Report	Submitted	4/15/2021	4/15/2021
Application For Permit Renewal	Received	10/1/2015	10/1/2015
First Acute Toxicity Characterization Data Report	Received	4/30/2014	12/19/2014
First Chronic Toxicity Compliance Monitoring Report	Received	4/30/2014	12/19/2014
First Chronic Toxicity Compliance Monitoring Report	Submitted	4/30/2014	8/7/2019
First Chronic Toxicity Compliance Monitoring Report	Submitted	4/30/2014	12/30/2020
First Chronic Toxicity Compliance Monitoring Report	Submitted	4/30/2014	1/8/2021
First Chronic Toxicity Compliance Monitoring Report	Reviewed	7/30/2017	5/26/2017
Local Limits Update	Received	8/15/2013	8/5/2013
Mercury Abatement and Control Plan	Received	2/15/2016	3/22/2013
O&M - Operation And Maintenance Manual (Update)	Received	4/15/2013	4/10/2013
O&M - Operation And Maintenance Manual (Update)	Received	4/15/2014	4/15/2014
O&M - Operation And Maintenance Manual (Update)	Accepted	4/15/2015	4/15/2015

Submittal Name	Submittal Status	Due Date	Received Date
O&M - Operation And Maintenance Manual (Update)	Received	4/15/2016	4/15/2016
O&M - Operation And Maintenance Manual (Update)	Submitted	4/15/2017	4/14/2017
O&M - Operation And Maintenance Manual (Update)	Submitted	4/15/2018	2/22/2018
O&M - Operation And Maintenance Manual (Update)	Submitted	4/15/2019	4/4/2019
O&M - Operation And Maintenance Manual (Update)	Submitted	4/15/2020	4/15/2020
O&M - Operation And Maintenance Manual (Update)	Submitted	4/15/2021	4/14/2021
Pretreatment - Annual Pretreatment Report	Received	5/1/2012	4/30/2012
Pretreatment - Annual Pretreatment Report	Received	5/1/2013	4/30/2013
Pretreatment - Annual Pretreatment Report	Reviewed	5/1/2014	4/21/2014
Pretreatment - Annual Pretreatment Report	Received	5/1/2015	4/29/2015
Pretreatment - Annual Pretreatment Report	Received	5/1/2016	4/6/2016
Pretreatment - Annual Pretreatment Report	Received	5/1/2017	4/25/2017
Pretreatment - Annual Pretreatment Report	Received	5/1/2018	4/18/2018
Pretreatment - Annual Pretreatment Report	Submitted	5/1/2019	4/30/2019
Pretreatment - Annual Pretreatment Report	Submitted	5/1/2020	4/22/2020
Pretreatment - Annual Pretreatment Report	Submitted	5/1/2021	4/27/2021
QAPP Receiving Water Study Toxic Parameters	Received	3/15/2012	3/15/2012
QAPP Receiving Water Study Toxic Parameters	Received	3/15/2012	11/14/2018
QAPP Receiving Water Study Toxic Parameters	Submitted	3/15/2012	1/27/2020
QAPP Receiving Water Study Toxic Parameters	Received	3/15/2017	10/3/2012
Receiving Water Study	Received	3/1/2012	3/1/2012
Receiving Water Study	Received	3/1/2012	3/1/2012
Receiving Water Study	Received	12/31/2012	12/27/2012
Receiving Water Study	Approved	3/15/2013	3/12/2014
Receiving Water Study	Approved	12/31/2013	1/2/2014
Receiving Water Study	Received	12/31/2014	12/31/2014

Submittal Name	Submittal Status	Due Date	Received Date
Receiving Water Study	Received	12/31/2015	12/30/2015
Receiving Water Study	Received	12/31/2016	12/28/2016
Receiving Water Study	Received	12/31/2017	12/21/2017
Receiving Water Study	Submitted	12/31/2018	12/21/2018
Receiving Water Study	Submitted	12/31/2019	12/19/2019
Receiving Water Study	Submitted	12/31/2020	12/29/2020
Spill Prevention Plan	Received	10/1/2014	4/10/2013
Spill Prevention Plan	Submitted	10/1/2019	9/26/2019
Wasteload Assessment	Received	3/1/2013	12/19/2013
Wasteload Assessment	Received	3/1/2015	2/26/2015
Wasteload Assessment	Received	3/1/2016	2/26/2016
Wasteload Assessment	Submitted	3/1/2017	2/27/2017
Wasteload Assessment	Submitted	3/1/2018	2/12/2018
Wasteload Assessment	Submitted	3/1/2019	2/28/2019
Wasteload Assessment	Submitted	3/1/2019	2/28/2019
Wasteload Assessment	Submitted	3/1/2019	2/28/2019
Wasteload Assessment	Submitted	3/1/2020	1/29/2020
Wasteload Assessment	Submitted	3/1/2021	2/1/2021

F. State environmental policy act (SEPA) compliance

State law exempts the issuance, reissuance or modification of any wastewater discharge permit from the SEPA process as long as the permit contains conditions that are no less stringent than federal and state rules and regulations (RCW 43.21C.0383). The exemption applies only to existing discharges, not to new discharges.

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.

A. Design criteria

Under WAC 173-220-150 (1)(g), flows and waste loadings must not exceed approved design criteria. Ecology approved design criteria for this facility's treatment plant in the facility plan prepared by HDR, Inc. and CH2M in 2010. The table below includes design flows and loading criteria plus the expected BOD and TSS load from septage as taken from Table A6-3 of the referenced report. These values are slightly different from the previous permit. These are the values taken from the approved facility plan.

The facility plan also references the 10 mgd of available capacity at the City of Spokane treatment facility. The proposed permit will require Spokane County to provide an engineering report for expansion of the treatment facility when:

- The maximum month design flow at the SCRWF is exceeded for three consecutive months or
- The flow redirected to the City of Spokane treatment facility exceeds 85% or 8.5 mgd of the available capacity.

These requirements are in S4 of the permit.

Table 11: Design Criteria for SCRWF

Parameter	Design Quantity
Maximum Month Design Flow (MMDF)	8.5 mgd
Monthly Average Dry Weather Flow	8.0 mgd
Peak Instantaneous Design Flow (PIDF)	13.8 mgd
Peak Day Design Flow	12.1 mgd

Parameter	Design Quantity
BOD ₅ Loading for Maximum Month Plus Septage	18,200 lbs/day
CBOD ₅ Average Monthly Effluent Concentration	2.0 mg/L
TSS Loading for Maximum Month Plus Septage	20,000 lbs/day
TSS Average Monthly Effluent Concentration	5.0 mg/L
Total Phosphorus for Maximum Month Influent Plus Septage	560 lbs/day
Total Nitrogen for Maximum Month Influent Plus Septage	2,940 lbs/day

B. Technology-based effluent limits

Federal and state regulations define technology-based effluent limits for domestic wastewater treatment plants. These effluent limits are given in 40 CFR Part 133 (federal) and in chapter 173-221 WAC (state). This advanced treatment facility has performance levels that are much more stringent than the technology based limits identified in Chapter 173-221 WAC for CBOD₅, BOD₅ and TSS. Chapter 173-220-130 requires that “effluent limitations shall not be less stringent than those based upon the treatment facility design efficiency contained in approved engineering plans and reports.” The proposed permit includes technology-based limits based on the approved treatment facility design.

Ecology calculated the monthly and weekly average mass limits for CBOD₅ and TSS as follows:

$$\text{Mass Limit} = \text{CL} \times \text{DF} \times \text{CF}$$

Where:

CL = Technology-based concentration limits listed in the Table 9

DF = Maximum Monthly Average Design Flow (mgd) = 8.5

CF = Conversion Factor of 8.34

Table 12: CBOD₅ Technology-Performance Based Limits

Parameter	Average Monthly Limit	Average Weekly Limit ^c
CBOD ₅ (concentration) ^a	2.0 mg/L: 142 lbs/day	3.0 mg/L: 213 lbs/day
TSS (concentration) ^b	5 mg/L: 354 lbs/day	7.5 mg/L: 532 lbs/day

Table 12 Footnotes:

^a CBOD₅ (concentration): In addition, the CBOD₅ effluent concentration must not exceed 15% of the average influent concentration.

^b TSS (concentration): In addition, the TSS effluent concentration must not exceed 15% of the average influent concentration.

^c CBOD₅ and TSS Average Weekly Limit are equal to 1.5 times the average monthly limit.

Tables 13 & 14 below identify technology-based limits for fecal coliform, and pH as listed in chapter 173-221 WAC. Section III.F of this fact sheet describes the potential for water quality-based limits.

The existing permit has chlorine limits for average monthly (16.8 µg/L) and daily maximum (33.6 µg/L) and the facility is able to comply with it. The proposed permit includes the same limit.

Table 13: Fecal Coliform Technology-based Limits

Parameter	Monthly Geometric Mean Limit	Weekly Geometric Mean Limit
Fecal Coliform Bacteria	200 organisms/100 mL	400 organisms/100 mL

Table 14: pH Technology-based Limits

Parameter	Daily Minimum	Daily Maximum
pH	6.0 standard units	9.0 standard units

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 numeric 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 water quality 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 humans 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.

Ecology submitted a standards revision for 192 new human health criteria for 97 pollutants to EPA on August 1, 2016. In accordance with requirements of CWA section 303(c)(2)(B), EPA finalized 144 new and revised Washington specific human health criteria for priority pollutants, to apply to waters under Washington's jurisdiction. EPA approved 45 human health criteria as submitted by Washington. The EPA took no action on Ecology submitted criteria for arsenic, dioxin, and thallium. The existing criteria for these three pollutants remain in effect and were included in 40 CFR 131.45, Revision of certain Federal Water quality criteria applicable to Washington.

On May 13, 2020, EPA issued a final rule that withdrew the initial action on PCBs changing the criteria for PCBs from seven parts per quadrillion (ppq) back to 170 ppq. On June 30, 2021, EPA filed a motion to stay litigation regarding its May 2020 Rule to provide time for EPA to propose new human health criteria for Washington.

Specifically, EPA proposes to:

- Issue a proposed rule establishing protective federal human health criteria applicable to Washington's surface waters.
- Put that rule out for public comment.
- Finalize a rule for Washington in 18 months.

Until a new federal rule is in place, Ecology based the proposed permit on the current applicable human health criteria, which are listed in WAC 173-201A-240, Toxic Substances Criteria. For PCBs, the current applicable human health criteria is 170 parts per quadrillion (ppq).

General condition G3 of the permit allows Ecology to modify, revoke, reissue or terminate a permit under certain conditions. One of the conditions includes the promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision. When EPA finalizes its new rule, Ecology will evaluate the impact to the permit resulting from any changes to the criteria. Ecology will then take appropriate actions, which could include modifying the current permit or including new requirements in the next permit issuance.

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 is expected to cause measurable degradation to existing water quality.

Facility Specific Requirements — SCRWF must maintain Tier I requirements.

- Discharger must maintain and protect existing and designated uses. They 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.
- For waters that do not meet assigned criteria, or protect existing or designated uses, Ecology will take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.
- Whenever the natural conditions of a water body are of a lower quality than the assigned criteria, the natural conditions constitute the water quality criteria. Where water quality criteria are not met because of natural conditions, human actions are not allowed to further lower the water quality, except where explicitly allowed in chapter 173-201A WAC.

Ecology's analysis described in this section of the fact sheet demonstrates that the proposed permit conditions will protect existing and designated uses of the receiving water.

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) or WAC 173-201A-400(7)(b)(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). 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 four 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.

Most aquatic life **acute** criteria are 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. Most aquatic life **chronic** criteria are 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 authorizes a small acute mixing zone, surrounded by a chronic mixing zone around the point of discharge (WAC 173-201A-400). The water quality standards impose certain conditions before allowing the discharger a mixing zone:

1. Ecology must specify both the allowed size and location in a permit.

The mixing zone evaluation submitted with the 2002 facility planning documents provided the mixing zone analysis and cross section information for the location between the Mission Street Bridge and the Trent Street Bridge. This is not the final location of the outfall.

The proposed permit requires Spokane County to conduct a dye tracer mixing zone evaluation. Ecology will use the mixing zone and dye study to verify the size and location of the mixing zone and to verify that the mixing zone does not exceed the maximum size restriction and has been minimized.

2. The facility must fully apply “all known, available, and reasonable methods of prevention, control and treatment” (AKART) to its discharge.

Ecology has determined that the treatment provided at SCRWRF meets the requirements of AKART.

The [AKART](https://apps.leg.wa.gov/WAC/default.aspx?cite=173-218-030) definition is at WAC 173-201A-020
(<https://apps.leg.wa.gov/WAC/default.aspx?cite=173-218-030>)

3. Ecology must consider critical discharge conditions.

Surface water quality-based limits are derived for the water body’s critical condition (the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or designated waterbody uses). The critical discharge condition is often pollutant-specific or waterbody-specific.

Critical discharge conditions are those conditions that result in reduced dilution or increased effect of the pollutant. Factors affecting dilution include the depth of water, the density stratification in the water column, the currents, and the rate of discharge. Density stratification is determined by the salinity and temperature of the receiving water.

Temperatures are warmer in the surface waters in summer. Therefore, density stratification is generally greatest during the summer months. Density stratification affects how far up in the water column a freshwater plume may rise. The rate of mixing is greatest when an effluent is rising. The effluent stops rising when the mixed effluent is the same density as the surrounding water. After the effluent stops rising, the rate of mixing is much more gradual. Water depth can affect dilution when a plume might rise to the surface when there is little or no stratification. [Ecology Publication No. 92-109](https://apps.ecology.wa.gov/publications/documents/92109.pdf), **Ecology’s Permit Writer’s Manual**, describes additional guidance on criteria/design conditions for determining dilution factors and is available on Ecology’s website at <https://apps.ecology.wa.gov/publications/documents/92109.pdf>.

The flows in the Spokane River changed because of the Federal Energy Regulatory Commission (FERC) relicensing issued to the Avista Post Falls Dam on June 18, 2009. The license renewal required Avista to increase the minimum flows in the Spokane River to 600 cfs with a provision to reduce to 500 cfs if Lake Coeur d’Alene levels fall below a defined elevation. This change resulted in higher critical flows at the County of Spokane SCRWRF discharge location.

The USGS gauge 12422000 was not in use in 2009 when the FERC reissued the Avista license. The USGS recommissioned the gauge in 2017. As a result, there are only 3.5 water years of data available on the USGS site for this Gauge. For two years prior to the USGS recommissioning the gauge, the Spokane Community College used the gauge for one of their watershed classes. This provided an additional two years of data.

However, Ecology's permit writers manual recommends that at least ten years of data be available to calculate the seven-day-average ten year return period (7Q10) low river flow.

The developer of the previous Spokane County Permit WA0093317, issued November 29, 2011, based the flows on the flow analysis completed by Ecology (Pelletier, 1997). This identifies the critical flow as the 7Q20 seven-day average 20 year return flow for summer (573 cfs). These flows did not project the change in critical flow resulting from the FERC relicensing for the 2011 permit. Ecology acknowledges that flow increased during the critical period due to the relicensing.

However, due to the lack of data, it is not possible to calculate a revised critical flow. Ecology is using the 7Q20 flow of 573 cfs combined with 200 cfs identified as additional flow released during the critical season under the FERC relicensing, for a critical season flow of 773 cfs.

Using 773 cfs is a conservative approach. Ecology expects that a higher critical flow will result when there is enough data to calculate the 7Q10 flow at the USGS gauge 12422000. However, at this time, it is not possible to estimate the changes in groundwater contribution at the actual location of the Spokane County Outfall, or the losses resulting as the flow released from the dam proceeds to the Spokane County outfall.

Ecology adjusted critical flow to establish dilution factors. Ecology used three times the estimated low critical flow to calculate the thirty-day low flow with a five-year recurrence (30Q5) to evaluate reasonable potential for the human health criteria. Ecology will calculate the 30Q5 based on the actual data once the data is available.

Table 15: Critical Conditions Used to Model the Discharge

Critical Condition	Value	Source
Estimated critical Spokane River low flow is the previous permit critical flow plus 200 cfs added because of the FERC relicensing.	773 cfs	Green St Gauge plus FERC agreement
The thirty-day low river flow with a recurrence interval of five years (30Q5) estimated using 3 times the estimated critical low flow.	2,319	Three times estimated critical low flow
Maximum average monthly effluent flow for chronic and human health non-carcinogen	8.5 mgd	Facility Plan
Annual average flow for human health carcinogen	8.0 mgd	Facility Plan
Maximum daily flow for acute mixing zone	12.1 mgd	Facility Plan
1-DADMAX receiving water temperature (90 th percentile)	16.2 °C	Spokane County Provided Temperature Data

4. Supporting information must clearly indicate the mixing zone would not:

- Have a reasonable potential to cause the loss of sensitive or important habitat.
- Substantially interfere with the existing or characteristic uses.
- Result in damage to the ecosystem.
- Adversely affect public health.

Ecology established Washington State water quality criteria for toxic chemicals using EPA criteria. EPA developed the criteria using toxicity tests with numerous organisms and set the criteria to generally protect the species tested and to fully protect all commercially and recreationally important species.

EPA sets acute criteria for toxic chemicals assuming organisms are exposed to the pollutant at the criteria concentration for one hour. They set chronic standards assuming organisms are exposed to the pollutant at the criteria concentration for four days. Dilution modeling under critical conditions generally shows that both acute and chronic criteria concentrations are reached within minutes of discharge.

The discharge plume does not impact drifting and non-strong swimming organisms because they cannot stay in the plume close to the outfall long enough to be affected. Strong swimming fish could maintain a position within the plume, but they can also avoid the discharge by swimming away. Mixing zones generally do not affect benthic organisms (bottom dwellers) because the buoyant plume rises in the water column. Ecology has additionally determined that the effluent will not exceed 33 degrees C for more than two seconds after discharge; and that the temperature of the water will not create lethal conditions or blockages to fish migration.

Ecology evaluates the cumulative toxicity of an effluent by testing the discharge with whole effluent toxicity (WET) testing.

Because this is a domestic wastewater discharge, the effluent contains fecal coliform bacteria. Ecology developed the water quality criteria for fecal coliforms (discussed below) to assure that people swimming (primary contact recreation) in water meeting the criteria would not develop gastro enteric illnesses. Ecology has authorized a mixing zone for this discharge; however, the discharge is subject to a performance-based effluent limit of 100 colony forming units/100mL. This means the effluent meets the water quality criteria at the point of discharge and does not need dilution to meet the water quality criteria.

Starting on January 1, 2021, the recreational water quality criteria for bacteria changed to *E.coli* for freshwater. No change to the indicator will occur during this permit cycle as a site-specific correlation between fecal coliform and *E.coli* needs developing. The next permit cycle will require SCRWRF to meet the primary contact *E.coli* standard of 100 colonies/100 mL at the point of discharge.

Ecology reviewed the above information, the specific information on the characteristics of the discharge, the receiving water characteristics, and the discharge location. Based on this review, Ecology concluded that the discharge does not have a reasonable potential to cause the loss of sensitive or important habitat, substantially interfere with existing or characteristics uses, result in damage to the ecosystem, or adversely affect public health if the permit limits are met.

5. The discharge/receiving water mixture must not exceed water quality criteria outside the boundary of a mixing zone.

Ecology conducted a reasonable potential analysis using procedures established by the EPA and by Ecology, for each pollutant and concluded the discharge/receiving water mixture will not violate water quality criteria outside the boundary of the mixing zone if permit limits are met.

6. The size of the mixing zone and the concentrations of the pollutants must be minimized.

At any given time, the effluent plume uses only a portion of the acute and chronic mixing zone, which minimizes the volume of water involved in mixing. The plume mixes as it rises through the water column therefore much of the receiving water volume at lower depths in the mixing zone is not mixed with discharge. Similarly, because the discharge may stop rising at some depth due to density stratification, waters above that depth will not mix with the discharge.

Ecology determined that there is not enough information to specify, in the permit, the actual, much more limited volume in which the dilution occurs as the plume mixes and moves with the current. The proposed permit requires Spokane County to conduct a mixing zone and dye tracer evaluation of the discharge. Ecology will use this information to verify that the mixing zone is minimized.

Ecology minimizes the size of mixing zones by requiring dischargers to install diffusers when they are appropriate for the discharge and the specific receiving waterbody.

The planning documents for the SCRWRF indicated that the SCRWRF discharge did not need a multiport diffuser to meet this requirement. Due to the change in locations, the mixing zone evaluation will evaluate the need for a diffuser.

Ecology also minimizes the size of the mixing zone (in the form of the dilution factor) using design criteria with a low probability of occurrence. For example, Ecology uses the expected 95th percentile pollutant concentration, the 90th percentile background concentration, the centerline dilution factor, and the lowest flow occurring once in every ten years to perform the reasonable potential analysis.

Because of the above reasons, Ecology has effectively minimized the size of the mixing zone authorized in the proposed permit.

7. Maximum size of mixing zone.

The change in location and the increase in river flow should result in the discharge meeting the maximum size restriction. Ecology will use the proposed permit required mixing zone and dye study to verify that the mixing zone does not exceed the maximum size restriction.

