

Department of Ecology, Central Regional Office (CRO) Response to Facility Comments	
Facility:	Okanogan POTW, WA0022365
Name of Document Reviewed	City of Okanogan's Response to Facility Review of Draft Permit and Fact Sheet
Date of Review	03/04/2025
Reviewer Name and Title	Caleb Bos, Lead Permit Writer

Draft NPDES Permit Facility Comments and Ecology Responses		
Comment Number	Section Reference/ Page No.	Comment
1	S2.B	<b>Clarify the first sentence in the second paragraph. The City does not understand what is required. Is the implication that a more accurate (lower detection) test is being developed?</b>
Ecology Response		<p><i>Language has been updated. It now reads: Should an analytical method capable of detecting extremely low concentrations of DDT and DDT products contained in wastewater treatment effluent <b>not be available</b>, Ecology may require additional testing of effluent for DDT and DDT daughter products.</i></p> <p><i>The reasoning behind this statement is to ensure that an adequate amount of DDT testing be accomplished in accordance with the TMDL. EPA Method 608.3 was updated in December of 2016 and is an adequate testing method for detecting DDT and DDT products. However, Ecology generally does not dictate which test method be utilized in effluent characterization, as long as the test method is from an accredited lab and the test method is able to achieve the required detection and quantification level.</i></p>
2	S2.B	<b>The City would like to request that the DDT/PCB analysis be removed from the permit. The testing is expensive and the City does not understand the benefit in performing these tests. If the current analytical methods are not accurate enough (reference comment 1) is there a purpose in testing that doesn't provide enough accuracy?</b>
Ecology Response		<p><i>The City of Okanogan is required to perform testing of DDT/PCB due to a waste load allocation assigned in the Lower Okanogan River Basin DDT and PCB Total Maximum Daily Load (TMDL). TMDL's in the state of Washington are mandated by section 303(d) of the federal Clean Water Act and are enacted in order to protect, restore, and preserve water quality. This TMDL remains in effect. As for testing methods, the City of Okanogan's previous DDT/PCB sample was analyzed using EPA Method 608.3: Organochlorine Pesticides and PCBs by GC/HSD. This method was updated in December of 2016 and is</i></p>

		<i>an example of a testing method that has a minimum detection limit and quantification level that is adequate to calculate the waste load of DDT/PCB generated by the Okanogan POTW.</i>
3	S 1.B	<b>The draft permit significantly changes the mixing zone and the dilution factors. Please provide a clarification as to how the mixing zone and dilution factors were obtained. The dilution factors are significantly different than the previous permit while the discharge and river have remained the same.</b>
Ecology Response		<p><i>The way that that Ecology determines mixing zones and calculates dilutions factors has changed due to improved technology and better understanding of hydrology. The last time these calculations were done was in 2009 using the modeling software CORMIX 5.0. Ecology currently is using CORMIX 11.0, which is a more advanced version of the software.</i></p> <p><i>The proposed dilution factors in the new permit are Chronic:122.1 and Acute: 9.0. The previous permit's dilution factors were Chronic: 115 and Acute: 14. Ecology does not believe that these represent significant changes to the dilution factors and when these dilution factors were used to calculate reasonable potential analysis for a variety of potential pollutants, no new limits were deemed necessary based on ambient river values, plant effluent values, and the dilution factors.</i></p> <p><i>Dilution factors can change due to ambient river conditions as well as plant effluent conditions. In the years since the last analysis was conducted, the volume of water discharged by the Okanogan POTW has decreased. The volume of flow in the Okanogan River has likely also changed due to recent drought conditions. The dilution factor modeling is done using ambient condition low flow values over the span of many years, this low flow volume does change based on winter snow pack conditions resulting in a change in dilution available when the modeling software is run.</i></p> <p><i>It should also be noted that when the previous permit writer modeled the dilution factors in 2009, they used the 'unbounded' calculations of CORMIX rather than the 'bounded'. Unbounded modeling is used in discharges to lakes, seas, and ocean bodies. Bounded modeling is used in discharges to rivers and streams. The use of 'unbounded' versus 'bounded' may have caused a change in the determined dilution factors.</i></p> <p><i>Ecology currently calculates the downstream length of a mixing zone by adding the depth of the water body at discharge to 300'. This is in line with guidance provided by Ecology's Permit Writers Workgroup. This resulted in the permit draft's mixing zone value of 318 ft Chronic / 31.8 ft Acute compared to the previous permit's 200 ft Chronic/ 30.3 ft Acute.</i></p>
4	S2, Table 5	<b>Table 5, the Total Ammonia mass calculation should be changed to 1/month to match the concentration requirements (immediately above in the table).</b>

