

Submitted via Water Quality Permitting Portal – Permit Submittals application

January 12, 2023

Keith Primm - Water Quality Permit Coordinator
Department of Ecology - Central Regional Office
1250 West Alder Street
Union Gap, WA 98903

RE: **2023 Oil and Grease Report for Wanapum and Priest Rapids dams:
National Pollutant Discharge Elimination System Permit Nos. WA0991028 and WA0991029
(S10.C):**

Dear Mr. Primm,

Please find enclosed Grant County Public Utility District's (Grant PUD's) Annual Oil and Grease Report for 2023 for both Wanapum and Priest Rapids dams, consistent with Section S10.C of both the Wanapum and Priest Rapids dams National Pollutant Discharge Elimination System Permits.

If you have any questions, please contact me at 509-793-1468 or rhendr1@gcpud.org.

Respectfully,

Ross Hendrick

Ross Hendrick
Senior Manager – Environmental Affairs

CC: Mr. Damon Roberts – Ecology CRO
Mr. Erik Van Doren – Ecology CRO

Annual Oil and Grease Report

Wanapum Dam – Permit No. WA0991028
Priest Rapids Dam – Permit No. WA0991029

By
Public Utility District No. 2 of Grant County
P.O. Box 878
Ephrata, WA 98823

January 2024

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1.0 Introduction

Pursuant to Section 10.C of the National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit No. WA0991028 for Wanapum Dam and WA0991029 for Priest Rapids Dam, the following is Public Utility District No.2 of Grant County, Washington’s (Grant PUD’s) 2023 Annual Oil and Grease Report. This report addresses oils and greases used at Grant PUD’s Wanapum and Priest Rapids dams in 2023 to lubricate components that may contact the Columbia River and/or discharge to the permitted outfalls. Grant PUD also uses oils and greases in other areas of the dams where there is no potential for discharge to the Columbia River. Based on guidance from Ecology staff, oils and greases used in those other areas are not addressed in this report.

2.0 Summary of Wanapum Dam and Priest Rapids Dam Facility Work Orders

The following information provided is consistent with Section S10.C.1 of the NPDES Permits.

2.1 Equipment with high or low levels or alarms

There were no Work Orders associated with high or low alarms for components that may contact the Columbia River and/or discharge to the permitted outfalls.

2.2 Malfunctioning Automated Grease Systems

There were no related Work Orders for Wanapum Dam.

There were eight work orders for Priest Rapids Dam for a malfunctioning automated greasing system for components that may contact the Columbia River and/or discharge to the permitted outfalls. These malfunctions, in most cases, resulted in loss of performance of the system. There was no evidence of any grease or oil being lost or discharged to the river as a result of these issues.

Table 1 Grease Systems Work Orders Summary

Work Order Number	Equipment	Issue	Discussion
346369	Priest Rapids Generating Unit P03 Farval Automatic Greaser	Farval won't build pressure	Repairs were made and the equipment was restored to service.
342060	Priest Rapids Generating Unit P03 Farval Automatic Greaser	Farval not pumping. Work order to Investigate and Identify lack of pressure issues.	Repairs were made and the equipment was restored to service.
341992	Priest Rapids Generating Unit P10 Farval Automatic Greaser	P10, Farval, Replace broken gauges at Farval grease pump.	Manual gauges for troubleshooting the system were replaced.

Work Order Number	Equipment	Issue	Discussion
341685 (Electricians) & 341686 (Mechanics)	Priest Rapids Generating Unit P10 Farval Automatic Greaser	Farval not pumping.	It was reported that the system did not require refilling with grease for 3 months indicating that grease was not being pumped. Electricians checked controller and it was fine. There was air at the pump. Mechanics purged the air and restored the equipment to service.
340802	Priest Rapids Generating Unit P05 Farval Automatic Greaser	Farval system needs calibrated and new gauges.	Repairs without loss of function.
340799	Priest Rapids Generating Unit P03 Farval Automatic Greaser	Farval system needs calibrated and new gauges.	Repairs without loss of function.
340398	Priest Rapids Generating Unit P01 Farval Automatic Greaser	Farval not pumping.	Loss of function. Comments indicate that motor replacement was considered, but that ultimately it was not required. Repairs were made and function was restored.

2.3 Emergency Maintenance

There were no Work Orders written for emergency maintenance on components that may contact the Columbia River and/or discharge to the permitted outfalls.

3.0 Total Procurement of Turbine oil, Transformer oil, other oil, and grease

Table 2 provides a summary of the oils and greases obtained from the Wanapum Warehouse for use at the Wanapum Dam for components that may contact the Columbia River and/or discharge to the permitted outfalls.

Table 3 provides the same summary for the Priest Rapids Dam. This information is provided consistent with Section S10.C.2 of the NPDES Permits. All oils and greases going to the facility are logged by the Warehouse.

Table 2 Wanapum Oil and Grease Summary

Location	Amount	Type	Uses
Wanapum	300 lbs	Pyroshield 5180 Open Gear Grease	Spillway Gate Chain Lubrication
Wanapum	9.1 lbs	Pyroshield 5180 Open Gear Grease	Spillway Gate Gear Lubrication
Wanapum	175 lbs	Lubrication Engineers Almaplex 1275 Grease	Emergency Bulkhead Gate Wheels

Table 3 Priest Rapids Oil and Grease Summary

Location	Amount	Type	Uses
Priest Rapids	78.75 lbs	Maxtron EP Lithium Complex Grease	Traveling screen for Priest Rapids Hatchery Siphon Intake
Priest Rapids	1,155 lbs	76 Multiplex Red Lithium Grease	Generating unit wicket gates.
Priest Rapids	35 lbs	Lubrication Engineers Almaplex 1275 Grease	Fish ladder gravity intake gate wheels and emergency bulkhead gate wheels
Priest Rapids	413.5 lbs	Pyroshield 5180 Open Gear Grease	Spillway gate chain lubrication

4.0 Lost, Unaccounted, Non-recoverable, Spill Cleanup

There was one instance of lost, unaccounted, non-recoverable, or spill clean ups associated with components that may contact the Columbia River and/or discharge to the permitted outfalls. This information is provided consistent with Section S10.C.3 of the NPDES Permits. See table 4 below.

Table 4 Lost, Unaccounted, Non-recoverable, or Spill Cleanup Summary

Facility	Work Order Number	Equipment	Issue	Discussion
Priest Rapids Dam	338306	Priest Rapids Generating Unit P05 Vacuum Breaker	Oiler on vacuum breaker lost oil to the draft tube. Only a small amount of oil was lost (1-2 quarts).	Design of the vacuum breaker valves is being updated during Grant PUD’s ongoing turbine upgrade project at Priest Rapids Dam. This design change alleviates any potential for oil leaks.

5.0 Estimated Kaplan Generator Oil Loss

There was no Kaplan generator oil loss at Wanapum Dam or Priest Rapids Dam measured in 2023. This information is provided consistent with Section S10.C.4 of the NPDES Permits.

6.0 EAL substitutions

EAL grease is used in the Wanapum Turbine-Driven Fish Pumps’ wicket gate automatic greasing systems. In the past, a non-EAL grease was used in these systems. This information is provided consistent with Section S10.C.5 of the NPDES Permit.