8. Acute mixing zone.

- **The discharge/receiving water mixture must comply with acute criteria as near to the point of discharge as practicably attainable.**

Ecology determined the acute criteria will be met at 10% of the volume fraction of the chronic mixing zone at the estimated low flow.

- **The pollutant concentration, duration, and frequency of exposure to the discharge will not create a barrier to migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem.**

As described above, the toxicity of any pollutant depends upon the exposure, the pollutant concentration, and the time the organism is exposed to that concentration. Authorizing a limited acute mixing zone for this discharge assures that it will not create a barrier to migration.

The effluent from this discharge will rise as it enters the receiving water, assuring that the rising effluent will not cause translocation of indigenous organisms near the point of discharge (below the rising effluent).

- **Comply with size restrictions.**

The mixing zone authorized for this discharge complies with the size restrictions published in chapter 173-201A WAC.

9. Overlap of mixing zones.

There are three City of Spokane combined sewer overflows (CSO) discharging to the Spokane River near the SCRWRF outfalls. CSO #41 discharges on the north bank of the river in approximately the same locations as the SCRWRF discharge. The SCRWRF outfall may overlap the CSO mixing zones. Additionally, the Inland Empire Paper Company (IEP) discharges upstream of the SCRWRF outfall. The proposed permit requires the County to model the discharge for the SCRWRF. The study must include the effects and possible overlap of the three City of Spokane CSOs near the SCRWRF outfall and IEP's outfall.

The study results must be evaluated to verify that SCRWRF outfall does not exceed the criteria identified in WAC 173-201A-400.

D. Designated uses and surface water quality criteria

Applicable designated uses and surface water quality criteria are defined in chapter 173-201A WAC. The tables included below summarize the criteria applicable to the receiving water's designated uses.

- **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 16: Salmonid Spawning, Rearing, and Migration

Criteria	Limit
Temperature Criteria – Highest 1-DAD MAX	20.0°C (68.0°F)
Dissolved Oxygen Criteria – Lowest 1-Day Minimum	8.0 mg/L

Criteria	Limit
Turbidity Criteria	• 5 NTU over background when the background is 50 NTU or less; or • A 10% increase in turbidity when the background turbidity is more than 50 NTU.
Total Dissolved Gas Criteria	Total dissolved gas must not exceed 110% 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 uses** for this receiving water are identified in Table 17. The new criteria using *E.coli* as the indicator organism for fecal pollution became effective January 1, 2021. The facility will be assigned a fecal coliform limit based on the 303 (d) listing and will be required to sample for both *E.coli* and fecal coliform.

The **Recreational uses** for this receiving water are identified below.

Table 17: Recreational Uses and Associated Criteria

Recreational Use	Criteria
Primary Contact Recreation	<i>E.coli</i> organism levels must not exceed a geometric mean value of 100 CFU or MPN per 100 mL, with not more than 10% 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

Spokane River, WRIA 57 Middle Spokane, is listed on the current 303(d) list and the draft 2018 list for the parameters identified in Table 18. The segment receiving the Spokane County's discharge has a 303 (d) listing for PCBs. The Draft 303(d) list indicates that the Spokane River is impaired for PCBs, Fecal Coliform Bacteria, Methylmercury, and PBDEs in the segment receiving the Spokane County discharge.

Table 18: Spokane River WRIA 57 Middle Spokane 303(d) Category 5 listings

Current (2016) 303(d) listings Category 5	Draft 2018 303(d)listings Category 5
Polychlorinated Biphenyls (Tissue)	Polychlorinated Biphenyls (Tissue)
---	Bacteria- Fecal Coliforms

Current (2016) 303(d) listings Category 5	Draft 2018 303(d)listings Category 5
---	Methylmercury
---	Polybrominated Diphenyl Ethers (PBDEs)

Table 19: Spokane River WRIA 57 Middle Spokane 305(b) Category 4 Listings and Approved TMDLs

Current (2016) 305(b) listings Category 4A,4B, and 4C	Approved TMDLs	URL
Dissolved Oxygen	Spokane River and Lake Spokane Dissolved Oxygen TMDL	https://apps.ecology.wa.gov/publications/documents/0710073.pdf
Lead	Spokane River Dissolved Metals TMDL	https://apps.ecology.wa.gov/publications/documents/9949.pdf
Zinc	Spokane River Dissolved Metals TMDL	https://apps.ecology.wa.gov/publications/documents/9949.pdf

Ecology has completed and published the following TMDLs for the Spokane River:

- Spokane River and Lake Spokane Dissolved Oxygen TMDL (DO TMDL) (2010)
 - The DO TMDL includes waste load allocations (WLA) for ammonia, total phosphorus, and carbonaceous oxygen demand (CBOD₅). Ecology's evaluation of the technology performance found that the technology CBOD₅ limit is more stringent than the DO TMDL WLA. Ecology used the WLAs supplied in the DO TMDL for total phosphorus and ammonia for the seasonal limits and the technology limit for CBOD₅ year round for the limits in the proposed permit.
- Spokane River Metals TMDL (1999)
 - The metals TMDL Submittal Report outlines the approach Ecology must take when developing limits for cadmium, lead and zinc. The permit writer must use the more restrictive of either a performance-based limit + 10%, or a water quality-based limit calculated using effluent hardness and no dilution (end of pipe). The comparison of the limits is provided below.

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

Ecology must consider the narrative criteria described in WAC 173-201A-240 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.

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.

The previous permit required sampling for PBDEs. The draft 303(d) water quality assessment indicates that the Spokane River will be listed for PBDEs and methylmercury based on fish tissue. There is no numeric criterion for PBDEs and methylmercury.

Total PBDEs - Polybrominated diphenyl ethers (PBDEs) are a class of recalcitrant and bioaccumulative chemicals that were used as flame retardants. There are no known natural sources of PBDEs, with the exception of a few marine organisms that produce forms of PBDEs that contain higher levels of oxygen (EPA 2017).

There are three groups of PBDEs used in consumer products: penta-BDE, octa-BDE, and deca-BDE (Ecology, 2006). Each group has different uses and different toxicity. The smaller PBDEs have a high affinity for lipids and accumulate in animals and humans (Siddiqi et al, 2003). The National Toxicology Program evaluated PBDEs toxicity in rodents and found PBDEs to cause neurotoxicity, developmental neurotoxicity, reproductive toxicity, pancreas effects (diabetes), and cancer (penta- and decabromodiphenyl ether). There may be differences in the severity of the effects depending on bromination level. There have been studies on animals and humans that show that some PBDEs can act as endocrine system disrupters and tend to deposit in human adipose tissue (EPA, 2017).

In 2006, the State of Washington banned penta-BDE and octa-BDE. In December 2009, the two U.S. producers and the main U.S. importer of deca-BDE committed to end production, import, and sales of the chemical for all consumer, transportation, and military uses by the end of 2013 according to the Environmental Protection Agency (EPA). However, the EPA received comments in 2012 indicating that there may be ongoing uses for deca-BDE.

Research on effective treatment technologies is ongoing. The Spokane County Biological Nutrient Removal Membrane Bioreactor removed approximately 96.7 % based on average values for the influent (229,035 pg/L) and effluent (7,600 pg/L). It is less likely that these were biologically degraded and more likely that the low solubility in water and the presence of organic solids resulted in adsorption to the biosolids during the treatment process.

Biodegradation of deca-BDEs is possible under anaerobic conditions but typically takes longer than typical hydraulic residence times in anaerobic digesters. The studies reviewed did not have rates for the occurrence of degradation in wastewater treatment plants. Studies did indicate that biological degradations resulted in formation of smaller (lower halogenated) PBDEs such as penta-BDEs and octa-BDEs.

PBDEs end up in wastewater treatment plants resulting from cleaning processes of chemical containing materials, leachate from landfills, human waste products and industrial processes. PBDEs get into the River through permitted discharges, stormwater, and sediment transported by wind and water.

Wastewater treatment facilities use EPA method 1614 to analyze for PBDEs. The method uses isotope dilution and internal standard high resolution GC (HRGC)/HRMS to detect PBDEs in water, soil, sediment, and tissue. In the last permit cycle, Ecology required the municipal facilities discharging to the Spokane River to sample influent and effluent for PBDEs using EPA method 1614. The 2018 303 (d) list currently includes a listing for PBDEs based on fish tissue in the Spokane River.

The municipal dischargers to the Spokane River will be required to continue testing of influent and effluent for PBDEs and will be required to develop best management plans during the proposed permit cycle to identify sources and potential mechanisms for removing sources of PBDEs before they get to the wastewater treatment plant and the Spokane River. Participation in the Spokane River Regional Toxics Task Force will enable dischargers to the Spokane River to coordinate efforts to find and reduce sources of PBDE to the River.

- PBDEs are bioaccumulative and have a narrative reasonable potential based on the harvest use for the Spokane River. The proposed permit has PBDEs BMP requirements and ongoing monitoring of the influent, collection system as required to assess BMPs, and the effluent. PBDEs will also have a best management plan requirement that will focus on public education and outreach along with source identification and control.

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

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near-field) or at a considerable distance from the point of discharge (far-field). Toxic pollutants, for example, are near-field pollutants; their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as biochemical oxygen demand (BOD₅) is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

With technology-based controls (AKART), predicted pollutant concentrations in the discharge exceed water quality criteria. Ecology therefore authorizes a mixing zone in accordance with the geometric configuration, flow restriction, and other restrictions imposed on mixing zones by chapter 173-201A WAC.

The diffuser at Outfall 001 consists of a 36-inch pipe located approximately 75 feet from the south bank. The pipe has a duckbill style Tideflex valve and discharges approximately one foot above the bottom of the riverbed, perpendicular to flow. The crown of the outfall pipe is roughly 15 feet below the ordinary high water mark.

Spokane County conducted a mixing zone study evaluation in 2002 during the planning phase for the facility. HDR Engineering originally thought that Spokane County would place the facility outfall between the Mission Street Bridge and the Trent Street Bridge. Instead, they placed the outfall above the Green Street Bridge in line with Havana Street. The modeled location is approximately three river miles downstream of the actual outfall location.

The 2007 Task G102-Mixing Zone and Water Quality Update Technical Memorandum indicates that this location is similar to the 2002 Rebecca Street location. However, the 2002 study does not appear to include cross section information for the Rebecca Street location. The proposed permit includes a requirement for cross section information for upstream, downstream, and the location of the outfall. The input of groundwater at the originally modeled location would be greater than the groundwater contributed up stream at the actual discharge location. The study must include an estimate of the groundwater contribution at the outfall. Additionally, the FERC relicensing project changed flows in the Spokane River.

The proposed permit requires Spokane County to reevaluate the mixing zone to include the effects of the City of Spokane CSOs discharge, and the change in river flow at the actual discharge location.

Chronic Mixing Zone - WAC 173-201A-400(7)(a) specifies that mixing zones must not extend in a downstream direction from the discharge ports for a distance greater than 300 feet plus the depth of water over the discharge ports. They also must not extend upstream for a distance of over 100 feet, not utilize greater than 25% of the flow, and not occupy greater than 25% of the width of the water body.

According to the mixing zone evaluation completed in 2004, the flow volume restriction resulted in a smaller chronic dilution factor than the distance downstream. The dilution factors below assume that volume restriction is the limiting factor at the constructed discharge location. Spokane County will verify this in the required mixing zone and dye study.

Acute Mixing Zone - WAC 173-201A-400(8)(a) specifies that in rivers and streams a zone where acute toxics criteria may be exceeded must not extend beyond 10% of the distance towards the upstream and downstream boundaries of the chronic zone. They also must not use greater than 2.5% of the flow and not occupy greater than 25% of the width of the water body. Ecology based the acute dilution factors on flow. Ecology determined the dilution factors that occur within these zones at the critical condition discussed previously.

The dilution factors are in Table 20 below.

Table 20: Dilution Factors (DF)

Criteria	Acute	Chronic
Aquatic Life	2.0	15.7
Human Health, Carcinogen	---	47.8
Human Health, Non-carcinogen	---	21.6

Ecology determined the impacts of dissolved oxygen deficiency, nutrients, pH, fecal coliform, chlorine, ammonia, metals, other toxics, and temperature as described below, using the dilution factors in the above table. 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.

Nutrients – CBOD₅, Ammonia, and Total Phosphorus

The 5-day Carbonaceous Biochemical Oxygen Demand (CBOD₅) of an effluent sample indicates the amount of biodegradable material in the wastewater and estimates the magnitude of oxygen consumption the wastewater will generate in the receiving water. The amount of ammonia-based nitrogen and total phosphorous in the wastewater also provides an indication of oxygen demand potential in the receiving water. Ecology completed the DO TMDL in 2010 evaluating the far field dissolved oxygen effects for the following nutrients: CBOD₅, ammonia, and phosphorus.

The DO TMDL established wasteload allocations (WLAs) which Ecology translated into permit limits for CBOD₅, ammonia, and total phosphorus. Due to potential issues meeting the total phosphorus and ammonia WLA, Spokane County proposed alternative wasteload allocations to those identified in the DO TMDL. Ecology and LimnoTech modeled the proposed static equivalency WLAs proposed by Spokane County and compared them to the TMDL wasteload allocations. The modeling found that the WLAs proposed provided a slightly better outcome than the wasteload allocations identified in Table 5 of the DO TMDL. The previous discharge permit included static equivalency wasteload allocations.

Ecology evaluated the static equivalency proposed limits and found that the March 1- March 31 season was based on an ammonia concentration of 16 mg/L. This concentrations result in aquatic toxicity when Ecology evaluated ammonia reasonable potential. Ecology recalculated the March 1-March 31 season using the average monthly limit of 1.83 mg/L. The revised seasonal limit for March is 129.7 lbs/day. Ecology carried the remainder of the static equivalent wasteload allocations for oxygen consuming pollutants into the proposed permit. A comparison of the previous permit limits and the proposed limits are available below.

Dissolved Oxygen - Natural decomposition of organic material in wastewater effluent impacts dissolved oxygen in the receiving water at distances far outside of the regulated mixing zone (far field). Ecology discussed these far field nutrient affects above.

Ecology modeled the impact of effluent dissolved oxygen at the chronic mixing zone boundary (near field effects) using the 10th percentile receiving water data collected by Spokane County from 2013-2015 and the 5th percentile data for the discharge. The model based on a daily grab samples indicated that a potential might exist to cause the concentration at the chronic boundary to be slightly lower than the criterion.

However, a single daily grab sample does not reflect the actual minimum dissolved oxygen in the effluent. The data collected for DO in the receiving water was not part of a study designed to reflect the actual receiving water conditions. The proposed permit requires Spokane County to install a continuous dissolved oxygen meter on the effluent. The discharger must report the daily minimum dissolved oxygen concentration. Spokane County must design a study to collect receiving water dissolved oxygen samples that accounts for the seasonal variability in the receiving water and to reflect the actual conditions in the river.

Ecology will use the effluent and receiving water data to evaluate reasonable potential for dissolved oxygen. If reasonable potential exists, Ecology may modify the permit.

pH - Ecology modeled the impact of the effluent pH on the receiving water using the calculations from EPA, 1988, and the chronic dilution factor tabulated above. Appendix D includes the model results.

Under critical conditions, modeling predicts an exceedance of the 0.5 standard units when the low pH is below 6.5 for the discharge. Therefore, the proposed permit includes water quality-based effluent limits for pH of 6.5 to 8.5 standard units. The low pH is less stringent than the limit of 7.0-9.0 than in the permit issued in 2011. The previous permit was developed using receiving water flow prior to the FERC relicensing and did not have facility specific data. New information is available now that the facility is discharging and Spokane County collected receiving water samples above the effluent.

Bacteria - Under critical conditions, modeling predicts possible violations of the previous water quality standard for fecal coliforms for primary contact recreation, based on the technology-based fecal coliform limits in WAC 173-221.

The water quality bacteria criterion has changed from fecal coliform to *E.coli*. Because the transition is a change in bacterial indicator not more or less stringent than the previous standards, the proposed permit includes fecal coliform effluent average monthly geometric mean limit of 100 organisms/100 mL and a weekly geometric mean of 150 organisms/100 mL based on the previous criterion for primary contact recreation. In addition, the Permittee will be required to monitor for both fecal coliform and *E.coli* in order to develop a site-specific correlation. The proposed permit requires the County to implement the *E.coli* limit in the permit two years from the effective date of the permit.

Turbidity - Ecology evaluated the impact of turbidity based on the range of total suspended solids in the effluent and turbidity of the receiving water. Ecology expects no violations of the turbidity criteria outside the designated mixing zone provided the facility meets its technology-based total suspended solids permit limits.

Aquatic Life 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 or contribute to an exceedance of the surface water quality criteria. Ecology does not exempt facilities with technology-based effluent limits from meeting the surface water quality standards.

The following aquatic life toxic pollutants are present in the discharge: chlorine, ammonia, metals (arsenic, cadmium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc), cyanide, and PCBs. Ecology conducted a reasonable potential analysis (See **Appendix D**) on the parameters with water quality-based numeric criteria to determine whether it would require effluent limits in this permit.

Ecology included chlorine in the reasonable potential analysis. For chlorine, Ecology did not find a reasonable potential based on the available data. The existing permit has chlorine limits for average monthly (16.8 µg/L) and daily maximum (33.6 µg/L) and the facility is able to comply with it. The proposed permit includes the same limit.

Ammonia's toxicity depends on that portion which is available in the unionized form. The amount of unionized ammonia depends on the temperature and pH in the receiving freshwater.

To evaluate ammonia toxicity, Ecology used the data submitted by Spokane County collected during the receiving water study. Ecology used the available data and determined that there is a reasonable potential for ammonia toxicity at the concentration that the static equivalency ammonia wasteload allocation is based upon. The reasonable potential calculations for ammonia toxicity are available in Appendix D. The limits for ammonia are:

Average monthly effluent limit: 1.83 mg/L

Maximum daily effluent limit: 8.64 mg/L

Total PCBs - Ecology evaluated the reasonable potential for total PCBs to cause or contribute to an exceedance of the water quality criteria. The discharge does have a reasonable potential as a result, Ecology derived a water quality-based effluent limit for both aquatic life and human health. The human health limit was more stringent. Ecology provides additional information in the Human Health section below.

Metals - Ecology determined that arsenic, copper, mercury, nickel, selenium, silver, and thallium pose no reasonable potential at the critical condition using procedures given in EPA, 1991 (**Appendix D**) and as described above. Ecology's determination assumes that this facility meets the other effluent limits of this permit. The current permit, issued in 2011, required Spokane County to sample the Spokane River for cadmium, lead, and zinc, but did not require river sampling for all the other metals in the SCRWRP discharge. The proposed permit will require Spokane to complete a trace metals and pH study of the river.

Ecology's 1999 Spokane River Metals TMDL Submittal Report outlines the approach Ecology takes when developing limits for cadmium, lead, and zinc. The permit writer uses the more restrictive of either a performance-based limit plus 10% or a limit based on effluent hardness and aquatic life criteria applied at the end of the pipe, without a mixing zone. The prior permit required Spokane County to collect ambient upstream cadmium, lead, and zinc data for the Spokane River for use in the reasonable potential evaluation and to calculate the limits for cadmium, lead and zinc.

Ecology used metals effluent and receiving water data supplied by Spokane County collected during the previous permit cycle for the reasonable potential, end of pipe limits, and performance-based limit plus 10% calculations. The performance-based effluent limits plus 10% is more stringent than the water quality, end of pipe limits. Therefore, the proposed permit implements the performance-based metals limits.

Table 21: Performance Based Effluent Limit Plus 10%

Parameter	Average Monthly (µg/L)	Maximum Day (µg/L)
Cadmium	0.057	0.126
Lead	0.202	0.409
Zinc	38.5	61.3

Table 22: Water Quality Based Effluent Limit at End of Pipe (Hardness Dependent)

Parameter	Average Monthly (µg/L)	Maximum Day (µg/L)
Cadmium	0.88	2.12
Lead	5.34	8.20
Zinc	80.6	125.1

Note: Limits assume one sample per month.

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
- Protections against acute effects

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

- Annual summer maximum and supplementary spawning/rearing criteria

Each water body has an annual maximum temperature criterion [WAC 173-201A-200(1)(c), WAC 173-201A-210(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.

The threshold criteria apply at the edge of the chronic mixing zone. Criteria for the Spokane 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)(ii), WAC 173-201A-210(1)(c)(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.

- Protections for temperature acute effects

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.

General lethality and migration blockage: Measurable (0.3°C) increases in temperature at the edge of a chronic mixing zone are not allowed when the receiving water temperature exceeds either a 1DMax of 23°C or a 7DADMax of 22°C.

Lethality to incubating fish: Human actions must not cause a measurable (0.3°C) warming above 17.5°C at locations where eggs are incubating.

Reasonable Potential Analysis

Annual summer maximum and incremental warming criteria: Ecology calculated the reasonable potential for the discharge to exceed the annual summer maximum and the incremental warming criteria (See temperature calculations in **Appendix D**).