Ecology Response		<i>Change has been made</i>
5	S2, Table 7	<b>The City would like to request that the DDT/PCB analysis be removed from the permit. The testing is expensive and the City does not understand the benefit in performing these tests. If the current analytical methods are not accurate enough (reference comment 1) is there a purpose in testing that doesn't provide enough accuracy?</b>
Ecology Response		<i>Please see comment number 2</i>

Draft Fact Sheet Facility Comments and Ecology Responses		
Comment Number	Section Reference/ Page No.	Comment
1	Page 18, Table 10	<b>The critical conditions used to model the discharge are significantly different than the previous permit. Explain how the River velocity, Manning roughness coefficient and channel width were determined.</b>
Ecology Response		<p><i>River Velocity is calculated by CORMIX 11.0 based on the parameters that are entered into the model. When entering information into the model, the permit writer can use either the flow rate of the receiving water or the river velocity. Generally, the flow rate is utilized. The flow rate is determined as the 7Q10 value of river low flow values in the critical season over a length of at least 10 years. This 7Q10 value is calculated used USGS gage station data in a model used by Ecology called the D-Flow (or Shiny) App.</i></p> <p><i>Mannings Roughness is a value to calculate bottom friction in a waterway channel. CORMIX 11.0 provides examples of various types of channel types and corresponding Manning's numbers. The value used for Okanogan POTW's calculations was 0.025. The fact sheet provided to you stated the value used was 0.25, this was an error and has been corrected to 0.025. A value of 0.025 corresponds to a 'Clean and straight natural river'. The previous permit calculation used the number 0.035 which corresponds to a 'Winding channel, with pools and shoals.' The permit writer visually</i></p>

		<p><i>surveyed the area around the POTW's outfall and made the judgement call that 0.025 was the appropriate value to use for this measure.</i></p> <p><i>The channel width was calculated using Google Maps. The approximate location of the outfall was determined and the measuring tool was used to calculate the width of the Okanogan River at that point.</i></p>
2	Page 21 , Table 12	<b>DDT and PCB Waste Load Allocations design flow should be 24.8 1/s, not 23.7 1/s.</b>
Ecology Response		<i>Table 17 of Lower Okanogan River Basin DDT and PCBs TMDL: Submittal Report states the design flow used in Wasteload Allocations at Okanogan is 23.7 (l/s). The value 24.8 in this table is for the River Mile where the Okanogan POTW discharges to the Okanogan River.</i>
3	Page 23 , Table 13	<b>The draft permit significantly changes the mixing zone and the dilution factors. Please provide a clarification as to how the mixing zone and dilution factors were obtained.</b>
Ecology Response		<i>Please see comment 3 in the Permit section above</i>
4	Page 34	<b>A discussion on inflow/infiltration/overflow failures in the collection system is included, and requests characterization of the collection system. This requirement does not appear in the permit. In addition, the City recently completed a General Sewer/WWTF Plan. The City is embarking on significant capital improvements and requests and study of the collection system be delayed until the current CIP is completed and the City can evaluate the success of those efforts.</b>
Ecology Response		<i>The section of the fact sheet has been re-written. The statement requiring further characterization has been removed. The bullet points asking for characterization has been removed and only a single action item remains. This single action item is a once per permit cycle Infiltration &amp; Inflow report. This report is standard for Ecology's permits and the form for the report may be obtained from the Okanogan POTW's permit manager or at <a href="https://apps.ecology.wa.gov/publications/summarypages/ECY07083.html">https://apps.ecology.wa.gov/publications/summarypages/ECY07083.html</a></i>