

Susan Poulson

Please find the attached comments on the draft NPDES permit for the Spokane County Regional Water Reclamation Facility.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

1200 Sixth Avenue, Suite 155
Seattle, WA 98101

WATER DIVISION

April 22, 2022

Ms. Diana Washington
Washington Department of Ecology
Water Quality Program
4601 N. Monroe Street
Spokane, Washington 99205

(sent via email to: dwas461@ecy.wa.gov)

Re: U.S. Environmental Protection Agency Comments
Draft National Pollutant Discharge Elimination System (NPDES) Permit and Fact Sheet
Spokane County Regional Water Reclamation Facility (Permit #WA0093317)

Dear Ms. Washington:

Thank you for the opportunity to comment on the Washington Department of Ecology (Ecology) draft permit for the Spokane County Regional Water Reclamation Facility. EPA conducted this review in accordance with the procedures outlined in the National Pollutant Discharge Elimination System (NPDES) Memorandum of Agreement Between Ecology and EPA Region 10. EPA is providing the following comments on the draft permit and fact sheet.

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.¹

EPA guidance² 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.³ 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.

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.⁴

Draft Permit

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.

¹https://waterdata.usgs.gov/wa/nwis/annual?site_no=12422000&agency_cd=USGS&por_12422000_149639=1180226,00060,149639,1949,2022&year_type=W&referred_module=sw&format=html_table

² <https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100BK6P.txt>

³https://waterdata.usgs.gov/wa/nwis/annual?site_no=12422500&agency_cd=USGS&por_12422500_149640=1180230,00060,149640,1891,2022&year_type=W&referred_module=sw&format=html_table

⁴ <https://www.epa.gov/cwa-methods/pcb-congeners-low-resolution-gc-ms-method-1628-not-yet-approved>

For any questions or concerns with EPA's comments on Ecology's draft permit the Spokane County Regional Water Reclamation Facility, feel free to contact Brian Nickel of my staff at (206) 553-6251 or by email at Nickel.Brian@epa.gov.

Sincerely,

Susan Poulson, Manager
NPDES Permitting Section

cc: Adriane Borgias, Ecology ERO (via e-mail)
Karl Rains, Ecology ERO (via e-mail)