The discharge is only allowed to warm the water by a defined increment when the background (ambient) temperature is cooler than the assigned threshold criterion. Ecology allows warming increments only when they do not cause temperatures to exceed the annual maximum criteria.

The incremental increase for this discharge is within the allowable amount. Therefore, the proposed permit does not include a temperature limit.

H. Human health

Washington's water quality standards include numeric human health-based criteria for 97 priority pollutants that Ecology must consider when writing NPDES permits.

Ecology determined the effluent might contain chemicals of concern for human health, based on:

- The facility's status as an EPA major discharger
- Data or information indicating the discharge contains regulated chemicals, and
- A 303(d) listing (quality impairment) of the receiving waterbody for a regulated chemical that Ecology knows or expects is present in the discharge

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 [EPA Publication PB91-127415](#), the **Technical Support Document for Water Quality-Based Toxics Control**, and **Ecology's Permit Writer's Manual** to make a reasonable potential determination. The evaluation showed the discharge does not have a reasonable potential to exceed the numeric criterion but does have a reasonable potential to impact the designated use of fish harvest.

Due to the PCB 303 (d) listing the proposed permit includes an end of pipe effluent limit with no dilution for PCBs as follows:

- Average Monthly Effluent Limit 170 pg/L
- Maximum Daily Effluent Limit 414 pg/L

The limit does not include dilution and must be met at the point of discharge. This limit includes both an average monthly limit and a maximum daily limit based on statistics. If the discharger takes only one sample in a given month, then the sample is both the average month and the max day.

Total PCBs - The discharge has a reasonable potential to contribute to violations of the water quality narrative criteria for PCBs, based on the fish harvest usage, because of a Department of Health Fish Advisory and PCBs are known to be present in the effluent.

Ecology used effluent toxics data collected by Spokane County under the previous permit's approved QAPP, with a 10 times blank correction for the reasonable potential evaluation. Receiving water information for the reasonable potential analysis utilized Spokane River data collected by the Spokane River Regional Toxics Task Force at the Post Falls, Idaho gauge. Because PCBs are present in the effluent and the Spokane River is listed for PCBs in fish tissue, Ecology concludes the discharge has a reasonable potential to contribute to excursions above water quality standards for PCBs.

Federal regulations in 40 CFR Part 122.44(k) allows best management practices (BMPs) to control or abate the discharge of pollutants.

Permitting recommendations drafted by the EPA (NPDES Permitting Recommendations for the Spokane River Watershed, 2015) recommend a Best Management Practices (BMP) approach for PCB control. Ecology used this approach in prescribing permit requirements for the Spokane County related to toxics reduction. See Section V.K in this fact sheet for additional detail regarding toxics reduction strategies and the required BMP Implementation Plan submittal. The proposed permit requires the Spokane County to continue to make progress in toxics reduction.

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 website](https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Sediment-cleanups) at <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Sediment-cleanups>.

Ecology determined that this discharge has potential to cause a violation of the sediment quality standards because of PCBs in the discharge. The proposed permit includes a Special Condition requiring Spokane County to demonstrate either:

- The point of discharge is not an area of deposition, or
- Toxics do not accumulate in the sediments even though the point of discharge is a depositional area.

J. 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.

- Acute toxicity tests measure mortality as the significant response to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests find early indications of any potential lethal effect of the effluent on organisms in the receiving water.
- Chronic toxicity tests measure various sublethal toxic responses, such as reduced growth or reproduction. Chronic toxicity tests often involve either a complete life cycle test on an organism with an extremely short life cycle, or a partial life cycle test during a critical stage of a test organism's life. Some chronic toxicity tests also measure organism survival.

Laboratories accredited by Ecology for WET testing know how to use the proper WET testing protocols, fulfill the data requirements, and submit results in the correct reporting format. Accredited laboratory staff know about WET testing and how to calculate an NOEC, LC50, EC50, IC25, etc.

Ecology gives all accredited labs the most recent version of [Ecology Publication No. WQ-R-95-80](https://apps.ecology.wa.gov/ecy/publications/documents/9580.pdf), **Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria** (<https://apps.ecology.wa.gov/ecy/publications/documents/9580.pdf>), which is referenced in the permit. Ecology recommends that Spokane County send a copy of the acute or chronic toxicity sections(s) of its NPDES permit to the laboratory.

WET testing conducted during the previous permit term showed the facility's effluent has a reasonable potential to cause acute toxicity in the receiving water. The proposed permit will include an acute toxicity limit. The effluent limit for acute toxicity is no acute toxicity detected in a test sample representing the acute critical effluent concentration (ACEC). ACEC is the concentration of effluent at the boundary of the acute mixing zone during critical conditions. The ACEC equals 50% effluent.

Compliance with an acute toxicity limit is measured by an acute toxicity test comparing test organism survival in the ACEC (using a sample of effluent diluted to equal the ACEC) to survival in nontoxic control water. Spokane County is in compliance with the acute toxicity limit if there is no statistically significant difference in test organism survival between the ACEC sample and the control sample.

WET testing conducted during the previous permit term showed a reasonable potential for the effluent to cause chronic toxicity in the receiving water. The proposed permit will include a chronic toxicity limit. The effluent limit for chronic toxicity is no toxicity detected in a test sample representing the chronic critical effluent concentration (CCEC).

The CCEC is the concentration of effluent at the boundary of the mixing zone during critical conditions. The CCEC equals 6.4% effluent.

Compliance with a chronic toxicity limit is measured by a chronic toxicity test comparing the test organism response in effluent diluted to the CCEC, to test organism response in nontoxic control water. Spokane County is in compliance with the chronic toxicity limit if there is no statistically significant difference in test organism response between the CCEC sample and the control sample.

K. 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).

Ecology determined Spokane County's discharge has the potential to cause a violation of the groundwater quality standards. The proposed permit includes the following conditions to protect groundwater:

- Apply irrigation to the onsite vegetation at agronomic rates. The proposed permit will required Spokane County to add a section to the O&M providing the irrigation plan that prevents exceedance of the agronomic capacity of the vegetation irrigated. The plan must include the water balance and nutrient loading for the irrigated area.

L. Comparison of effluent limits with the previous permit issued November 29, 2011

Table 23: Comparison of Previous and Proposed Critical Seasons (March – October) TMDL Wasteload Allocations Outfall #001

Parameter	Basis of Limit	Previous Seasonal Limit	Proposed Seasonal Limit
Carbonaceous Biochemical Oxygen Demand (5-day) (CBOD ₅)	TMDL	133.4 pounds/Day (lbs/day)	133.4 pounds/Day (lbs/day)
Total Phosphorous	TMDL	3.34 lbs/day	3.34 lbs/day
Total Ammonia (as NH ₃ -N) March 1 – March 31	TMDL	1067.5 lbs/day	129.7 lbs/day
Total Ammonia (as NH ₃ -N) April 1 – May 31	TMDL	66.7 lbs/day	66.7 lbs/day
Total Ammonia (as NH ₃ -N) June 1 – September 30	TMDL	16.7 lbs/day	16.7 lbs/day
Total Ammonia (as NH ₃ -N) October 1 – October 31	TMDL	66.7 lbs/day	66.7 lbs/day

The total ammonia wasteload allocation for March 1 – March 31 is based on the toxicity limiting ammonia average concentration of 1.83 mg/L and flow of 8.5 mgd instead of the modeled 16 mg/L and flow of 8.0 mgd in the previous permit. The toxicity limits will apply year round. The flow used to calculate the March seasonal limit is the design flow of 8.5 mgd and is provided below.

Table 24: Comparison of Previous and Proposed Effluent Limits for Outfall # 001 – CBOD₅ & TSS

Parameter	Basis of Limit	Previous Average Monthly	Previous Average Weekly	Proposed Average Monthly	Proposed Average Weekly
Carbonaceous Biochemical Oxygen Demand (5-day) (CBOD ₅) November 1 – February 29	Technology Based Effluent Limit (TBEL)	4.2 mg/L 280 lbs/day	6.3 mg/L 420 lbs/day	2.0 mg/L 142 lbs/day	3.0 mg/L 213 lbs/day
Total Suspended Solids	TBEL	5 mg/L 334 lbs/day	7.5 mg/L 500 lbs/day	5 mg/L 354 lbs/day	7.5 mg/L 532 lbs/day

Ecology based the performance concentration for CBOD₅ on the maximum of 2.0 mg/L identified in the facility plan and used a factor of 1.5 to develop the weekly average. This is more stringent than the previous permit. The TSS load was recalculated using the maximum month average of 8.5 mgd. This gives a slightly less stringent TSS load but corrects the calculation error in the previous permit.

The previous permit utilized the CBOD₅ concentration used to calculation the wasteload allocation. This is the water quality-based concentration, which is less stringent than the approved design limit established for the technology. Ecology corrected this error in the proposed permit by requiring Spokane County to meet the technology-based concentration.

Table 25: Comparison of Previous and Proposed Effluent Limits for Outfall #001 – Fecal Coliform Bacteria

Parameter	Basis of Limit	Previous Monthly Geometric Mean Limit	Previous Weekly Geometric Mean Limit	Proposed Monthly Geometric Mean Limit	Proposed Weekly Geometric Mean Limit
Fecal Coliform Bacteria	TBEL	200/100 mL	400/100 mL	-	-
Fecal Coliform Bacteria (interim)	Previous Indicator organism	-	-	100/100mL	150/100 mL
E.coli (final)	WQBEL	--	--	100/100mL	150/100 mL

Ecology based the limit on the previous water quality standard indicator organism. The proposed permit requires Spokane County to sample for both fecal coliforms and E.coli. Ecology will implement the water quality-based bacterial indicator of E.coli in the next permit.

Table 26: Comparison of Previous and Proposed Effluent Limits for Outfall #001 - pH

Parameter	Basis of Limit	Previous Limit	Proposed Limit
pH	WQBEL-TBEL ^a	7.0-9.0 standard Units (s.u.)	NA
pH	WQBEL	NA	6.5 – 8.5 s.u.

Table 26 Footnote:

^a The previous permit calculated a WQBEL for the lower limit and applied the TBEL as the upper limit.

Ecology based the limit for pH on the estimated flow from the FERC relicensing flow increase. The proposed permit requires Spokane County to evaluate the mixing zone and the receiving water pH and alkalinity. Ecology will reevaluate the pH limit in the next permit depending on what the new data shows for the Spokane River pH.

Table 27: Comparison of Previous and Proposed Effluent Limits for Outfall #001 – Chlorine, Cadmium, Lead, Zinc, and PCBs

Parameter	Basis of Limit	Previous Average Monthly	Previous Maximum Daily	Proposed Average Monthly	Proposed Maximum Daily
Chlorine (total residual)	WQBEL	16.8 µg/L	33.6 µg/L	16.8 µg/L	33.6 µg/L
Cadmium ^a (total)	WQBEL/Performance ^c	0.076 µg/L	0.233 µg/L	0.057 µg/L	0.126 µg/L
Lead (total)	WQBEL/Performance ^c	0.772 µg/L	1.34 µg/L	0.202 µg/L	0.409 µg/L
Zinc (total)	WQBEL/Performance ^c	53.8 µg/L	72.6 µg/L	38.5 µg/L	61.3 µg/L
PCB ^b	WQBEL	Narrative	Narrative	170 picogram/L (pg/L) and narrative	414 pg/L and narrative
Total Ammonia (As NH3-N)	WQBEL	16.0 mg/L	--	1.83 mg/L	8.64 mg/L

Table 27 Footnotes:

^a The performance plus 10% limits for cadmium, lead, and zinc are more stringent than the end of pipe limits. As such, they are the proposed limits for this permit.

^b For PCBs, the data collected for the new treatment system indicated that the facility does not have a reasonable potential to exceed the numeric criteria. However, the discharge does have a reasonable potential to effect the narrative criteria for PCBs. As a result, the County will have a numeric and narrative limit for PCBs.

^c The water quality improvement plan, (TMDL), for cadmium, lead, and zinc requires that Ecology compare the performance of the facility plus 10% with the end of pipe water quality requirements. The TMDL implements a water quality based condition for the receiving water. This TMDL implements performance limits that meet water quality based criteria.

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

The monitoring schedule is detailed in the proposed permit under Special Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring. The required monitoring frequency is consistent with agency guidance given in the current version of Ecology's Permit Writer's Manual (Publication Number 92-109) for an activated sludge facility with flow greater than 5 mgd.

Monitoring of sludge quantity and quality is necessary to determine the appropriate uses of the sludge. Biosolids monitoring is required by the current state and local solid waste management program and by EPA under 40 CFR 503.

Ecology updated the water contact recreation bacteria criteria in January 2019. This change was effective January 1, 2021, and eliminated all recreational uses except for primary contact criteria in both fresh and marine waters. Primary contact criteria changed to E.coli for freshwater and to enterococci for marine water. Because Spokane County has an effluent limit based on recreation, this permit requires monitoring of both fecal coliform and E.coli during this permit cycle. Ecology will change to E.coli bacteria limit during the next permit cycle.

As a pretreatment publicly owned treatment works (POTW), Spokane County is required to sample influent, primary clarifier effluent, final effluent, and sludge for toxic pollutants in order to characterize the industrial input. Ecology and Spokane County will also use the sampling to determine if pollutants interfere with the treatment process or pass through the plant to the sludge or the receiving water. Spokane County will use the monitoring data to develop local limits, which commercial and industrial users must meet.

The proposed permit requires Spokane County to monitor for PCBs and PBDEs to further characterize the effluent. These pollutants could have a significant impact on the quality of the surface water.

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). Ecology accredited the laboratory at this facility.

Table 28: Spokane County Regional WRF Lab, EPA ID# WA01259 Accredited Parameters

Parameter Name	Category	Method Name	Matrix Description
Dissolved Oxygen	General Chemistry	Hach 10360 rev 1.2	Non-Potable Water
Alkalinity	General Chemistry	SM 2320 B-2011	Non-Potable Water
Hardness, Total (as CaCO ₃)	General Chemistry	SM 2340 C-2011	Non-Potable Water
Solids, Total Suspended	General Chemistry	SM 2540 D-2011	Non-Potable Water
Chlorine (Residual), Total	General Chemistry	SM 4500-Cl G-2011	Non-Potable Water
pH	General Chemistry	SM 4500-H+ B-2011	Non-Potable Water
Dissolved Oxygen	General Chemistry	SM 4500-O G-2011	Non-Potable Water
Carbonaceous BOD (CBOD)	General Chemistry	SM 5210 B-2011	Non-Potable Water

Spokane County also sends samples to:

- Eurofins Frontier Global Sciences, EPA lab ID # WA01273
- Anatek Labs, Inc. Spokane and Moscow, EPA Lab ID# WA00169 and ID00013 respectively
- Eurofins TestAmerica Corvallis, EPA Lab ID# OR00004

C. Effluent limits which are near detection or quantitation levels

The water quality-based effluent concentration limits for total residual chlorine, and total phosphorus are below the limits of current analytical methods to detect or accurately quantify. The method detection level (MDL), also known as detection level (DL), is the minimum concentration of a pollutant that a laboratory can measure and report with a 99% confidence that its concentration is greater than zero (as determined by a specific laboratory method). The quantitation level (QL) is the level at which a laboratory can reliably report concentrations with a specified level of error. Estimated concentrations are the values between the DL and the QL. Ecology requires permitted facilities to report estimated concentrations. When reporting maximum daily effluent concentrations, Ecology requires the facility to report "less than X" where X is the required detection level if the measured effluent concentration falls below the detection level.

D. Total PCB analytical methods

The selection of the appropriate method for a wastewater PCB analysis relates to the anticipated concentration of the toxic in the sample. Method 608.3, approved by the EPA (40 CFR Part 136) has much higher detection and quantitation limits, DL and QL, respectively, than Method 1668. Method 1668 has not been approved by the EPA for compliance with effluent limits set in NPDES permits.

A comparison between DLs and QLs for Methods 608.3 and 1668 is below:

Table 29: EPA Method Comparison for PCBs

EPA Method/Criteria	Analyte	DL (µg/L)	QL (µg/L)
608.3	Aroclors	0.065	0.095
1628 ^a	Congeners	0.00019-0.00498	0.0005-0.020
1668 ^a	Congeners	0.000007-0.000030	0.00002-0.0002
Human Health Criteria	Sum Total	0.000170	---

Table 29 Footnote:

^a DL and QL are variable and depend on the congener of interest. The range of values are reported.

Ecology has specified Method 1668 to evaluate BMP effectiveness in this proposed permit to ensure the return of usable data. Method 1668 results will enable Ecology to continue making measurable progress determinations related to reduction of toxicant loading to the Spokane River.

Ecology's Water Quality Program guidance regarding appropriate use of Method 1668 is summarized below. This guidance supports Ecology's decision to include this method for the purpose of BMP effectiveness monitoring in the proposed permit.

Method 1668, a very sensitive analytical method, has the capability of detecting 209 different PCB congeners. Costs for this analysis are significantly higher than Method 608.3.

Water quality standards are based on Total PCBs (the sum of all Aroclors, isomers, homologs, or congeners), and have most frequently been measured as a calculated sum of all or a select group of Aroclors found in a sample. The data generated by Method 1668 is far more complex and extensive than data generated by other methods (608.3 and 8082), and must be carefully managed, assessed and applied.

Data produced from this method must be used in a documented and consistent manner with procedures (e.g. blank correction, calculating total PCBs) specific to the level of certainty required in decision-making. The QA/QC must therefore be rigorous.

For example, when PCB concentrations are very low, background contamination in laboratory blanks may interfere with the calculation of total PCB. To address this, a process known as censoring or blank correction is often applied. The choice of a censoring technique is specific to data and project needs and should be spelled out in a Quality Assurance Project Plan (QAPP).

The most commonly used technique is described in [EPA's National Functional Guidelines](https://www.epa.gov/clp/superfund-clp-national-functional-guidelines-data-review) for the **Contract Laboratory Program** and is available online at <https://www.epa.gov/clp/superfund-clp-national-functional-guidelines-data-review>.

Ecology will continue to use the most sensitive methods approved by EPA to evaluate compliance with numeric effluent limits. This permit will require the use of method 608.3 as follows:

1. **Required monitoring to complete a permit application** - Use only 40 CFR Part 136 methods. 40 CFR 122.21(e)(3) says the application shall not be considered complete unless 40 CFR Part 136 approved methods are used.
2. **Evaluating compliance with numeric effluent limits** - Use only 40 CFR Part 136 methods. This is currently Method 608. 40 CFR 122.44(i)(1) specifically requires monitoring to assure compliance with permit limitations according to Part 136 approved methods.

Ecology will also use data from Method 1668 in targeted situations as follows:

1. **Evaluating reasonable potential** - Use all valid and applicable data, including data collected using methods not approved under 40 CFR Part 136 (e.g. Method 1668).

EPA's **Technical Support Document (TSD), Section 3.2** supports the use of all available information when evaluating reasonable potential, including available data and in some cases the lack of data.

2. **Calculating numeric effluent limits** - Use all valid and applicable data, including data collected using methods not approved under 40 CFR Part 136 (e.g. Method 1668). If valid data collected using a more sensitive but non-Part 136 method make it feasible to calculate limits, those data should be used to calculate the numeric effluent limit.

Effluent limits are required when there is reasonable potential (RP). Numeric effluent limits are required where it is feasible to calculate them.

3. **Conducting analysis for All Known Available and Reasonable Technology (AKART)** - Use methods appropriate for the facility.
 - a) As a toxic pollutant, PCBs are subject to WAC 173-220-130 and RCW 90.48.520, which requires the application of all known, available, and reasonable methods to control toxicants in the applicant's wastewater (also known as AKART).
 - a) Methods of control for PCBs may include, but are not limited to, treatment technology, source control, or best management practices.
 - b) A general discussion about AKART and how it is applied in wastewater discharge permits is provided in Section 3 of Chapter 4 in Ecology's **Water Quality Program Permit Writer's Manual**.
 - c) For the purposes of applying AKART, Method 1668 may be required where identification of sources based on congener profile is required, or where expected concentrations are below analytical levels achievable by 608, and where treatment to lower levels is found to be reasonable. Site-specific factors must be considered when choosing the appropriate test method.

4. Evaluating effectiveness of best management practices - Use methods appropriate for evaluating the effectiveness of the best management practice (BMP).

PCB analytical method selection will depend on expected concentrations in the sampled media, the BMPs required or selected, and the potential sources of PCBs on and to the site.

For example:

- A PCB Aroclor Method (608 or 8082) would typically be required where it is sufficiently sensitive to evaluate the effectiveness of the BMP. For example, a source-tracing program aimed at finding and addressing PCB sources at individual properties based on PCB concentrations in catch basin solids that are routinely detectable using Method 8082.
- Method 1668 would typically be required for source identification when the potential sources are likely to have different congener profiles. Where the sources of PCBs on an individual property are not known, PCB congener data may be useful in identifying sources on and to the site.
- Method 1668 would typically be required when expected concentrations are below analytical levels achievable by an Aroclor method (608 or 8082). The congener method (1668) is needed to characterize influent, effluent, or ambient water quality where PCBs are expected to be below 0.016 µg/L. These data may be used to evaluate trends over time and to quantify reductions in influent, effluent and/or receiving waters.

V. Other Permit Conditions

A. Reporting and record keeping

Ecology based Special Condition S3 on its authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges (WAC 173-220-210).

B. Prevention of facility overloading

Overloading of the treatment plant is a violation of the terms and conditions of the permit. To prevent this from occurring, RCW 90.48.110 and WAC 173-220-150 require Spokane County to:

- Take the actions detailed in proposed permit Special Condition S4.
- Design and construct expansions or modifications before the treatment plant reaches existing capacity.
- Report and correct conditions that could result in new or increased discharges of pollutants.

Special Condition S4 restricts the amount of flow.

A municipality that intends to apply for Ecology-administered funding for the design or construction of a facility project must comply with chapter 173-98 WAC. Spokane County should contact Ecology's regional office as early as practical before planning a project that may include Ecology-administered funding.

C. Operation and maintenance

The proposed permit contains Special Condition S5 as authorized under RCW 90.48.110, WAC 173-220-150, chapter 173-230 WAC, and WAC 173-240-080. Ecology included it to ensure proper operation and regular maintenance of equipment, and to ensure that Spokane County takes adequate safeguards so that it uses constructed facilities to their optimum potential in terms of pollutant capture and treatment.

D. Pretreatment

Duty to enforce discharge prohibitions

This provision prohibits the publicly owned treatment works (POTW) from authorizing or permitting an industrial discharger to discharge certain types of waste into the sanitary sewer.

- The first section of the pretreatment requirements prohibits the POTW from accepting pollutants that cause “pass-through” or “interference”. This general prohibition is from 40 CFR §403.5(a). **Appendix C** of this fact sheet defines these terms.
- The second section reinforces a number of specific state and federal pretreatment prohibitions found in WAC 173-216-060 and 40 CFR §403.5(b). These reinforce that the POTW may not accept certain wastes, which:
 - a. Are prohibited due to dangerous waste rules
 - b. Are explosive or flammable
 - c. Have too high or low of a pH (too corrosive, acidic or basic)
 - d. May cause a blockage such as grease, sand, rocks, or viscous materials
 - e. Are hot enough to cause a problem
 - f. Are of sufficient strength or volume to interfere with treatment
 - g. Contain too much petroleum-based oils, mineral oil, or cutting fluid
 - h. Create noxious or toxic gases at any point

40 CFR Part 403 contains the regulatory basis for these prohibitions, with the exception of the pH provisions, which are based on WAC 173-216-060.

- The third section of pretreatment conditions reflects state prohibitions on the POTW accepting certain types of discharges unless the discharge has received prior written authorization from Ecology.

These discharges include:

- a. Cooling water in significant volumes
- b. Stormwater and other direct inflow sources
- c. Wastewaters significantly affecting system hydraulic loading, which do not require treatment

Ecology delegated authority to Spokane County for permitting, monitoring, and enforcement over industrial users discharging to their treatment system to provide more direct and effective control of pollutants. Ecology oversees the delegated Industrial Pretreatment Program to assure compliance with federal pretreatment regulations (40 CFR Part 403) and categorical standards and state regulations (chapter 90.48 RCW and chapter 173-216 WAC).

As sufficient data becomes available, Spokane County must, in consultation with Ecology, reevaluate its local limits in order to prevent pass-through or interference. If any pollutant causes pass-through or interference, or exceeds established sludge standards, Spokane County must establish new local limits or revise existing local limits as required by 40 CFR 403.5. In addition, Ecology may require revision or establishment of local limits for any pollutant that causes a violation of water quality standards or established effluent limits, or that causes whole effluent toxicity.

Ecology may modify this permit to incorporate additional requirements relating to the establishment and enforcement of local limits for pollutants of concern.

E. Solid wastes

To prevent water quality problems the facility is required in permit Special Condition S7 to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and state water quality standards.

The final use and disposal of sewage sludge from this facility is regulated by U.S. EPA under 40 CFR 503, and by Ecology under chapter 70.95J RCW, chapter 173-308 WAC "Biosolids Management," and chapter 173-350 WAC "Solid Waste Handling Standards." The disposal of other solid waste is under the jurisdiction of the Spokane County Regional Health Department.

Requirements for monitoring sewage sludge and record keeping are included in this permit. Ecology will use this information, required under 40 CFR 503, to develop or update local limits.

F. 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].

Spokane County developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the facility to update this plan and submit it to Ecology.

G. Effluent mixing and dye tracer study

Ecology estimated the amount of mixing of the discharge with receiving water and the potential for the mixture to violate the water quality standards for surface waters at the edge of the mixing zone (chapter 173-201A WAC). The proposed permit requires Spokane County to determine more accurately the mixing characteristics of the discharge into the Spokane River (Special Condition S10). The effluent mixing study must measure or model the characteristics of the discharge under conditions specified in the permit.

H. Receiving Water Studies

DO, Temperature, pH, Hardness, Alkalinity and Metals

The previous permit required Spokane County to continuously evaluate temperature June through October. Data was submitted for mid to end of June through October. The proposed permit requires Spokane County to monitor temperature year round to address the variations caused by groundwater influence. They should continue to monitor at the same locations provided that those locations are outside the influence of the effluent. The Spokane River temperature criterion is a 1-DMax of 20 C. The data should provide the daily max temperature and 7-DADMax for the data collected.

Spokane County collected approximately 2.5 years of data including some field parameters DO, pH, temperature and conductivity when they collected the ammonia, phosphorous, cadmium, lead, zinc, alkalinity, and hardness data in 2013-2015. Other than this data, the majority of available ambient ammonia, DO, pH, alkalinity, hardness, and metals monitoring data from the Spokane River comes from the monitoring stations located several miles upstream of the facility outfall or at the Green Street Bridge, downstream of the discharge. Ecology prefers upstream data for the evaluation for NPDES Permit reasonable potential calculations.

The previous permit required cadmium, lead, and zinc sampling. However, there are several trace metals in the effluent and no current data available for the receiving water. Therefore, the proposed permit requires Spokane County to complete a receiving water study for DO, temperature, pH, hardness, alkalinity, and metals during this proposed permit cycle. See Special Conditions S11 & S12 in the proposed permit for deliverable dates and study requirements.

I. Toxics Reduction Strategies

Best Management Practices (BMPs) are the actions identified to manage, prevent contamination of, and treat wastewater discharges. BMPs include 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 also include treatment systems, operating procedures and practices used to control plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage.

The proposed permit specifies that a Toxics Reduction Best Management Practices Plan (BMP Plan) must be developed and implemented in order to control and abate the discharge of identified toxics.

Analytical method selection depends on the expected concentration in the sampled media. Spokane County must select the analytical method that best identifies the concentration and source of the toxics (PCBs, and PBDEs) removed through use of the BMPs.

BMP effectiveness monitoring does not require use of a Part 136 method, as Ecology does not consider this monitoring to be for compliance purposes. Therefore, the proposed permit requires the Permittee to use high-resolution methods for the BMP effectiveness monitoring. The proposed permit will require the County to submit a quality assurance project plan (QAPP) for PCBs, and PBDEs sampling.

At a minimum, the proposed permit will require implementation and assessment of the following BMPs:

- Submittal of an initial BMP Plan and annual assessments thereafter
- The continuation of source identification and removal actions for PCBs remaining within the Permittee's municipal wastewater sewer system

The Permittee should refer to the Spokane River Regional Toxics Task Force [2016 Comprehensive Plan](#) to Reduce Polychlorinated Biphenyls (PCBs) in the Spokane River.

The plan, developed cooperatively with the Spokane River NPDES permitted dischargers including the City of Spokane, Spokane County, Liberty Lake Sewer and Water District, Inland Empire Paper, Kaiser, the environmental community, Tribes, and state and federal agencies, identifies a number of BMPs that may help to reduce PCBs in the Spokane River. The report is available on the SRRTTF website at http://srtrtf.org/wp-content/uploads/2016/04/2016_Comp_Plan_Final_Approved.pdf

- The continuation of the public outreach and education efforts
- Identification of track down sampling and source removal actions for PBDEs
- Participation in the Spokane River Regional Toxics Task Force or an equivalent citizen advisory organization or committee

Spokane County's previous discharge permit, issued November 29, 2011, required the facility to reduce toxicant loading to the Spokane River. At the time of permit issuance, toxicants included total PCBs, 2,3,7,8 TCDD, and PBDE. Through the course of the permit cycle, attention primarily shifted to PCB source control and reduction.

The proposed permit Section S16 requires Spokane County to broaden their toxics reduction strategy to include PCBs and PBDEs. The proposed permit will revise the frequency of monitoring for 2,3,7,8 TCDD due to lack of detectable samples.

The proposed permit requires the Toxics Reduction Best Management Practices Plan to identify actions Spokane County will implement based on the previous permit cycle Toxics Management Plans for PCBs. Spokane County conducted influent and effluent sampling for PBDEs in the previous permit cycle. The sampling indicated that PBDEs are being discharged to the facility through the collection system. The evolving BMP plans must include sampling that identifies areas with sources of PBDEs and proposed actions to remove sources of the toxics.

The proposed permit requires Spokane County to assess annually the effectiveness of the BMP Plan through quantitative and qualitative (where appropriate) measures. Ecology understands that Spokane County's BMP implementation method will change throughout the permit cycle and that selected BMPs may be refined, removed, and replaced based on their effectiveness.

The Permittee is encouraged to use [The Comprehensive Plan](#) produced in 2016 by the Spokane River Regional Toxics Task Force and found at http://srtrtf.org/wp-content/uploads/2016/04/2016_Comp_Plan_Final_Approved.pdf. Spokane County may also propose use of other actions that will provide the most benefit for toxics reduction. The proposed permit requires Spokane County to submit an updated Quality Assurance Project Plan (QAPP) for the BMP effectiveness monitoring for PCBs, and PBDEs.

Semiannual assessment monitoring using an appropriately sensitive method (e.g. PCBs: Method 1668 and PBDEs: Method 1614) may be required to evaluate the effectiveness of the BMPs used by the discharger. The proposed permit requires Spokane County to assess congener patterns for the influent when applicable as part of the effectiveness evaluation of the BMP Plan.

J. General conditions

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

VI. 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, based on 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 meets 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 five years.

VII. References for Text and Appendices

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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.

HDR, 2010 Wastewater Facilities Plan Amendment, Prepared for Spokane County

Cosmopolitan Engineering Group

2007. Task G101-Outfall Design Criteria

2007. Task G102-Mixing Zone and Water Quality Update

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Tsivoglou, E.C., and J.R. Wallace.

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

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October 2010 (revised). [Water Quality Program Guidance Manual – Procedures to Implement the State's Temperature Standards through NPDES Permits](https://apps.ecology.wa.gov/ecy/publications/summarypages/0610100.html). Publication Number 06-10-100
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[Laws and Regulations](http://leg.wa.gov/LawsAndAgencyRules/Pages/default.aspx) (<http://leg.wa.gov/LawsAndAgencyRules/Pages/default.aspx>)

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

(<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance>)

February 2010. Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load (Publication No. 07-10-073)

September 1998. Cadmium, Lead and Zinc in the Spokane River, (Publication 98-329)

March 1997. Waste Load Allocations for Biochemical Oxygen Demand for Inland Empire Paper Company. Ecology Report 97-313

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

Appendix A – Public Involvement Information

Ecology proposes to reissue a permit to Spokane County Regional Water Reclamation Facility. 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 March 29, 2021 and April 5, 2021 in the Spokesman Review to inform the public about the submitted application and to invite comment on the reissuance of this permit.

Ecology will place a Public Notice of Draft on March 18, 2022 in the Spokesman Review 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.
- Asks people to tell us how well the proposed permit would protect the receiving water.
- Invites people to suggest conditions, limits, and requirements for the permit.
- Invites comments on Ecology's determination of compliance with antidegradation rules.
- Urges people to submit their comments, in writing, before the end of the comment period.
- Tells how to request a public hearing about the proposed NPDES permit.
- Explains the next step(s) in the permitting process.

For frequently asked questions about public comments, [Publication #03-07-023](#), **Effective Public Commenting**, is available on Ecology's website at <https://fortress.wa.gov/ecy/publications/documents/0307023.pdf>.

For more information, call the Department of Ecology Eastern Regional Office at (509) 329-3400 or [visit Ecology's website](#) at www.ecy.wa.gov.

The primary author of this permit and fact sheet is Diana Washington.

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 30: Address and Location Information

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

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 month's time taking into account zero discharge days.

Average monthly discharge limit – The average of the measured values obtained over a calendar month's 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 (BMP) – 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 BOD₅ 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% 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% 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 feedlots, poultry houses, or dairies. The term includes contaminated stormwater and 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 501, 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 $(1, 2, \text{ or } 5) \times 10^n$, where n is an integer. (64 FR 30417).

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) –

- 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 waste stream that makes up 5% 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 BOD₅ – 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 BOD₅ 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 BOD₅ 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

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards are available in the [PermitCalc Workbook](https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance) on Ecology's website at <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance>.

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). 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 .

$$LTA_a = WLA_a \times e^{(0.5\sigma^2 - z\sigma)}$$

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

$z = 1.645$ (95th % occurrence probability)

LTA = Limiting long term average

Appendix D – Technical Calculations (Continued)

- Table D-1: Dilution Factor Calculations and Receiving Water Critical Conditions
- Table D-2: Freshwater Un-ionized Ammonia Criteria Calculation
- Table D-3: RPA Calculations
- Table D-4: RPA Calculations Continued
- Table D-5: RPA Calculations Continued
- Table D-6: WQBEL with no dilution for PCBs, Cadmium, Lead, and Zinc
- Table D-7: Cadmium Performance Based + 10% Limits
- Table D-8: Lead Performance Based + 10% Limits
- Table D-9: Zinc Performance Based + 10% Limits
- Table D-10: Minimum pH RPA
- Table D-11: Maximum pH RPA
- Table D-12: Dissolved Oxygen at the Chronic Boundary RPA
- Table D-13: Fecal Coliform RPA
- Table D-14: Temperature Reasonable Potential

Table D-1: Dilution Factor Calculations and Receiving Water Critical Conditions

Dilution Factor Calculations and Receiving Water Critical Conditions

Step 1: Enter Waterbody Type

Water Body Type	Freshwater
-----------------	------------

Facility Name	Spokane County WRF
Receiving Water	Spokane River

Step 2: Enter Dilution Factors -OR- Calculate DFs by entering Facility/Receiving Water Flow Data

Do you want to enter dilution factors -or- flow data?	Flow Data
---	-----------

	Annual Average	Max Monthly Average	Daily Max
Facility Flow, MGD	8	8.5	12.1
Facility Flow, cfs (calculated)	12.38	13.15	18.72

	Condition	Receiving Water Flow, cfs	Allowable % of river flow	Max Dilution Factor Allowed
<u>Aquatic Life - Acute</u>	7Q10	773	0.025	2.0
<u>Aquatic Life - Chronic</u>	7Q10	773	0.25	15.7
<u>HH-Non-Carcinogen</u>	30Q5	1082.2	0.25	21.6
<u>HH-Carcinogen</u>	Harmonic Mean	2319	0.25	47.8
<u>Whole river at 7Q10</u>	7Q10	773	1	59.8

Step 3: Enter Critical Data

	Effluent	Receiving Water
Temp, °C	23.8	16.2
pH, s.u.	8.5	7.88
Alkalinity, mg/L as CaCO ₃	48	26.9
Hardness, mg/L CaCO ₃	110.6	30.6
Salinity, psu		
Receiving water TSS, mg/L (leave blank if unknown)		
If TSS is annual data, enter 'A'; if from critical period, enter 'S'; If no TSS, leave blank		

Step 4: Specify if using 'Mixed' values for hardness, temperature, and pH

	Use 'Mixed Hardness' (Y/N)	Use 'Mixed Max Temp' (Y/N)	Use 'Mixed pH' (Y/N)
	Y	Y	Y
Acute Zone Boundary	70.0	19.9	8.2
Chronic Zone Boundary	35.7	16.7	7.9
Whole river at 7Q10	31.9	16.3	7.9

Table D-2: Freshwater Un-ionized Ammonia Criteria Calculation

Freshwater Un-ionized Ammonia Criteria Calculation

Based on Chapter 173-201A WAC, amended November 20, 2006

	Background	mixed @ Acute Boundary	mixed @ Chronic Boundary	mixed @ Whole River
INPUT				
1. Receiving Water Temperature (deg C):	16.2	19.9	16.7	16.3
2. Receiving Water pH:	7.9	8.1	7.9	7.9
3. Is salmonid habitat an existing or designated use?	Yes	Yes	Yes	Yes
4. Are non-salmonid early life stages present or absent?	Absent	Absent	Absent	Absent
OUTPUT				
Using mixed temp and pH at mixing zone boundaries?	yes			
Ratio	13.500	13.500	13.500	13.500
FT	1.400	1.400	1.400	1.400
FPH	1.065	1.000	1.045	1.060
pKa	9.525	9.404	9.509	9.521
Unionized Fraction	0.022	0.052	0.025	0.023
Unionized ammonia NH3 criteria (mg/L as NH ₃)				
Acute:	0.189	0.270	0.000	0.192
Chronic:	0.040	0.042	0.040	0.040
RESULTS				
Total ammonia nitrogen criteria (mg/L as N):				
Acute:	7.019	4.261		6.908
Chronic:	1.476		1.347	1.441

Table D-3: RPA Calculations

Reasonable Potential Calculation

Facility		Spokane County WRF											
Water Body Type		Freshwater											
Rec. Water Hardness		Acute=70, Chronic=35.7 mg/L											

Dilution Factors:		Acute		Chronic	
Aquatic Life		2.0		15.7	
Human Health Carcinogenic				47.8	
Human Health Non-Carcinogenic				21.6	

Pollutant, CAS No. & NPDES Application Ref. No.		AMMONIA, Criteria as Total NH3	ANTIMONY (INORGANIC) 744036 1M	ARSENIC (dissolved) 7440382 2M	BHC - ALPHA 319846 2P	BHC - BETA 319857 3P	BIS(2-ETHYLHEXYL) PHTHALATE 117817 13B	CADMIUM - 7440439 4M Hardness dependent	CHLORODIBROMOMETHANE 124481 8V	CHLOROFORM 67663 11V	CHROMIUM(TRI) -16065831 5M Hardness dependent	COPPER - 744058 6M Hardness dependent
Effluent Data	# of Samples (n)	22834	20	129	5	5	5	146	5	5	20	150
	Coeff of Variation (Cv)	2.23	0.76	0.34	0.6	0.6	0.6	0.89	0.6	0.6	0.595	0.658
	Effluent Concentration, ug/L (Max. or 95th Percentile)	16,000		0.86	0.010	0.027	0.29	0.088	0.858	1.882	0.578	6.69
	Calculated 50th percentile Effluent Conc. (when n>10)		3.33									2.93
Receiving Water Data	90th Percentile Conc., ug/L	15.4		0				0.188			0	0
	Geo Mean, ug/L		0		0	0	0		0	0		0
Water Quality Criteria	Aquatic Life Criteria, Acute ug/L	4,261	-	360	-	-	-	2.5138	-	-	409.55	12.153
	Chronic	1,347	-	190	-	-	-	0.481	-	-	76.566	4.7071
	WQ Criteria for Protection of Human Health, ug/L	-	12	-	0.0005	0.0018	0.23	-	0.65	260	-	1300
	Metal Criteria Acute	-	-	1	-	-	-	0.943	-	-	0.316	0.996
	Translator, decimal Chronic	-	-	1	-	-	-	0.943	-	-	0.86	0.996
	Carcinogen?	N	N	Y	Y	Y	Y	N	Y	Y	N	N

Aquatic Life Reasonable Potential												
Effluent percentile value		0.950		0.950				0.950		0.950		0.950
s s ² =ln(CV ² +1)		1.337		0.331				0.764		0.551		0.600
Pn Pn=(1-confidence level) ^{1/n}		1.000		0.977				0.980		0.861		0.980
Multiplier		1.00		1.00				1.00		1.36		1.00
Max concentration (ug/L) at edge of...		Acute 7,880		0.423				0.136		0.122		3.279
Chronic		1,034		0.055				0.181		0.043		0.425
Reasonable Potential? Limit Required?		YES		NO				NO		NO		NO

Aquatic Life Limit Calculation												
# of Compliance Samples Expected per month		20										
LTA Coeff. Var. (CV), decimal		2.23										
Permit Limit Coeff. Var. (CV), decimal		2.23										
Waste Load Allocations, ug/L		Acute 8644.3										
Chronic		20912										
Long Term Averages, ug/L		Acute 942.66										
Chronic		3871.2										
Limiting LTA, ug/L		942.66										
Metal Translator or 1?		1.00										
Average Monthly Limit (AML), ug/L		1831.4										
Maximum Daily Limit (MDL), ug/L		8644.3										

Human Health Reasonable Potential												
s s ² =ln(CV ² +1)		0.6752		0.5545		0.5545		0.5545		0.5545		0.5998
Pn Pn=(1-confidence level)1/n		0.861		0.549		0.549		0.549		0.549		0.980
Multiplier		0.4809		0.9336		0.9336		0.9336		0.9336		0.2909
Dilution Factor		21.575		47.845		47.845		47.845		47.845		21.575
Max Conc. at edge of Chronic Zone, ug/L		0.1543		0.0002		0.0005		5.7E-03		0.0167		0.1358
Reasonable Potential? Limit Required?		NO		NO		NO		NO		NO		NO

Table D-4: RPA Calculations Cont.

Reasonable Potential Calculation - Page 2

Facility		Dilution Factors:											Acute	Chronic
Spokane County WRF		Aquatic Life											2.0	15.7
Water Body Type		Human Health Carcinogenic												47.8
Rec. Water Hardness		Human Health Non-Carcinogenic												21.6
Pollutant, CAS No. & NPDES Application Ref. No.		CYANIDE 57125 14M	DICHLOROBROMOMETHANE 75274 12V	DIETHYLPHTHALATE 84662 24B	DIMETHYLPHTHALATE 131113 25B	ENDOSULFAN SULFATE 103107 13P	LEAD - 7439921 7M Dependent on hardness	MERCURY 7439976 8M	NICKEL - 7440020 9M - Dependent on hardness	PHENOL 108952 10A	SELENIUM 7782492 10M	SILVER - 7740224 11M dependent on hardness.		
Effluent Data	# of Samples (n)	20	5	5	5	5	129	61	20	20	20	81		
	Coeff of Variation (Cv)	0.98	0.6	0.6	0.6	0.6	0.32	0.96	0.41	0.67	0.48	2.88		
	Effluent Concentration, ug/L (Max. or 95th Percentile)	0.0291	1.882	0.9	0.77	0.0169	0.146	0.001	4.2		0.955	0.11		
	Calculated 50th percentile Effluent Conc. (when n>10)	0.0051						0.00025	3.02	17	0.505			
Receiving Water Data	90th Percentile Conc., ug/L	0					0	0	0		0	0		
	Geo Mean, ug/L	0	0	0	0	0		0	0	0	0			
Water Quality Criteria	Aquatic Life Criteria, Acute ug/L	22	-	-	-	-	43.682	2.1	1046.3	-	20	1.8663		
	Chronic	5.2	-	-	-	-	0.8068	0.012	65.759	-	5	-		
	WQ Criteria for Protection of Human Health, ug/L	19	0.77	4200	92000	9.7	-	0.14	150	18000	120	-		
	Metal Criteria, Acute	-	-	-	-	-	0.466	0.85	0.998	-	-	0.85		
	Translator, decimal	-	-	-	-	-	0.466	-	0.997	-	-	-		
	Carcinogen?	N	Y	N	N	N	N	N	N	N	N	N		
Aquatic Life Reasonable Potential														
Effluent percentile value		0.950					0.950	0.950	0.950		0.950	0.950		
s $s^2=\ln(CV^2+1)$		0.820					0.312	0.808	0.394		0.455	1.493		
Pn $Pn=(1-\text{confidence level})^{1/n}$		0.861					0.977	0.952	0.861		0.861	0.964		
Multiplier		1.58					1.00	1.00	1.25		1.29	1.00		
Max concentration (ug/L) at edge of...	Acute	0.023					0.033	0.000	2.572		0.607	0.046		
	Chronic	0.003					0.004	0.000	0.333		0.079	0.007		
Reasonable Potential? Limit Required?		NO					NO	NO	NO		NO	NO		
Human Health Reasonable Potential														
s $s^2=\ln(CV^2+1)$		0.8205	0.5545	0.5545	0.5545	0.5545		0.8082	0.3942	0.6089	0.4553			
Pn $Pn=(1-\text{confidence level})^{1/n}$		0.861	0.549	0.549	0.549	0.549		0.952	0.861	0.861	0.861			
Multiplier		0.4108	0.9336	0.9336	0.9336	0.9336		0.2603	0.6522	0.5167	0.6103			
Dilution Factor		21.575	47.845	21.575	21.575	21.575		21.575	21.575	21.575	21.575			
Max Conc. at edge of Chronic Zone, ug/L		0.0002	0.0367	0.0389	0.0333	0.0007		1.2E-05	0.14	0.788	0.0234			
Reasonable Potential? Limit Required?		NO	NO	NO	NO	NO		NO	NO	NO	NO			

Human Health Reasonable Potential									
S	$s^2 = \ln(CV^2 + 1)$	0.5545	1.2872	0.3215					
Pn	$Pn = (1 - \text{confidence level})/n$	0.549	0.861	0.977	✓	✓	✓	✓	✓
Multiplier		0.9336	0.2476	0.5263	✓	✓	✓	✓	✓
Dilution Factor		47.845	21.575	21.575	✓	✓	✓	✓	✓
Max Conc. at edge of Chronic Zone, ug/L		0.0192	0.0006	25.581	✓	✓	✓	✓	✓
Reasonable Potential? Limit Required?		NO	NO	NO	✓	✓	✓	✓	✓

Table D-6: WQBEL with no dilution for PCBs, Cadmium, Lead, and Zinc

Aquatic Life and Human Health Limits Calculations

		Dilution Factors:		Acute	Chronic
Facility	Spokane County	Aquatic Life		1.0	1.0
Water Body Type	Freshwater	Human Health Carcinogenic			1.0
Eff. Water Hardness	110.6	Human Health Non-Carcinogenic			1.0

Pollutant, CAS No. & NPDES Application Ref. No.		CADMIUM - 7440439 4M Hardness dependent	LEAD - 7439921 7M Dependent on hardness	ZINC- 7440666 13M hardness dependent	Polychlorinated Biphenyls (PCB's) 53469219, 11097691, 1104282, 11141165, 12672296, 11096825, 12674112 18P-24P
Effluent Data	Coeff of Variation (Cv)	0.89	0.32	0.33	0.92
Receiving Water Data	90th Percentile Conc., ug/L	0.188	218	54.9	
	Geo Mean, ug/L	0		25.59	1.996E-05
Water Quality Criteria	Aquatic Life Criteria, Acute ug/L	4.1296	72.056	124.646344	2
	Chronic	1.1107	2.7748	113.821015	0.014
	WQ Criteria for Protection of Human Health, ug/L	-	-	2300	0.00017
	Metal Criteria, Acute	0.943	0.466	0.996	-
	Translator, decimal, Chronic	0.943	0.466	0.996	-
	Carcinogen?	N	N	N	Y

Aquatic Life Limit Calculation

# of Compliance Samples Expected per month		4	4	4	4
LTA Coeff. Var. (CV), decimal		0.89	0.32	0.33	0.92
Permit Limit Coeff. Var. (CV), decimal		0.89	0.32	0.33	0.92
Waste Load Allocations, ug/L	Acute	4.1296	72.056	124.646344	2
	Chronic	1.1107	2.7748	113.821015	0.014
Long Term Averages, ug/L	Acute	0.9355	36.596	62.1364654	0.4396779
	Chronic	0.4523	1.9414	78.794406	0.0055621
Limiting LTA, ug/L		0.4523	1.9414	62.1364654	0.0055621
Metal Translator or 1?		0.94	0.47	1.00	1.00
Average Monthly Limit (AML), ug/L		0.88	5.34	80.6	0.010389
Maximum Daily Limit (MDL), ug/L		2.12	8.20	125.1	0.025301

Human Health Limit Calculation

# of Compliance Samples Expected per month				4	4
Dilution Factor				1	1
Average Monthly Effluent Limit, ug/L				2300	0.000170
Maximum Daily Effluent Limit, ug/L				3571	0.000414

Table D-7: Cadmium Performance Based + 10% Limits

Cadmium Performance-based Effluent Limits Plus 10%

INPUT	
LogNormal Transformed Mean:	-3.7053
LogNormal Transformed Variance:	0.4381
Number of Samples per month for compliance monitoring:	4
Autocorrelation factor (n_e) (use 0 if unknown):	0
OUTPUT	
$E(X) =$	0.0306
$V(X) =$	0.001
$VARn$	0.1288
$MEANn=$	-3.5506
$VAR(Xn)=$	0.000
RESULTS	
Maximum Daily Effluent Limit:	0.126
Average Monthly Effluent Limit:	0.057

Table D-8: Lead Performance Based + 10% Limits

Lead Performance-based Effluent Limits Plus 10%

INPUT	
LogNormal Transformed Mean:	-2.3074
LogNormal Transformed Variance:	0.3212
Number of Samples per month for compliance monitoring:	4
Autocorrelation factor (n_e) (use 0 if unknown):	0
OUTPUT	
$E(X) =$	0.1169
$V(X) =$	0.005
$VARn$	0.0905
$MEANn=$	-2.1921
$VAR(Xn)=$	0.001
RESULTS	
Maximum Daily Effluent Limit:	0.409
Average Monthly Effluent Limit:	0.202

Table D-9: Zinc Performance Based + 10% Limits

Performance-based Effluent Limits Plus 10%

INPUT	
LogNormal Transformed Mean:	3.2236
LogNormal Transformed Variance:	0.1176
Number of Samples per month for compliance monitoring:	4
Autocorrelation factor (n_e) (use 0 if unknown):	0
OUTPUT	
$E(X) =$	26.6397
$V(X) =$	88.541
$VARn$	0.0307
$MEANn=$	3.2670
$VAR(Xn)=$	22.135
RESULTS	
Maximum Daily Effluent Limit:	61.3
Average Monthly Effluent Limit:	38.5

Table D-10: Minimum pH RPA

Calculation of Maximum Effluent pH Limit on Receiving Water Minimum pH

Based on the procedure in EPA's DESCON program (EPA, 1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington D.C.)

INPUT		
	@ Acute Boundary	@ Chronic Boundary
1. Dilution Factor at Mixing Zone Boundary	2.0	15.7
2. Ambient/Upstream/Background Conditions		
Temperature (deg C):	16.20	16.20
pH:	6.48	6.48
Alkalinity (mg CaCO3/L):	28.30	28.30
3. Effluent Characteristics		
Temperature (deg C):	23.80	23.80
pH:	8.50	8.50
Alkalinity (mg CaCO3/L):	48.00	48.00
4. Aquatic Life Use Designation	Other species (salmonid/redband trout/warmwater species)	
OUTPUT		
1. Ionization Constants		
Upstream/Background pKa:	6.41	6.41
Effluent pKa:	6.36	6.36
2. Ionization Fractions		
Upstream/Background Ionization Fraction:	0.54	0.54
Effluent Ionization Fraction:	0.99	0.99
3. Total Inorganic Carbon		
Upstream/Background Total Inorganic Carbon (mg CaCO3/L):	52	52
Effluent Total Inorganic Carbon (mg CaCO3/L):	48	48
4. Conditions at Mixing Zone Boundary		
Temperature (deg C):	20.00	16.68
Alkalinity (mg CaCO3/L):	38.15	29.55
Total Inorganic Carbon (mg CaCO3/L):	50.38	52.15
pKa:	6.38	6.41
5. Allowable pH change	NA	0.50
RESULTS		
pH at Mixing Zone Boundary:	6.88	6.52
pH change at Mixing Zone Boundary:	0.40	0.04
Is permit limit needed?	NO	NO

Table D-11: Maximum pH RPA

Calculation of Minimum Effluent pH Limit on Receiving Water Maximum pH

Based on the procedure in EPA's DESCONE program (EPA, 1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington D.C.)

INPUT		
	@ Acute Boundary	@ Chronic Boundary
1. Dilution Factor at Mixing Zone Boundary	2.0	15.7
2. Ambient/Upstream/Background Conditions		
Temperature (deg C):	16.20	16.20
pH:	7.88	7.88
Alkalinity (mg CaCO3/L):	28.30	28.30
3. Effluent Characteristics		
Temperature (deg C):	21.70	23.80
pH:	6.52	6.50
Alkalinity (mg CaCO3/L):	48.00	48.00
4. Aquatic Life Use Designation	Other species (salmonid/redband trout/warmwater species)	
OUTPUT		
1. Ionization Constants		
Upstream/Background pKa:	6.41	6.41
Effluent pKa:	6.37	6.36
2. Ionization Fractions		
Upstream/Background Ionization Fraction:	0.97	0.97
Effluent Ionization Fraction:	0.59	0.58
3. Total Inorganic Carbon		
Upstream/Background Total Inorganic Carbon (mg CaCO3/L):	29	29
Effluent Total Inorganic Carbon (mg CaCO3/L):	82	83
4. Conditions at Mixing Zone Boundary		
Temperature (deg C):	18.95	16.68
Alkalinity (mg CaCO3/L):	38.15	29.55
Total Inorganic Carbon (mg CaCO3/L):	55.64	32.65
pKa:	6.39	6.41
5. Allowable pH change	NA	0.50
RESULTS		
pH at Mixing Zone Boundary:	6.73	7.39
pH change at Mixing Zone Boundary:	1.15	0.49
Is permit limit needed?	NO	NO

Table D-12: Dissolved Oxygen at the Chronic Boundary RPA

Calculation of Dissolved Oxygen at Chronic Mixing Zone

INPUT	
Chronic Dilution Factor	15.7
Receiving Water DO Concentration, mg/L	8.0
Effluent DO Concentration, mg/L	5.2
Effluent Immediate DO Demand (IDOD), mg/L	0
Surface Water Criteria, mg/L	8
OUTPUT	
DO at Mixing Zone Boundary, mg/L	7.82
DO decrease caused by effluent at chronic boundary, mg/L	0.18
Conclusion: At design flow, the discharge has a reasonable potential to violate water quality standards for dissolved oxygen.	

Table D-13: Fecal Coliform RPA

RPA Calculation of Technology Based Fecal Coliform Limit at Chronic Mixing Zone Boundary

INPUT	
Chronic Dilution Factor	15.7
Receiving Water [Fecal Coliform], #/100 ml	204
Effluent [Fecal Coliform] - worst case, #/100 ml	400
Surface Water Criterion, #/100 ml	100
OUTPUT	
[Fecal Coliform] at Mixing Zone Boundary, #/100 ml	216
Difference between mixed and ambient, #/100 ml	12
Conclusion: At design flow, the discharge has a reasonable potential to violate water quality standards for fecal coliform.	

Table D-14: Temperature Reasonable Potential

Freshwater Temperature Reasonable Potential and Limit Calculation

Based on WAC 173-201A-200(1)(c)(i)--(ii) and the Water Quality Program Guidance. All data inputs must meet WQ guidelines.

	Core Summer Criteria	Supplemental Criteria
INPUT	July 1-Sept 14	Sept 15-July 1
1. Chronic Dilution Factor at Mixing Zone Boundary	15.7	15.7
2. 1DMax Ambient Temperature (T) (Upstream Background 90th percentile)	16.2 °C	Not available
3. 1DMax Effluent Temperature (95th percentile)	23.8 °C	20.1 °C
4. Aquatic Life Temperature WQ Criterion in Fresh Water	20.0 °C	20.0 °C
OUTPUT		
5. Temperature at Chronic Mixing Zone Boundary:	16.7 °C	
6. Incremental Temperature Increase or decrease:	0.5 °C	
7. Maximum Allowable Incremental Temperature Increase:	1.2 °C	
8. Maximum Allowable Temperature at Mixing Zone Boundary:	17.4 °C	20.0 °C
A. If ambient temp is warmer than WQ criterion		
9. Does temp fall within this warmer temp range?	NO	YES
10. If YES - Use TMDL-based or performance-based limit - Do Not use this spreadsheet		
B. If ambient temp is cooler than WQ criterion but within 28/(T_{amb}+7) of the criterion		
11. Does temp fall within this Incremental temp. range?	NO	---
12. Temp increase allowed at mixing zone boundary, if required:	---	---
C. If ambient temp is cooler than (WQ criterion - 28/(T_{amb}+7))		
13. Does temp fall within this Incremental temp. range?	YES	---
14. Temp increase allowed at mixing zone boundary, if required:	NO LIMIT	---
RESULTS		
15. Do any of the above cells show a temp increase?	NO	NO
16. Temperature Limit if Required?	NO LIMIT	NO LIMIT

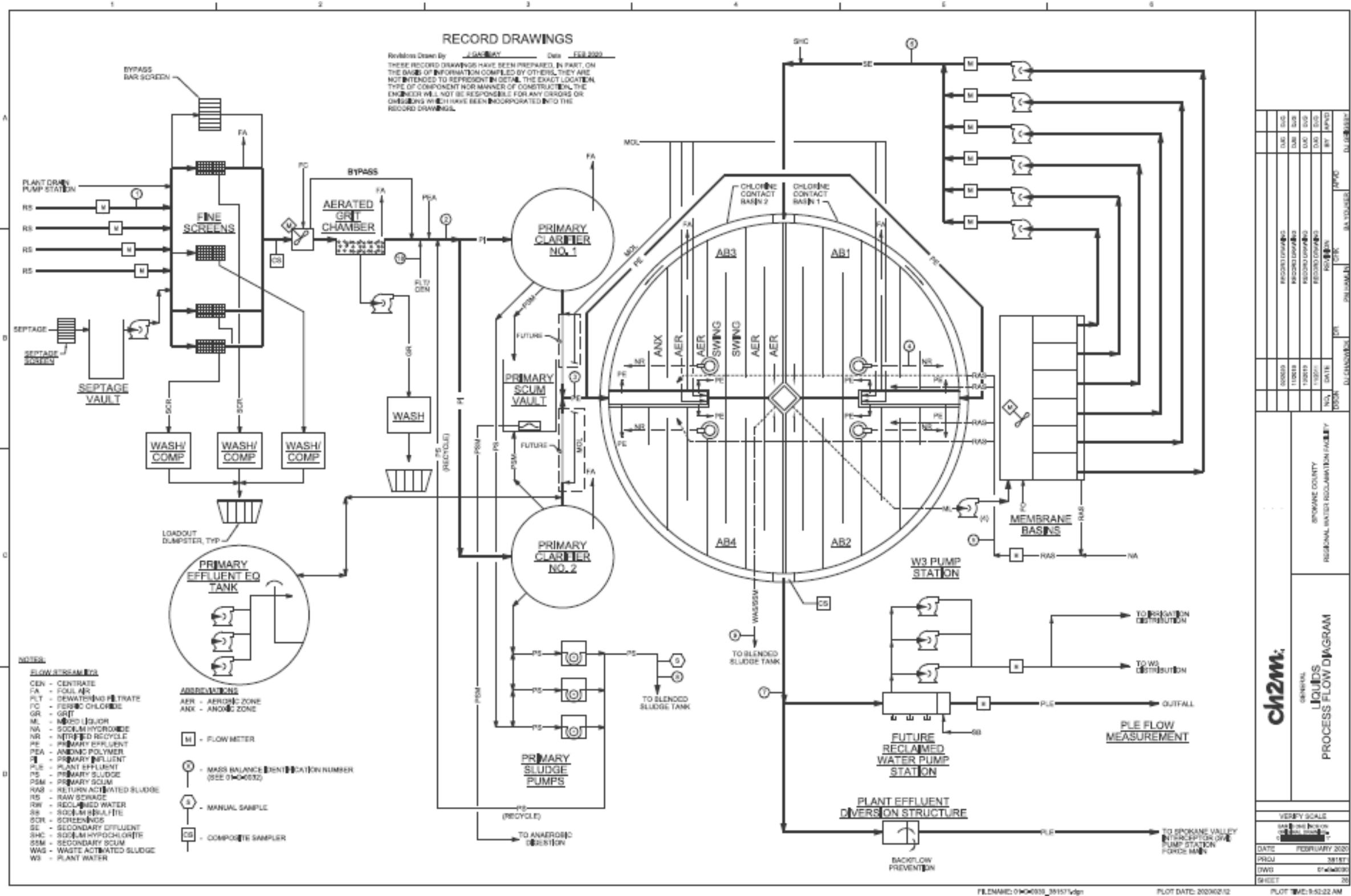
Appendix E – Response to Comments

Ecology received comments on the draft documents following the 60-day public comment period. A summary of the comments and Ecology's responses are located at the end of this fact sheet as Appendix E-1.

Appendix F – Additional Figures

- Figure F-1: Process Flow Diagram

Figure F-1: Process Flow Diagram



Appendix E-1 - Ecology Responses to Comments for Spokane County Regional Water Reclamation Facility (SCRWRF) Permit WA0093317 and Fact Sheet

The legal notice that informed the public that a draft permit and fact sheet were available for review was published in the Spokesman Review on March 18, 2022. Ecology hosted two identical online workshops, each immediately followed by a public hearing, on April 19 and 26, 2022. Ecology received comments on the draft documents during the 45-day public comment period. No comments were provided during the public hearings. Below are a summary of the commenters, the comments, and Ecology's responses. A copy of all comment documents are available upon request.

The comments received were reviewed and evaluated by Washington State Department of Ecology. Comments were categorized into 15 areas for response, though many comments touched on aspects of more than one comment category.

The comment categories include:

1. **Mixing Zone Flows**
2. **PCBs**
3. **PCB Monitoring Frequency**
4. **Reopener**
5. **Spokane River Regional Toxics Taskforce**
6. **PFAS Monitoring**
7. **Limits**
8. **Monitoring**
9. **WET Testing**
10. **Pretreatment Monitoring**
11. **Typos and Formatting**
12. **Receiving Water Study**
13. **Clarifications**
14. **Dissolved Oxygen TMDL**
15. **Variance**

Figure 1: Comment Summary Table

Affiliation	Commenter Name	Topics where comments were assigned	Associated Comment numbers
Individual			
	Wendy	Reopener	I-5-1
		Spokane River Regional Toxics Taskforce	I-5-2
		PFAS Monitoring	I-5-3
	Susan Amstadter	Reopener	I-1-1
		Spokane River Regional Toxics Taskforce	I-1-2
		PFAS Monitoring	I-1-3
	Kirsten Angell	Reopener	I-10-1
		Spokane River Regional Toxics Taskforce	I-10-2
		PFAS Monitoring	I-10-3
	Carla Brooks	Reopener	I-23-1
		Spokane River Regional Toxics Taskforce	I-23-2
		PFAS Monitoring	I-23-3
	Deanna Camp	Reopener	I-4-1
		Spokane River Regional Toxics Taskforce	I-4-2
		PFAS Monitoring	I-4-3
	Barry Chapman	Reopener	I-9-1
		Spokane River Regional Toxics Taskforce	I-9-2
		PFAS Monitoring	I-9-3
	Amy Compestine	Reopener	I-16-1
		Spokane River Regional Toxics Taskforce	I-16-2
		PFAS Monitoring	I-16-3
	James Cronin	Reopener	I-2-1
		Spokane River Regional Toxics Taskforce	I-2-2
		PFAS Monitoring	I-2-3
	James Cronin	Reopener	I-21-1
		Spokane River Regional Toxics Taskforce	I-21-2
		PFAS Monitoring	I-21-3
	Bridget Curran	Reopener	I-11-1
		Spokane River Regional Toxics Taskforce	I-11-2
		PFAS Monitoring	I-11-3
	Marc Fryt	Reopener	I-6-1
		Spokane River Regional Toxics Taskforce	I-6-2
		PFAS Monitoring	I-6-3
	Hollis Higgins	Reopener	I-22-1

		Spokane River Regional Toxics Taskforce	I-22-2
		PFAS Monitoring	I-22-3
	Paulette Hines	Reopener	I-3-1
		Spokane River Regional Toxics Taskforce	I-3-2
		PFAS Monitoring	I-3-3
	Claudia Hume	Reopener	I-13-1
		Spokane River Regional Toxics Taskforce	I-13-2
		PFAS Monitoring	I-13-3
	Jonathan Keeve	Reopener	I-19-1
		Spokane River Regional Toxics Taskforce	I-19-2
		PFAS Monitoring	I-19-3
	Sheri Lattimore	Reopener	I-17-1
		Spokane River Regional Toxics Taskforce	I-17-2
		PFAS Monitoring	I-17-3
	Charlie Martin	Reopener	I-20-1
		Spokane River Regional Toxics Taskforce	I-20-2
		PFAS Monitoring	I-20-3
	John McKee	Reopener	I-15-1
		Spokane River Regional Toxics Taskforce	I-15-2
		PFAS Monitoring	I-15-3
	Alex Richardson	Reopener	I-8-1
		Spokane River Regional Toxics Taskforce	I-8-2
		PFAS Monitoring	I-8-3
	Gary Rogers	Reopener	I-18-1
		Spokane River Regional Toxics Taskforce	I-18-2
		PFAS Monitoring	I-18-3
	Debbie Stempf	Reopener	I-14-1
		Spokane River Regional Toxics Taskforce	I-14-2
		PFAS Monitoring	I-14-3
	C. G. Sweeney	Reopener	I-12-1
		PFAS Monitoring	I-12-2
	James Tuck	Reopener	I-7-1
		Spokane River Regional Toxics Taskforce	I-7-2
		PFAS Monitoring	I-7-3
Agency			
Environmental Protection Agency	Susan Poulsom	Mixing Zone Flows	A-1-1
		PCBs	A-1-2

		PCB Monitoring Frequency	A-1-3
Organization			
Spokane Riverkeeper/Sierra Club	Jerry White, Jr	PCB Monitoring Frequency	O-1-2
		Reopener	O-1-6
		Spokane River Regional Toxics Taskforce	O-1-5
		PFAS Monitoring	O-1-7
		Limits	O-1-1
		Monitoring	O-1-3 , O-1-8
		Receiving Water Study	O-1-9
		Variance	O-1-4
Tribal Government			
Spokane Tribe of Indians	Chad McCrea	PCB Monitoring Frequency	T-1-1
		Reopener	T-1-2
Permit Applicant			
Spokane County Public Works	Robert Lindsay	Mixing Zone Flows	PA-1-23
		Spokane River Regional Toxics Taskforce	PA-1-15
		Limits	PA-1-2 , PA-1-3 , PA-1-4 , PA-1-28
		Monitoring	PA-1-5 , PA-1-6 , PA-1-7 , PA-1-8
		WET Testing	PA-1-9
		Pretreatment Monitoring	PA-1-10
		Typos and Formatting	PA-1-11 , PA-1-12 , PA-1-13 , PA-1-16 , PA-1-24 , PA-1-25 , PA-1-26 , PA-1-30 , PA-1-31 , PA-1-32
		Receiving Water Study	PA-1-14
		Clarifications	PA-1-17 , PA-1-18 , PA-1-19 , PA-1-20 , PA-1-21 , PA-1-22 , PA-1-29
		Dissolved Oxygen TMDL	PA-1-27
		Variance	PA-1-1

Comments and Responses

Comments and Responses are grouped together and organized by topic. Under each topic heading you can see all the comments Washington State Department of Ecology received for that topic followed by Washington State Department of Ecology's response to the comments under that topic. Where an individual response is required, the individual response specifies the comment number to which the response applies.

Comments on Mixing Zone Flows

Summarized Commenters: Environmental Protection Agency, Spokane County Public Works

Commenter: Susan Poulsom - Comment A-1-1

Fact Sheet Critical Discharge Conditions In the discussion of critical discharge conditions on Pages 28 and 29, the fact sheet explains that Ecology estimated the 7Q10 flow rate as 773 CFS, based on a study from the 1990s with an additional 200 CFS to account for additional flow mandated by the 2009 Federal Energy Regulatory Commission license for the Post Falls Dam. Table D-2 on Page 72 shows that the 30Q5 flow rate is 1082.2 CFS, which is 1.4 times the estimated 7Q10, and the harmonic mean flow rate is 2,319 CFS, which is 3 times the 7Q10. These estimates of the 30Q5 and harmonic mean as multiples of the 7Q10 are consistent with the discussion on Pages 88 and 89 of the EPA's Technical Support Document for Water Quality-based Toxics Control. These estimates are acceptable, however, as explained below, Ecology may want to consider alternatives that do not require estimation.

The definition of the term "critical condition" in WAC 173-201A-020 states that "For steady-state discharges to riverine systems the critical condition may be assumed to be equal to the 7Q10 flow event unless determined otherwise by the department" (emphasis added). This gives Ecology the flexibility to use critical low flows other than the 7Q10. The fact sheet explains, on Pages 28 and 29, that Ecology's permit writers' manual recommends using at least ten years of data to calculate the seven-day-average ten-year return period (7Q10) low river flow. In this case, only four water years of recent stream flow data (2018 - 2021) are available from USGS's operation of the Greene Street gauge (station # 12422000), with two years of additional data collected by Spokane Community College.

EPA guidance states that the 4B3 biologically based flow rate may be used in lieu of the 7Q10, and the 4B3 can be calculated using less data than the 7Q10. The four water years of available data should be adequate to calculate a 4B3 flow rate for the Greene Street gauge. With a short period of record, it is important to ensure that low flow conditions were observed. The annual mean flow rate for water year 2021 at USGS station number 12422500 (Spokane River at Spokane, WA) was the lowest since 2001, thus, using the recent Greene Street flow data will capture low-flow conditions. Thus, Ecology should consider using a 4B3 flow rate calculated from recent flow data measured at the Greene Street gauge as the critical condition, instead of the estimated 7Q10. Since the 4B3 flow rate is similar in magnitude to the 7Q10, if Ecology chooses to calculate a 4B3 flow rate for the Greene Street gauge, Ecology could estimate a 30Q5 flow rate by multiplying the 4B3 flow rate by a factor of 1.4.

Table 15 states that the 30Q5 flow rate was estimated as 3 times the estimated 7Q10 flow rate. However, as shown in Table D-2 on Page 72, the 30Q5 flow rate was actually estimated as 1.4 times the 7Q10 flow rate.

The listed flow rate of 2,319 CFS in Table 15 (three times the 7Q10) is actually the estimated harmonic mean flow rate. Table 15 should be corrected to state that the harmonic mean flow rate is listed.

Since the harmonic mean flow rate does not have an associated return period (e.g., 10 years for the 7Q10), a harmonic mean stream flow rate can be calculated from any number of stream flow measurements (although a larger sample size will reduce uncertainty). As explained above, 2021 was a low flow year, thus, Ecology should consider calculating a harmonic mean flow rate directly from recent flow data measured at the Greene Street gauge instead of estimating the harmonic mean flow rate.

Commenter: Robert Lindsay - Comment PA-1-23

Draft Fact Sheet Page 29, 3. Ecology must consider critical discharge conditions, fourth paragraph

- Use of the new critical flow of 773 cfs is stated to be conservative and “Ecology expects that a higher critical flow will result when there is enough data....” We agree and offered in Attachment C of the NPDES permit renewal application a critical flow of “at least 800 cfs.”
- The use of the conservative critical flow results in unnecessarily restrictive effluent limits.
- Additionally, since the permit renewal application was submitted, the summer 2021 river flows were measured. Similar to previous years since the FERC relicensing, minimum discharge at USGS gage near Post Falls in the end of August was reduced to 500 cfs (7-day average low flow). The corresponding 7-day average low flow at USGS gage 12422000 above Greene Street was 829 cfs (data are provisional).
- The consistent relationship between low flow discharges near Post Falls and above Greene Street represent the new low flow conditions at the SCRWRf outfall. The Draft Permit should be revised to use a receiving water critical flow of at least 800 cfs.

Ecology’s Response to Mixing Zone Flows

Thank you for your comments. Ecology calculated flows that are protective until there is enough verified, reliable data collected from the USGS gauge to calculate either the 7Q10 or 4B3 flow rate for use in the reasonable potential calculations. Ecology reviewed the data available at the Green Street Gauge 12422000. There are only four years of data collected by the USGS and one year of that data is provisional. USGS recommends against using provisional data in the Surface Water Toolbox Model.

There are a couple of additional years of data collected by the students at the local community college. Ecology is unable to use this data for permit calculations as it was not collected under an approved quality assurance project plan.

Ecology did not make any change to the Fact Sheet or the Permit.

Comments on PCB Monitoring Methods

Summarized Commenters: Environmental Protection Agency

Commenter: Susan Poulson - Comment A-1-2

Total PCB Analytical Methods. The discussion of total PCB analytical methods beginning on Pages 49 and 50 of the fact sheet should include EPA Method 1628. This is a PCB congener method which was published in July 2021, and which has undergone multi-laboratory validation, although it has not yet been approved under 40 CFR Part 136 for use in NPDES permit compliance monitoring.

Ecology's Response to PCB Monitoring Methods

Thank you for your comment. Ecology has added EPA Method 1628 to the list of PCB analytical methods in the Fact Sheet Section IV.D Total PCB analytical methods and Table 29.

Comments on PCB Monitoring Frequency

Summarized Commenters: Environmental Protection Agency, Spokane Tribe of Indians, Spokane Tribe of Indians, Spokane Riverkeeper/Sierra Club

Commenter: Susan Poulson - Comment A-1-3

In Table 14, the draft permit requires effluent monitoring for PCBs using method 1668 at a frequency of once per year. This contrasts with the draft permit for the Liberty Lake Sewer and Water District, which is a smaller facility and requires effluent monitoring for PCBs using method 1668 twice per year (see the Liberty Lake Sewer and Water District permit at Table 10). Sampling twice per year would result in 10 samples being collected over the 5-year permit term. The EPA's Technical Support Document for Water Quality-based Toxics Control indicates, on Page 53, that 10 data points is the minimum necessary to calculate a standard deviation or mean of effluent data with sufficient confidence. Ecology should require effluent monitoring for PCBs using method 1668 at least as frequently as required in the Liberty Lake Sewer and Water District permit.

Commenter: Jerry White, Jr - Comment O-1-2

The draft is written to sample for PCB in Waste Water Influent twice a year. We ask that this occur at a frequency of once per month.

Commenter: Chad McCrea - Comment T-1-1

The Tribe recognizes the current loophole in the enforcement of PCB water quality standards eloquently described by Justice Gonzalez dissenting in Puget Sound Keeper v. Dep't of Ecology, et al., 191 Wn.2d 631, 646-653 (2018). This as interpreted by Ecology requires that enforcement monitoring for PCBs only be conducted with a method that cannot detect down to the water quality standards for PCBs, method 608. PCBs are currently an unenforceable limit in Ecology's view.

With that said, it is critically important that Ecology revise these draft permits to include appropriate monitoring for PCBs utilizing Method 1668 or an equal and similar method for all monitoring purposes, most importantly the FINAL EFFLUENT. This is an appropriate use of Method 1668. *Nw. Pulp & Paper Ass'n v. Dep't of Ecology*, No. 55164-1-II, 2021 Wash. App. LEXIS 2970, at *7–8 (Ct. App. Dec. 14, 2021).

It is important that all discharges, including the final effluent from these facilities, into the Spokane River be monitored at the very least on a quarterly basis for PCBs appropriately for three important reasons.

First, the PCB TMDL will be completed by the EPA and will include appropriate Waste Load Allocations (WLA) for PCBs. The data EPA uses to develop the WLAs should be the best quality possible to increase the PCB TMDL's effectiveness. Requiring the entities that discharge toxic pollution into the Spokane River to monitor their effluent at all discharge points will help gather the most relevant and current data and will in turn make the PCB TMDL more accurate.

Second, apart from the numeric limits for PCBs, Ecology has narrative limits that must be monitored which Method 1668 can assist with. The following applies to all NPDES permits.

(b) Human health protection. The following provisions apply to the human health criteria in Table 240. All waters shall maintain a level of water quality when entering downstream waters that provides for the attainment and maintenance of the water quality standards of those downstream waters, including the waters of another state. The human health criteria in the tables were calculated using a fish consumption rate of 175 g/day. Criteria for carcinogenic substances were calculated using a cancer risk level equal to one-in-one-million, or as otherwise specified in this chapter. The human health criteria calculations and variables include chronic durations of exposure up to seventy years. All human health criteria for metals are for total metal concentrations, unless otherwise noted. Dischargers have the obligation to reduce toxics in discharges through the use of AKART.

WAC 173-201A-240(b) (emphasis added). Here, the Tribe is a downstream state (with a PCB water column standard of 1.3 pg/L) and Method 1668 monitoring of effluent can help provide data on whether this standard can be attained and maintained under the permit conditions.

Third, 40 C.F.R. Section 122.4(d) requires that: "No permit may be issued: (d) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States." Again, the Tribe is an "affected" State for purposes of the Clean Water Act and requiring Method 1668 for final effluent monitoring will allow the Tribe and the EPA to better monitor the effectiveness of the permit conditions.

Ecology's Response to PCB Monitoring Frequency

Thank you for your comments. Ecology has updated the permit S2, Tables 5 and 6 to require EPA Method 1668c for quarterly monitoring of the influent and effluent.

Comments on Reopener

Summarized Commenters: Susan Amstadter, James Cronin, Paulette Hines, Deanna Camp, Wendy, Marc Fryt, James Tuck, Alex Richardson, Barry Chapman, Kirsten Angell, Bridget Curran, C. G. Sweeney, Claudia Hume, Debbie Stempf, Spokane Tribe of Indians, John McKee, Spokane Riverkeeper/Sierra Club, Amy Compestine, Sheri Lattimore, Gary Rogers, Jonathan Keeve, Charlie Martin, James Cronin, Hollis Higgins, Carla Brooks

Commenter: Wendy - Comment I-5-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Susan Amstadter - Comment I-1-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Kirsten Angell - Comment I-10-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Carla Brooks - Comment I-23-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Deanna Camp - Comment I-4-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Barry Chapman - Comment I-9-1

1. This permit should include a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facility in question.

Commenter: Amy Compestine - Comment I-16-1

1. Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: James Cronin - Comment I-2-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: James Cronin - Comment I-21-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Bridget Curran - Comment I-11-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Marc Fryt - Comment I-6-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Hollis Higgins - Comment I-22-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Paulette Hines - Comment I-3-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Claudia Hume - Comment I-13-1

1. Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Jonathan Keeve - Comment I-19-1

1. Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Sheri Lattimore - Comment I-17-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Charlie Martin - Comment I-20-1

1. Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: John McKee - Comment I-15-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Alex Richardson - Comment I-8-1

Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Gary Rogers- Comment I-18-1

Each of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopening if/when the State standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Debbie Stempf - Comment I-14-1

1. Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: C. G. Sweeney - Comment I-12-1

Given the urgency of protecting the Spokane River with enforced clean water standards, each permit granted should include a reopener clause, or similar language, to guarantee compliance when the state standard for PCBs is revised to Fed Standard of 7 pg/L and/or if the PCB TMDL is approved in 2024. Also require a Waste Load Allocation (limit) for the facilities in question.

Commenter: James Tuck - Comment I-7-1

1. Every one of these permits needs to have a "reopener clause" or definite language that will trigger an absolute reopener when the state standard for PCBs is revised to 7 pg/L and/or the PCB TMDL is approved in 2024 and requires a Waste Load Allocation (limit) for the facilities in question.

Commenter: Jerry White, Jr - Comment O-1-6

NPDES Permit must have automatic and specific re-opener clauses:

Spokane County, Fact Sheet, In the proposed Permit Limits, Section III C, Page 25 states that:

General condition G3 of the permit allows Ecology to modify, revoke, reissue or terminate a permit under certain conditions. One of the conditions includes the promulgation of new or amended standards or regulations having a direct bearing upon permit conditions or requiring permit revision.

When EPA finalizes its new rule, Ecology will evaluate the impact to the permit resulting from any changes to the criteria. Ecology will then take appropriate actions, which could include modifying the current permit or including new requirements in the next permit issuance.

We ask that specific requirements be created inside the permit that directly and affirmatively states that upon adoption of the federally promulgated Human Health Criteria of 7 pg/L, the NPDES Permits for both Liberty Lake Sewer and Water as well as Spokane Co Public Works will be reopened, and the new standard will be written into the permits in all pertinent and applicable places. We would ask that this be written as a re-opener clause that automatically reopens the NPDES permits to:

1. Conform to the federal or State promulgation of a new Human Health Criteria and Water Quality Criteria for any number of parameters to include PCBs.
2. To the development of a new Total Maximum Daily Load for PCBs and the attendant Waste Load Allocations for permitted PCB pollution.
3. The federal or State promulgation of a new Aquatic Life Criteria for toxics

Commenter: Chad McCrea - Comment T-1-2

This permit should account for the uncertainty presented by developing permits when the very standards used to develop the permits are subject to two separate lawsuits and an EPA administrative process, along with the development of a PCB TMDL. The permits should include an automatic reopener to address any discrepancies that arise if the water quality standards change during the term of these permits and when WLAs are finalized.

Ecology's Response to Reopener

Thank you for your comments. General Condition G3 allows Ecology to modify a permit for changes in water quality criteria or the development of a TMDL. Ecology has modified the language in permit condition G3 to state that Ecology will reopen the discharge permits when EPA finalizes a change to the Human Health Criteria. For the TMDL and Aquatic Life Criteria, Ecology will evaluate the situation and consider the timing for those actions. Ecology may reopen the permits during the current 5-year cycle or include the new requirements in the next permit cycle, depending on when the action occurs with respect to the permit cycle.

Comments on Spokane River Regional Toxics Taskforce

Summarized Commenters: Susan Amstadter, James Cronin, Paulette Hines, Deanna Camp, Wendy, Marc Fryt, James Tuck, Alex Richardson, Barry Chapman, Kirsten Angell, Bridget Curran, Claudia Hume, Debbie Stempf, John McKee, Spokane County Public Works, Spokane Riverkeeper/Sierra Club, Amy Compestine, Sheri Lattimore, Gary Rogers, Jonathan Keeve, Charlie Martin, James Cronin, Hollis Higgins, Carla Brooks

Commenter: Wendy - Comment I-5-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Susan Amstadter- Comment I-1-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Kirsten Angell - Comment I-10-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Carla Brooks - Comment I-23-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Deanna Camp - Comment I-4-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Barry Chapman - Comment I-9-2

2. End the mandatory participation of this pollution discharger in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Amy Compestine - Comment I-16-2

2. End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: James Cronin - Comment I-2-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: James Cronin - Comment I-21-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Bridget Curran - Comment I-11-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Marc Fryt - Comment I-6-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Hollis Higgins - Comment I-22-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Paulette Hines - Comment I-3-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Claudia Hume - Comment I-13-2

2. End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Jonathan Keeve - Comment I-19-2

2. End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Sheri Lattimore - Comment I-17-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Charlie Martin - Comment I-20-2

2. End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: John McKee - Comment I-15-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Alex Richardson - Comment I-8-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Gary Rogers - Comment I-18-2

Please, end the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Debbie Stempf - Comment I-14-2

2. End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: James Tuck - Comment I-7-2

End the mandatory participation of these pollution dischargers in the Spokane River Regional Toxics Task Force as it is no longer a community-based process.

Commenter: Robert Lindsay - Comment PA-1-15

Page 54, S16.B, Community Based Toxics Reduction

Spokane County supports the concept of Community Based Toxics Reduction, but not via the Spokane River Regional Toxics Task Force (Task Force). The Task Force was proposed and developed by local NPDES permittees to conduct a voluntary alternative to a traditional TMDL process to identify and reduce sources of PCBs in the Spokane River. Now that the EPA has committed to develop a TMDL for PCBs in the Spokane River, the fundamental purpose for voluntarily participating in the Task Force has been eliminated. Nevertheless, the Task Force has performed excellent technical work in documenting the fate and transport of PCBs in the watershed and Spokane County sees value in continuing the process.

Spokane County recommends Ecology lead a coordinated multi-agency effort to re-engage tribes, NGOs and other stakeholders to identify sources of PCBs and other toxics in the watershed. But, this process should not be imposed in this NPDES Permit. Federal or state funding of projects to reduce toxics in the watershed could be an open process via grants to various qualified organizations to conduct projects as appropriate rather than imposing these costs on Spokane County and other permittees. If Ecology believes that a watershed-based approach is necessary for the River, it is unreasonable to impose all of that burden on Spokane County and the other dischargers – especially when this Permit already contains significant requirements and corresponding costs.

Commenter: Jerry White, Jr - Comment O-1-5

Cut the SRRTTF requirement:

Omit the requirement to take part in the Spokane River Regional Toxics Task Force. The SRRTTF should be dissolved.

Ecology's Response to Spokane River Regional Toxics Taskforce

Thank you for your comments. We believe the current situation is an opportunity for Ecology to work towards a more inclusive organization and advisory process. Ecology has also found that SRRTTF activities contributed to a better understanding of PCBs in the Spokane River and the collaborative actions of SRRTTF members were responsible for reducing sources of PCBs to the river.

Ecology modified Section S16. B of the permit to require participation in the Spokane River Regional Toxics Task Force pending the formation of an Ecology-approved citizen advisory organization. This will provide permittees with the ability to work collaboratively on BMPs while Ecology initiates the process to create a more inclusive advisory group.

Comments on PFAS Monitoring

Summarized Commenters: Susan Amstadter, James Cronin, Paulette Hines, Deanna Camp, Wendy, Marc Fryt, James Tuck, Alex Richardson, Barry Chapman, Kirsten Angell, Bridget Curran, C. G. Sweeney, Claudia Hume, Debbie Stempf, John McKee, Spokane Riverkeeper/Sierra Club, Amy Compestine, Sheri Lattimore, Gary Rogers, Jonathan Keeve, Charlie Martin, James Cronin, Hollis Higgins, Carla Brooks

Commenter: Wendy - Comment I-5-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Susan Amstadter - Comment I-1-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Kirsten Angell - Comment I-10-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Carla Brooks - Comment I-23-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Deanna Camp - Comment I-4-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Barry Chapman - Comment I-9-3

3. Include language that insures testing for PFAS toxics in the pollution effluent coming out of the discharge pipe(s) of this facility.

Commenter: Amy Compestine - Comment I-16-3

3. Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: James Cronin - Comment I-2-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: James Cronin - Comment I-21-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Bridget Curran - Comment I-11-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Marc Fryt - Comment I-6-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Hollis Higgins - Comment I-22-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Paulette Hines - Comment I-3-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Claudia Hume - Comment I-13-3

3. Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Jonathan Keeve - Comment I-19-3

3. Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Sheri Lattimore - Comment I-17-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Charlie Martin - Comment I-20-3

3. Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: John McKee - Comment I-15-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Alex Richardson - Comment I-8-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Gary Rogers - Comment I-18-3

Additionally, please test for PFAS toxins in the pollution effluent coming out of the WWTP.

Commenter: Debbie Stempf - Comment I-14-3

3 _ Please test for PFAS toxics in the pollution effluent coming out of the WWTP

Commenter: C. G. Sweeney - Comment I-12-2

In each case for each discharger listed above, a test for PFAS toxics in the pollution effluent should also be included.

Commenter: James Tuck - Comment I-7-3

Please test for PFAS toxics in the pollution effluent coming out of the WWTP.

Commenter: Jerry White, Jr - Comment O-1-7

Please add PFAS to the list of Persistent Bioaccumulative Toxins (PBT) and require monitoring and reporting to the public:

Perfluorinated chemicals are finally being recognized as a persistent and present danger to our communities and our waters and their ecosystems. Additionally, they are being identified in wastewater treatment systems, biosolids, sewers, and stormwater systems.

The CWA states clearly that it aims to prevent, reduce, and eliminate pollution in the nation's water in order “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters,” and to achieve “wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water. 33 §U.S.C. 1251(a) and (a)(2)”

We can find no reference in the draft permits to the potential discharge of, or pollutants called per-and polyfluoroalkyl substances. We ask that Ecology incorporate testing/monitoring for per-and polyfluoroalkyl substances - PFAS, a group of chemicals commonly known to be in wastewater and now commonly found in human blood and tissue. PFAS should be incorporated into the Toxics Management Plans, data from sampling the influent, effluent, and receiving waters should be collected and BMPs should be developed over the cycle of this permit. Further, these aspects of the permit should be folded into the Toxics Reduction Strategies.

As per the CWA and EPA guidance, the permits should address all pollutants known to threaten our waters and their ecological integrity. Therefore, the permit should require that IEPs WWTP test for PFAS.

Please see EPA statements on their future ambitions and strategic directions with regards to finding and preventing PFAS from entering our ground and surface waters. Monitoring of receiving waters should be included in this permit as well as monitoring of CSOs, Biosolids, pretreatment influents, and wastewater effluent.

Ecology’s Response to PFAS Monitoring

Thank you for your comments. While PFAS is of concern in the Spokane area, the primary PFAS impacts are associated with groundwater and drinking water contamination in the area near Fairchild AFB, west of the Spokane aquifer and river. In 2016 Ecology conducted a statewide study that provides data about Spokane River water, fish and wastewater treatment plant effluent. Compared to other waterbodies, the Spokane River has some of the lowest concentrations of PFAS in the state. The concentrations of PFAS in fish are below DOH's level of concern for high fish consumers. PFAS concentrations in effluent are in the median range compared to other wastewater treatment plants.

We currently do not have federal criteria for regulating PFAS discharges under the Clean Water Act. However, the Department of Health recently passed regulations that establish monitoring and State Action Levels for PFAS in public water systems. Should PFAS be discovered in Spokane public water systems, the public water system operators are required to report, investigate the cause of contamination, and take action.

Ecology did not require PFAS (and related chemicals) monitoring in this permit. However, because PFAS in Spokane drinking water supplies would be a source to wastewater treatment plants, we will track the situation and evaluate next steps should PFAS be discovered in the Spokane public water systems or EPA issues a drinking water standard for PFAS.

Comments on Limits

Summarized Commenters: Spokane County Public Works, Spokane Riverkeeper/Sierra Club

Commenter: Robert Lindsay - Comment PA-1-4

Ammonia limits for average month and maximum day: The SCRWRF consistently treats ammonia to a low level making the average month and maximum day effluent limits added to this Draft Permit inappropriate and unreasonable. The reasonable potential calculation in the Draft Fact Sheet uses a higher effluent ammonia concentration than what typically occurs in the effluent. Using a 95th percentile effluent concentration or even a 99th percentile concentration returns no reasonable potential and no limits are required. The average month and maximum day effluent limits for ammonia should be deleted from the Draft Permit.

Page 8, Table 2: Total Ammonia (As NH₃-N)

- The proposed ammonia average month and maximum day effluent limits are not appropriate and should be deleted.
- The SCRWRF has consistently removed ammonia from its effluent. From the September 2015 through August 2020 effluent data that the County used to develop the permit renewal application, the 95th percentile concentration was 1 mg/L and the 99th percent was 2.5 mg/L. Updating the RPA calculator on page 74 of the Draft Fact Sheet with either of these effluent concentration results in no reasonable potential to violate the water quality standard and no effluent limits are need.
- Further, Attachment G to the SCRWRF NPDES permit renewal application described using effluent and receiving water data that there is no reasonable potential for exceedances of ammonia toxicity and that daily or monthly limits are not needed.

Ecology's Response to Comment PA-1-4

Thank you for your comment. Ecology included permit limits for average and maximum ammonia in the previous permit. Additionally, the alternative seasonal wasteload was based maximum month limit of 16 mg/L. That limit results in a reasonable potential for ammonia toxicity at the edge of the mixing zone. While Ecology agrees that the Spokane County treatment facility efficiently removes ammonia, the previous permit limit must be updated to adequately reflect the toxicity limit for ammonia. Based on the data provided by Spokane County during the past five years, the County will not be at risk for exceeding the revised limit. No change was made to the permit.

Commenter: Robert Lindsay - Comment PA-1-28

Draft Fact Sheet Page 47, Table 26: Comparison of Previous and Proposed Effluent Limits for Outfall #001 – pH

- The pH limits in the 2011 permit were water quality based, not technology based (see 2011 Fact Sheet page 33).
- Please revise the table to describe the 2011 pH limit as WQBEL.

Ecology's Response to Comment PA-1-28

Thank you for your comment. Ecology reviewed the previous fact sheet. The pH limit had a water quality based effluent limit for the lower limit (7.0 standard units) and technology based limit for the upper limit (9.0 standard units). Ecology added this clarification to Fact Sheet Table 26.

Commenter: Robert Lindsay - Comment PA-1-2

Cadmium, Lead, and Zinc Limits: The County requests removal of the proposed cadmium effluent limit because the Spokane River is no longer impaired for cadmium. The County requests that Ecology retain the lead and zinc effluent limits from the previous permit. Because the SCRWRf effluent is well below the surface water quality criteria for lead and zinc, more stringent limits for these parameters is not appropriate. By way of comparison, the Cd, Pb, and Zn effluent limits in the draft permit for Kaiser Aluminum are higher than the proposed SCRWRf effluent limits. There is no reasonable basis for Ecology to impose more stringent limits on the County when both Kaiser and the County discharge to the Spokane River and when the SCRWRf effluent is well below the water quality criteria for these parameters.

Page 8, S1, Table 2: Metals (Cadmium, Lead, and Zinc)

- The County requests modifications of the proposed lower effluent limits for cadmium, lead, and zinc. Justification for modifications of the proposed limits includes:
- The 1999 Spokane River TMDL was developed to achieve compliance with the cadmium water quality standard. Because the Spokane River is no longer impaired for cadmium (i.e., meets the water quality standard), the cadmium effluent limit should be deleted. Alternatively, the permit should retain the existing cadmium effluent limit in the 2011 SCRWRf NPDES permit.
- Additionally, the Draft Fact Sheet at page 77 establishes there is no reasonable potential for cadmium impairment due to the SCRWRf discharge and, therefore, a limit is not needed. As stated above retaining the cadmium limit from the previous permit would be an acceptable alternative.
- Effluent limits for cadmium, lead, and zinc can be set for the SCRWRf using an end-of-pipe toxicity calculation similar to that currently used for Kaiser Aluminum. Kaiser Aluminum and SCRWRf have similar effluent hardness which would result in similar end-of-pipe calculated limits. As an alternative, the permit limits in the existing permit can be retained.

Ecology's Response to Comment PA-1-2

Thank you for your comment. The TMDL for Cadmium Lead and Zinc provides the guidance for implementing the TMDL into the permit. Each facility discharging to the Spokane River is evaluated per the implementation requirements in the TMDL. The approved TMDL instructs Ecology to apply the most stringent of either the evaluation of performance based data plus 10% or end of pipe limits calculated as directed. Until Ecology revises or withdraws the Cadmium, Lead, and Zinc TMDL, Ecology must implement the water quality improvement plan in the permits on the Spokane River. No changes were made to the limits for Cadmium, Lead, and Zinc.

Commenter: Robert Lindsay - Comment PA-1-3

Polychlorinated Biphenyls (PCBs) Limit: Based on a reasonable potential analysis calculation (page 77 of the Draft Fact Sheet), the SCRWRf should not have numeric PCB effluent limits. Because there is no reasonable potential for the SCRWRf to exceed the PCB water quality standard, the proposed numeric effluent PCB limits should be deleted from the Draft Permit.

- Page 8, S1, Table 2: PCBs (Total) limits
- Based on the reasonable potential analysis calculation contained on page 77 of the Draft Fact Sheet, the SCRWRf should not have numeric PCB effluent limits. The proposed numeric effluent PCB limits should be deleted from the Draft Permit. Additional factors related to PCB effluent limits include:
- Narrative water quality standards for PCBs, based on the fish harvest usage, may be appropriate in the permit because PCBs are known to be present in the effluent.
- If the effluent PCB limits are retained, Ecology should set limits based on the highest attainable condition (HAC) as detailed in the Spokane County PCB variance application submitted at Ecology's request in April 2019.
- If the effluent PCB limits are retained as written in this Draft Permit, Spokane County requires either a ten-year compliance schedule or a variance consistent with the County's Variance application to allow the County time within which to evaluate additional action that may be needed for consistent compliance with the limits.

Ecology's Response to Comment PA-1-3

Thank you for your comment. The variance is a rulemaking process and is separate from the permit reissuance. On June 12, 2019, Ecology initiated the variance rulemaking using the 2016 PCB standards that were in effect at that time. On June 12, 2020, these standards were rolled back by EPA and no longer in effect. Because of this Ecology is unable to move forward with the variance applications and has not made a decision on the variance request. The highest attainable condition (HAC) is a component of the variance process and will not be addressed in the permit unless Ecology adapts the Variance.

The discharge has a reasonable potential to contribute to violations of the water quality narrative criteria for PCBs, based on the fish harvest usage, because of the Department of Health fish advisory and PCBs are known to be present in the effluent. With respect to the end of pipe limits, Ecology evaluated all of the data submitted by Spokane County. The performance based limits would be Average Monthly Effluent Limit 134 pg/L and Maximum Daily Effluent Limit 310 pg/L. There is no indication based on the evaluation of the data submit by Spokane County for the last five years that a compliance Schedule would be needed. The following provides the results of the evaluation:

Figure 2: PCB Performance based Effluent Limits

INPUT	
LogNormal Transformed Mean:	4.0691
LogNormal Transformed Variance:	0.5155
Number of Samples per month for compliance monitoring:	4
Autocorrelation factor (n_a) (use 0 if unknown):	0
OUTPUT	
$E(X) =$	75.7040
$V(X) =$	3865.062
$VARn$	0.1558
$MEANn =$	4.2489
$VAR(Xn) =$	966.266
RESULTS	
Maximum Daily Effluent Limit (pg/L):	311
Average Monthly Effluent Limit (pg/L):	134

Figure 3: Log Normal Transformed Mean and Variance

Data pg/L	Ln()
39	3.664
44	3.784
19	2.944
52	3.951
220	5.394
171	5.142
304	5.717
23	3.135
29	3.367
55	4.007
90	4.500
43	3.761
39	3.664
42	3.738
114	4.736
65	4.174
86	4.454
27	3.296
59	4.074
59	4.078
48	3.871
Mean	4.069
Variance	0.515

Commenter: Jerry White, Jr - Comment O-1-1

Comments on Discharge Effluent Limits for PCBs:

PCBs are toxic chlorinated chemicals that are at once a carcinogen as well as endocrine disrupters. These chemicals are found in the effluent of both pollution dischargers and are currently at levels that cause and contribute to water quality violations of the Washington State Water Quality Standard (WQS) as well as the Spokane Tribal WQS for the Spokane River. PCBs bioaccumulate in the food chain and cause a disruption in the human uses of fishing and cause biological problems in the receiving food web and aquatic ecosystems. The Spokane River currently violates the HHC and many portions of the river for surface WQS. Additionally, discharges of PCBs from both facilities contribute to violations of the downstream water quality standard of the Spokane Tribe (which has a WQS of 1.3 pg/L).

This numerical effluent limit represents progress in moving NPDES permittees to a measurable, legally defensible standard for the discharge of toxic PCBs into the States surface waters.

SC [Sierra Club] and SRK [Spokane Riverkeeper] appreciate and support the Washington State Department of Ecology (WDOE) using numeric limits for Total PCBs in the effluent of Spokane County and Liberty Lakes discharges to the Spokane River. We appreciate and support the (average monthly) numeric effluent limit of 170 picograms per liter at the end of outfall 001 for Spokane County, and outfall 001 of Liberty Lake Sewer & Water as the limit conforms to the Washington State water quality standard (WQS).

Moving to a numeric effluent standard at outfalls has been a benchmark that has been requested by numerous stakeholders since and prior to the NPDES permit being issued for all Spokane River dischargers in 2011. Notably, the 2011 permit was absent numeric effluent limits for PCBs.

However, we have found differences between facilities and the permits regarding final effluent and maximum daily numeric limits. Liberty Lakes outfall has a maximum daily limit is 341 pg/liter. Spokane County has Maximum Daily limit is 414 pg/L. This represents a difference of 73 pg/L between the two Maximum Daily limits for the WWTPs. We ask that your make the daily maximum limit a uniform 340 PG/L for both facilities.

Ecology's Response to Comment O-1-1

Thank you for your comment. Ecology calculates the maximum daily concentration as identified in Appendix D of the Fact Sheet. This calculation depends on the coefficient of variation (Cv) of the data collected and reported by the facility. The Spokane County facility collected 21 samples during the evaluation period. This requires that Ecology calculate the actual Cv. This value is dependent upon the mean of the number of samples collected and the standard deviation. This value is different for each data set. As a result, the maximum daily effluent limit varies from facility to facility depending on the Cv for the data reported. Ecology did not make changes to the maximum daily effluent limit for the Spokane County Permit.

Comments on Monitoring

Summarized Commenters: Spokane County Public Works, Spokane Riverkeeper/Sierra Club

Commenter: Robert Lindsay - Comment PA-1-5

Page 8, S1, Table 2: Fecal Coliform and E. coli testing

- It is excessive to have two types of bacteria sampling in the effluent through the permit term. The required transition to E. coli sampling is understood, but, following the transition, please delete the fecal coliform testing and limits from the permit requirements.

Ecology's Response to Comment PA-1-5

Thank you for your comment. Ecology made changes to the permit S2 Table 6 requiring that Spokane County complete sampling for both fecal Coliform and E.coli for the first two years of the permit. Ecology added a statement to S1 Table 2 Fecal Coliform Bacteria limit indicating that it is only effective until the E.coli limits becomes effective.

Commenter: Robert Lindsay - Comment PA-1-6

Page 12 and 14, S2, Tables 5: Footnote h

- This footnote requires clarification in regards to sampling requirements during weeks with holidays. For example, if there is a holiday during the week, are only four samples required that week? What holidays are included? Often, sampling or testing is required 3 days a week, excluding weekends and holidays, to avoid this confusion. Please consider the following revision: 5/week means five times during each calendar week except weekends and federal holidays. If one or more federal holidays falls during a week day, it is acceptable to sample less than 5 times per week.

Ecology's Response to Comment PA-1-6

Thank you for your comment. S2, Table 5 Footnote h is for quarterly sampling. Footnote g for Table 5 is for five times per week sampling. Table 6 Footnote h is for five times per week sampling. The Footnote already indicates that five times per week sampling applies to each calendar week except weekends and holidays. Ecology made the following clarification to S2 Table 5 Footnote g and Table 6 Footnote h.

5/week means sampling five times in every week except those weeks with Washington State recognized holidays. Weeks with recognized holidays will have 5/week minus the number of recognized holidays in the given week.

Commenter: Robert Lindsay - Comment PA-1-7

Page 13: Dissolved Oxygen, continuous monitoring

- Spokane County cannot comply with this provision because its plant does not currently have DO effluent continuous monitoring instruments. The instruments to monitor DO may require a new housing cabinet on the effluent line and, given the current supply-chain issues in the United States, the continuous monitoring instruments and components may not be quickly available to order. Consequently, the Permit must be revised to include a provision that gives the County a reasonable period of time following the effective date of the permit within which to install the necessary monitoring equipment. Please revise the Draft Permit to allow one year following the effective date of the permit to install the necessary equipment to continuously monitor effluent dissolved oxygen.

Ecology's Response to Comment PA-1-7

Thank you for your comment. Ecology added a note to S2 Table 6 that Spokane County must sample DO manually 5/week. The continuous DO instrument must be installed within a year of the permit effective date.

Commenter: Robert Lindsay - Comment PA-1-8

Pages 14 and 15, S2, Table 6: Footnotes

- Footnote e
 - 7DAD Max is currently calculated using the day plus the six days prior. The Draft Permit changes that calculation to three days prior plus three days after. The current calculation allows for "real-time" calculation of the value and is already used in the SCRWRf databases. Please retain the six day prior calculation method.
- Footnote h
 - This footnote requires clarification in regards to sampling requirements during weeks with holidays. For example, if there is a holiday during the week, are only four samples required that week? What holidays are included? Often, sampling or testing is required 3 days a week, excluding weekends and holidays, to avoid this confusion. Please consider the following revision: 5/week means five times during each calendar week except weekends and federal holidays. If one or more federal holidays falls during a week day, it is acceptable to sample less than 5 times per week.
- Footnote k
 - Footnote l is included in footnote k text. Please separate the two footnotes. Footnote l is included in footnote k text. Please separate the two footnotes.
- Footnote p
 - Footnote p appears to be unused and can be deleted.

Ecology's Response to Comment PA-1-8

Thank you for the comments.

- Footnote e provides the calculation method as identified in WAC 173-201A-020 Definitions. Ecology may not change a WAC definition in a permit. No change was made to Footnote e.
- Footnote h has been clarified per Ecology's response to Comment PA-1-6.
- Footnote k and l have been separated.
- Footnote p was added to the quarterly sampling frequency for PBDEs and PCBs.

Commenter: Jerry White, Jr - Comment O-1-8

Fact Sheet - Spokane Co. Page 36, Section F, PBDEs: We ask that the frequency of monitoring (section S2.A. Monitoring Schedule Liberty Lake (pg 12) and Spokane County (Pg 11) be carried out once/month rather than twice per year as currently written in the draft permit.

Commenter: Jerry White, Jr - Comment O-1-3

Compliance Test Method for PCBs:

We would recommend that the total PCB loads from both Spokane County and Liberty Lake outfalls be monitored for compliance with test method 1668c rather than the test method 608.3 as stated in the draft permit. The method, while not approved for compliance by the EPA, does have a much more accurate read on the actual type, and amounts of PCBs being discharged from outfalls. The 608c test method would allow for a false sense of compliance and therefore illegally pollute the States waters and human health criteria thereby downgrading the designated uses of fishing. The test method 608c test is not accurate enough to accurately assess compliance with RCW.90.48.520

For test method 608 the detection limit for PCBs is 0.065 parts per billion (ug/L). This means that the detection limit is 65,000 parts per quadrillion (picograms/Liter). However, the human health criteria (HHC) limit is set at only 170 parts per quadrillion (pg/l) to protect the health of the public. In other words, test method 608 is not sensitive enough to adequately detect whether the WQS for PCBs is being met at the end of the outfall pipe. This leaves a public, who is entitled to be able to consume fish (designated use) without risk to their health, vulnerable to bioaccumulated toxics. According to the EPA, PCBs have been established to have negative health effects when consumed at very low levels. They cause cancer, they have negative impacts on the reproductive and endocrine system and they cause disruption to the immune system. According to the Department of Health fish consumption advisories, the public is at risk of consuming unhealthy levels of PCBs that have bioaccumulated into Spokane River fish. This makes the detection and effective regulation of PCBs being dumped into the Spokane River extremely important.

Ecology's Response to Monitoring

Thank you for your comments. Ecology changed the sampling for PBDEs and PCBs in S2 using high resolution Methods 1614 and 1668 respectively to quarterly for Spokane County. The compliance method remains Method 608, the 40 CFR Part 136 approved method.

Comments on WET Testing

Summarized Commenters: Spokane County Public Works

Commenter: Robert Lindsay - Comment PA-1-9

- Page 15, S2, Table 7: Acute and Chronic Toxicity testing, footnote a
 - The testing frequency is stated as semiannually but footnote "a" provides a schedule for quarterly testing. Please correct footnote "a" to describe semiannual testing.

Ecology's Response to WET Testing

Thank you for your comment. The semiannual testing was a typo. Ecology corrected this in Permit Section S14. C and S15.C. Ecology changed Permit Section S2 Table 7 Footnote "a" to the following:

^a 1/quarter sampling periods are January through March, April through June, July through September, and October through December. The Permittee must take samples in a different month for each sampling period beginning after the permit is issued. The Permittee must begin quarterly monitoring for the quarter beginning on 7/1/2022 and submit results when the specific quarter is due. Quarters are due by April 15, July 15, October 15, and January 15.

Comments on Pretreatment Monitoring

Summarized Commenters: Spokane County Public Works

Commenter: Robert Lindsay - Comment PA-1-10

Pages 15-17, S2, Pretreatment Monitoring Requirements

- Change sampling of outfall of the primary clarifier to sampling of effluent (last paragraph on page 15).
- Oil and Grease
 - Spokane County has no local limits for Oil and Grease. Please delete the monitoring for this parameter.
- Table 8, pH
 - Influent pH is monitored continuously under the NPDES permit. Additional grab pH grab sampling for pretreatment is unnecessary. Please delete this monitoring requirement.
- Table 10, pH
 - The County is not aware of a pH monitoring requirement in biosolids. Please delete this requirement.
- Table 10, Total Dissolved Solids
 - The County is not aware of a TDS monitoring requirement in biosolids. Please delete this requirement.
- Footnote e
 - Once per year sampling is not currently conducted in rotating quarters. This new requirement to rotate quarters is acceptable, but not preferred because it complicates sample scheduling. Please delete this requirement to rotate quarters, if allowable.

Ecology's Response to Pretreatment Monitoring

Thank you for your comments.

- Ecology removed the requirement to sample at the effluent from the primary clarifier from S2 Table 10, Pretreatment Monitoring Requirements.
- Pretreatment monitoring requires that Spokane County monitor for oil and grease. Ecology did not remove this requirement.
- Ecology removed the sampling requirement for pH in the biosolids from the permit S2 Table 10.
- Spokane County is sampling metals in the biosolids. As a result, Ecology removed the TDS sampling requirement for biosolids from S2 Table 10.
- With respect to rotating the annual sampling, this requirement is to provide representative sampling and to identify changes seasonally in the influent. Ecology did not remove this requirement.

Comments on Typos and Formatting

Summarized Commenters: Spokane County Public Works

Commenter: Robert Lindsay - Comment PA-1-11

- Page 18, Table 11: Receiving water temperature study
 - To be consistent with section S11, please update the due date for the Temperature Study QAPP to be one year from effective date of the permit.

Ecology's Response to Comment PA-1-11

Thank you for your comment. Ecology made the due date in Table 11 for the updated Temperature Study QAPP consistent with S11.

Commenter: Robert Lindsay - Comment PA-1-12

- Page 20, Table 15, footnote b Please update the O&M Section to be S5.G.b.10.

Ecology's Response to Comment PA-1-12

Thank you for your comment. Ecology updated the reference in Table 15 Footnote b of the Permit.

Commenter: Robert Lindsay - Comment PA-1-13

- Page 23, Section S3.A Discharge Monitoring Reports
 - Items 11, 12, and 13 may be sub-bullets to item 10. Please correct, if appropriate.
 - Item 15 - It is not clear what reporting is required by this item.

Ecology's Response to Comment PA-1-13

Thank you for your comment. Items 11, 12, and 13 are not sub-bullets. No change was made.

Item 15 in Section S3.A applies to single sample grouped parameters. These are parameters such as those identified in the priority pollutant groups and must be reported in WQWebDMR. They must include the information provided in the bullet for each parameter in the group. Ecology has technical assistance available when reporting questions arise. When you have reporting questions, please contact your Ecology permit manager, Diana Washington at 509-385-5529 or diana.washington@ecy.wa.gov.

Commenter: Robert Lindsay - Comment PA-1-16

Draft Fact Sheet Page 1, Summary, paragraph 2

- For clarity, please revise text to say:

...Under a separate contract, ~~they~~ Spokane County also manages the biosolids...

Ecology's Response to Comment PA-1-16

Thank you for your comment. The text in the Fact Sheet Summary was corrected.

Commenter: Robert Lindsay - Comment PA-1-24

Draft Fact Sheet Page 35, Total PBDEs, fourth paragraph

- The calculation of PBDE percent removal by the SCRWRf appears to be in error. Please check the percent removal value.

Ecology's Response to Comment PA-1-24

Thank you for your comment. Ecology reviewed and corrected the percent removal for the Spokane County Biological Nutrient Removal Membrane Bioreactor. The calculation used was:

$$((229,035 - 7,600)/229,035)*100\% = 96.7\%$$

Commenter: Robert Lindsay - Comment PA-1-25

Draft Fact Sheet

Page 40, Ammonia Maximum Daily effluent limit

- The value listed in the Draft Fact Sheet differs from the value in the Draft Permit. Please revise to be consistent.

- As stated earlier in this letter, the County calculates there is no reasonable potential for ammonia toxicity and the average month and maximum day limits should be deleted. Please delete the ammonia average month and maximum day limits in the Draft Permit.

Ecology's Response to Comment PA-1-25

Thank you for your comment. Ecology verified limits and updated text in the Permit and Fact Sheet.

Ecology updated the limits in the County's permit to more accurately reflect the ammonia limits for the ammonia based on toxicity at the edge of the mixing zone. No change was made to the draft permit.

Commenter: Robert Lindsay - Comment PA-1-26

Draft Fact Sheet

- Page 43, Total PCBs

- This section refers to "the District" in three locations. Please revise this section to delete the reference to "the District."

Ecology's Response to Comment PA-1-26

Thank you for your comment. Ecology removed the reference to the District.

Commenter: Robert Lindsay - Comment PA-1-30

Draft Fact Sheet • Page 49, item C: Effluent limits which are near detection or quantitation levels

- The Draft Permit does not include limits for arsenic or methylmercury. Please delete the reference to these parameters.

Ecology's Response to Comment PA-1-30

Thank you for your comment. Arsenic and methylmercury were removed from the list.

Commenter: Robert Lindsay - Comment PA-1-31

Draft Fact Sheet • Page 56, third bullet

- The Draft Permit does not require monitoring for methylmercury. Please delete the methylmercury monitoring plan and sampling requirement.

Ecology' Response to Comment PA-1-31

Thank you for your comment. Ecology removed the reference for monitoring methylmercury from the Fact Sheet page 56.

Commenter: Robert Lindsay - Comment PA-1-32

Draft Fact Sheet: Page 71, Appendix D

- The list of contents does not match the table labels. Please revise the list of contents

Ecology's Response to Comment PA-1-32

Thank you for your comment. Ecology update Appendix D content and list of contents.

Comments on Receiving Water Study

Summarized Commenters: Spokane County Public Works, Spokane Riverkeeper/Sierra Club

Commenter: Robert Lindsay - Comment PA-1-14

- Page 43, S11. Receiving water study of temperature
 - The County has collected ten years of receiving water temperature data as required under the 2011 NPDES permit. These data represent the river over a significant period of time and represents a wide range of summer flow conditions.
 - The requirement to expand the receiving water temperature from summer months to year around is excessive and unnecessary. Specifically, this additional sampling:
 - Will occur during periods with river flow conditions higher than summer low flow, well mixed, cooled from melt and runoff.
 - Will likely result in additional monitoring equipment vandalized or stolen, as has occurred during previous years of monitoring.
 - Please delete the receiving water temperature study requirement from the Draft Permit.
 - If the receiving water study is retained, please modify Item 3 with the requirement to continue the monitoring for four years.
 - It appears that this requirement is meant to monitor during the final four years of the NPDES permit term, but this schedule does not allow for completion of the study and submission of the data to EIM and the final report to Ecology during the permit term. Please allow at least the final six months at the end of the permit term to finalize the temperature data and report.

Commenter: Jerry White, Jr - Comment O-1-9

NPDES Draft Permit Section S13 - Liberty Lake, Draft Permit Section S11 for Spokane Co - Receiving Water Temperature Study:

The conditions the Spokane County draft permit reads: S11.1 Receiving Water and Effluent Study of Temperature – Quality Assurance Project Plan (QAPP) Update 1/permit cycle 1-Year from the effective date (add specific date at issue) S11.7 Receiving Water and Effluent Study of Temperature Results 1/permit cycle 4 years from the effective date (update with specific date at issue)

The conditions the Liberty Lake draft permit reads: S13.1 Receiving Water and Effluent Study of Temperature – Quality Assurance Project Plan (QAPP) Update 1/permit cycle 1 year from effective date S13.7 Temperature Receiving Water and Effluent Data Monthly with DMR Starting first June after QAPP approval.

The difference is that Spokane County is given four years from the date of the final permit whereas the City of Liberty Lake is given one year. While we realize that the temperature issues in the receiving waters is more extreme at the outfall 001 of Liberty Lake as this is losing reach that is wholly dependent on water from Lake Coeur d'Alene, we nevertheless ask that Spokane County also turn their study around in a year from the effective permit date.

Ecology's Response to Receiving Water Study

Thank you for your comments. Ecology updated Section S11.7 to require the County to submit data with the DMR each month instead of submitting a report at the end of study. A report will not be due at the end of the study. This change helps to address the issue of discovering that a lost micro-recording device was missing after a period of time as the County will be checking them and pulling the data off every month. Ecology requires that the County continue to collect receiving water temperature data from updated QAPP approval until August 1, 2027.

Comments on Clarifications

Summarized Commenters: Spokane County Public Works

Commenter: Robert Lindsay - Comment PA-1-17

Draft Fact Sheet

Page 2, top paragraph

- Ammonia is not included in the Draft Permit as part of the receiving water study.
 - Please delete ammonia from the list of required parameters.
- The Draft Permit expands the receiving water temperature study from summer time to year around. Please revise the text to: ...

The proposed permit ~~continues~~ expands the receiving water temperature study....

- As stated earlier in this letter, the County requests the receiving water temperature study be deleted from the Draft Permit.

Ecology's Response to Comment PA-1-17

Thank you for your comments. Ecology removed ammonia from the list of parameters. Ecology revised the text to clarify that the proposed permit expands the receiving water temperature study. Ecology understands that Spokane County believes that they have collected enough temperature data. However, additional data is needed to better understand the shoulder seasons which include a spring spawning season.

The County also indicated in their entity comments that the temperature data for the river in the vicinity of the outfall behaves differently due to the input of groundwater. This data is needed so that Ecology can evaluate when the temperatures reach critical high temperature. The receiving water study was not deleted from the draft permit. The permit requires the County to collect temperature data during this permit cycle to demonstrate the temperature behavior of the Spokane River above and below the outfall year round.

Commenter: Robert Lindsay - Comment PA-1-18

Draft Fact Sheet

Page 7, Table 1: Facility Information

- Due to reorganization at Spokane County, the Responsible Official's title has changed. Please revise Robert Lindsay's title: Robert Lindsay, Environmental Services Administrator

Ecology's Response to Comment PA-1-18

Thank you for your comments. Ecology made this change in Table 1 of the Fact Sheet.

Commenter: Robert Lindsay - Comment PA-1-19

Draft Fact Sheet

Page 10, Pretreatment process, final paragraph

- The program summary states that Ecology delegated Spokane County authority for a Pretreatment Program in 2012. Spokane County believes the pretreatment program authority was delegated from Ecology in 2001.

Ecology's Response to Comment PA-1-19

Thank you for your comments. Ecology pulled the original approval letter for pretreatment delegation. The letter indicates that the Spokane County Industrial Pretreatment Program was approved on November 10, 1998. Ecology updated the Fact Sheet page 10 to reflect this information.

Commenter: Robert Lindsay - Comment PA-1-20

Draft Fact Sheet

- Page 12, Solid wastes/Residual Solids, first paragraph The SCRWF does not have secondary clarifiers. Please delete the two references in the paragraph to secondary clarifiers.

Ecology's Response to Comment PA-1-20

Thank you for your comments. Ecology changed the wording in the Fact Sheet page 12 from secondary clarifier solids to membrane bioreactor solids.

Commenter: Robert Lindsay - Comment PA-1-21

Draft Fact Sheet

Page 12, Table 4: Ambient Background Data – Critical Season

- The data provided in the table are taken from various times of the year and do not necessarily represent river conditions during the lowest flow period of the year, typically August and September.
- Please revise the title to delete ~~Critical Season~~.

Ecology's Response to Comment PA-1-21

Thank you for your comments. The critical flow is typically in the late summer. Other parameters may have a critical season year round as is the case for metals, pH, dissolved oxygen, fecal coliforms, and toxics. No change was made to the Fact Sheet.

Commenter: Robert Lindsay - Comment PA-1-22

Draft Fact Sheet

Page 15, Table 5: Wastewater Influent Characterization

- Final two rows of the table, TCCD
 - The presentation of these influent dioxin data are misleading. Of the 104 samples described, only five samples had results above the laboratory quantification criteria. The use of an average value is not valid and should be revised.
 - An example presentation of these data is in the Spokane County 2022 Toxics Management Plan, Table 2-2.

Ecology's Response to Comment PA-1-22

Thank you for your comments. Ecology agrees that including an average value calculated with 49 or 50 values that are ½ the detection limit does not reflect the reality of the influent concentration. Ecology updated Table 5 of the Fact Sheet to reflect the maximum value from each interceptor and the number of detected values.

Commenter: Robert Lindsay - Comment PA-1-29

Draft Fact Sheet • Page 47, Table 27: Comparison of Previous and Proposed Effluent Limits for Outfall #001 – Chlorine, Cadmium, Lead, Zinc, and PCBs

- The limits for cadmium, lead, and zinc are not water quality based. The limits in the 2011 permit and the Draft Permit are based on the treatment performance, not receiving water requirements.
- Please revise the table to appropriately describe the metals limits basis in the permit.
- Footnote d of the table refers to the "District"
- Please revise footnote d to remove the reference to the "District."

Ecology's Response to Comment PA-1-29

Thank you for your comment. Ecology agrees that the limits imposed in the draft permit are based on performance plus 10%. This is the result of implementing a water quality based improvement plan, which is a water quality based effluent limit. Ecology added a note with additional clarification to the Fact Sheet page 47, Table 27.

The limits for cadmium, lead, and zinc used in the previous permit were based on performance of the City of Spokane's facility because data was not available for the new Spokane County facility.

Footnote d was a typo. Ecology removed Footnote d from Table 27 of the Fact Sheet.

Comments on Dissolved Oxygen TMDL

Summarized Commenters: Spokane County Public Works

Commenter: Robert Lindsay - Comment PA-1-27

Draft Fact Sheet • Page 45, Table 23, Comparison of Previous and Proposed Critical Season limits

- The Draft Permit proposes a nearly order-of-magnitude reduction in the allowable Total Ammonia discharge during the March treatment season due to potential for ammonia toxicity.
- Spokane County requests that the SCRWRf retain use of those pounds of ammonia to potentially be applied for potential future effluent adjustments under the DO TMDL.

Ecology's Response to Dissolved Oxygen TMDL

Thank you for your comment. The load allocations of oxygen demanding wastes provided in the TMDL to Spokane County belong to Spokane County. The load allocations can only be reallocated if Ecology amends the DO TMDL.

Comments on Variance

Summarized Commenters: Spokane County Public Works, Spokane Riverkeeper/Sierra Club

Commenter: Robert Lindsay - Comment PA-1-1

Variance Application for PCBs: At Ecology's request, in April 2019, the County applied for a variance from the PCB water quality standard. As of this date, Ecology has not made a decision on the variance application. If Ecology grants the County a variance from the PCB water quality standard before the final Permit is issued, the Permit should include the variance from the PCB water quality standard. If Ecology grants the County a variance from the PCB water quality standard after the Permit is issued, the Permit should be modified to include the variance from the water quality standard.

Commenter: Jerry White, Jr - Comment O-1-4

Reject or deny all applications for discharger and/or waterbody variances for PCBs:

Discharger (nor Waterbody) Variances should not be used (in this or any future permit cycle) to downgrade the designated uses of the Spokane River and allow for the discharge of bioaccumulative toxic such as PCBs, PFAS, PBDEs, or any other persistent pollutant. Variances for bioaccumulative toxins will violate EPA regulations regarding variances. Discharger or water body variances for bioaccumulative toxins in a system wherein polluters continue to discharge these same pollutants is illegal and unethical. Our perspective is that these potential approaches would amount to a violation of the spirit and intentions of the CWA.

Please refer to the document (referenced above) assembled in 2020 by Gonzaga Law School and included in this submission. This was originally a part of the SEPA (unofficial comment period) on the 5 applications for PCB variances in the Spokane River.

Ecology's Response to Variance

Thank you for your comment. The variance is a rulemaking process and is separate from the permit reissuance. On June 12, 2019, Ecology initiated the variance rulemaking using the 2016 PCB standards that were in effect at that time. On June 12, 2020, these standards were rolled back by EPA and no longer in effect. Because of this Ecology is unable to move forward with the variance applications and has not made a decision on the variance request. No changes were made to the fact sheet.