

Clean Water Act (CWA) Inspection Report

Inspection Entry Date/Time	07/31/2024 8:55AM (PST)	Announced: Yes		
Inspection Exit Date/Time	07/31/2024 10:30AM (PST)	Access: Granted		
Weather	Sunny, 60° F			
Media/Statute(s)/Program(s)	Water, Clean Water Act, NPDES, Individual Discharge Permit			
Type of Inspection	CEI - Compliance Evaluation Inspection			
Facility Name	City of Orofino – Water Treatment Plant			
Physical Address	709 Main Street			
City/State/Zip Code	Orofino, Idaho 83544			
County/Borough/Parish	Clearwater County			
Facility GPS Coordinates	46.47425 N -116.25188 W			
Facility Mailing Address	P.O. Box 312			
City/State/Zip Code	Orofino, Idaho 83544			
Phone:	(208) 476-5051			
EPA Permit Tracking #	ID0001058			
FRS ID	110064243242			
Inspection Contacts:				
Organization	Name	Title	Present in Opening Conf.	Present in Closing Conf.
EPA Region 10	Jon Klemesrud	Lead Inspector	Yes	Yes
Orofino Water & Sewer District	Michael Martin	Water/Wastewater Supervisor	Yes	Yes
EPA Inspector Signature/Date	JON KLEMESRUD		Digitally signed by JON KLEMESRUD Date: 2024.10.08 06:24:00 -07'00'	
	Jon Klemesrud, FDDWES			
Supervisor Signature/Date	PETER CONTRERAS		Digitally signed by PETER CONTRERAS Date: 2024.10.08 08:23:20 -07'00'	
	Peter Contreras, Chief FDDWES			

This inspection report is based on information supplied by conversations with Michael Martin, or direct observations made at the time of the inspection. This inspection report may also include information gathered from a review of EPA and/or public records.

SECTION I – INTRODUCTION

Facility Description

City of Orofino Water Treatment Plant (hereinafter referred to as the “Facility”) is a water treatment facility owned and operated by the City of Orofino. The Facility utilizes an ultrafiltration membrane system to produce drinking water for a resident population of approximately 2,140. The Facility is located within the southern area of Orofino, Idaho, along the Clearwater River. The City of Orofino is within the Nez Perce Reservation of the Nez Perce Tribe of Indians. In 2014, the Facility was substantially upgraded to its current treatment process, which under normal operational conditions includes recycling of its backwash flow and no longer discharging to the Clearwater River. The Facility retains its permit in the event that an unscheduled discharge becomes necessary.

Permit Information

The Facility is permitted under the NPDES Individual Permit ID0001058. The Permit authorizes the discharge of pollutants resulting from the Facility’s operation, processes, and waste streams to the Clearwater River. The Permit became effective on November 1, 2017, and has been administratively extended after expiring on October 31, 2022. In the event of a discharge, effluent monitoring is required for discharges from the Facility’s outfall (Outfall 001) to the Clearwater River. Monitoring parameters include Total Suspended Solids (TSS), pH, Flow, Hardness, Aluminum, Metals (antimony, arsenic, beryllium, cadmium, total chromium, copper, lead, nickel, selenium, silver, thallium, and zinc), Temperature and Turbidity.

Inspection/Compliance History

According to EPA records, there has been no recent compliance inspection activity. The Facility was last inspected under for NPDES compliance on June 20, 2011.

Entry and Inspection Chronology

This was an announced inspection. On July 24, 2024, I spoke with Mr. Michael Martin, Water/Wastewater Supervisor for the City of Orofino. During the phone call, I discussed that I had been asked to conduct an on-site Clean Water Act inspection at the Facility to assess compliance with the EPA issued NPDES permit. Mr. Martin welcomed the inspection and we agreed on an inspection date of July 31, 2024. Mr. Martin discussed that the plant continues to operate as designed with no discharge events pursuant to their NPDES permit since the Facility was upgraded in 2014.

On the day of the inspection, I arrived at the water treatment plant at approximately 8:55AM and met with Mr. Martin in the parking lot of the Facility near the sedimentation basin. We had initial introductions; I presented my EPA inspector credentials and I restated the purpose and scope of the inspection. Mr. Martin provided a brief background on operations and permitting history.

This inspection consisted of an opening conference, Facility walk-through, records review, and concluded with a closing conference. For the Facility walk-through, I observed the various components of the water treatment plant, including the raw water pump room, chemical storage area, membrane filtration units, sediment basin and outfall. Photographs taken during the Facility walk-through are attached to this inspection report as **Attachment A**, Photograph Log. During the closing conference I discussed my observations, potential compliance concerns and next steps, including the inspection report and compliance review process. I was accompanied throughout the inspection by Mr. Martin.

SECTION II – OBSERVATIONS

Site Review

As discussed earlier in this report, the current water treatment plant received significant upgrades in 2014, including a new facility with membrane filtration. The Facility had reported that there has been no discharge since August 6, 2014, when the upgraded plant went into operation.

The Facility is generally operated using a computerized system, which is managed by four operators including Mr. Martin. The City of Orofino has water rights of 2.3 million gallons per day (MGD), however, typically only utilizes 1.3 MGD. Water treatment consists of a pre-screen, sand separation, membrane filtration and chlorination. The Facility is supplied with raw water from the Clearwater River, the intake is located adjacent from the water treatment plant.

Initial screening occurs at the intake to the raw water pump station. The screen is programmed to backflush with raw water periodically. After screening, water is pumped to a sand separator and then to 3 membrane filtration “skids” operating in a lead/lag alternated configuration. Filtrate flow is chlorinated via a sodium hypochlorite solution and then enters one of two clear wells where finished water is distributed to the city’s distribution system, including two upgradient storage reservoirs.

Wastewater flow includes water from a monthly “clean in place” for the membrane filtration units as well as water from the enhanced flux maintenance (EFM) cycles. The wastewater from the system maintenance activities is routed to a neutralization tank where calcium thiosulfate is added and then water is discharged to the City of Orofino’s Wastewater Treatment Plant. Flush/backwash maintenance occurs as raw water is passed through the membrane filters which is then directed to the sedimentation basin. Raw water is decanted from the sedimentation basin back to the raw water wet well (headworks). Two sludge lift station pumps discharge from the sedimentation basin to the sanitary sewer.

Chemicals stored onsite include Aluminum Chlorhydrate, Caustic Soda and Citric Acid. All internal drains are directed to the sanitary sewer system.

Walk-Through Observations:

Location: Raw Water Intake and Outfall 001
Observation #: OB-001
Following my initial introduction with Mr. Martin, I discussed that as part of the Facility walk-through I would like to follow the process flow of the water treatment plant. We began the tour as we traversed down to the raw water intake pumps/screens along the Clearwater River, north of the Facility (Photo 1). As the access area was also near the Facility’s NPDES discharge location (Outfall 001), we also observed the discharge pipe north of the intake structure, along the east bank of the Clearwater River. Access to view the Outfall 001 discharge pipe was somewhat limited due to vegetation and the slope; however, Outfall 001 was observed to have a small amount of flow discharging to the bank of the Clearwater River (Photo 2, Photo 3). The discharge was observed to be clear, with no visible indicators of impaired water quality (i.e., foam, sheen, suspended or submerged matter). As the Facility is not designed to discharge during normal operations, Mr. Martin was wanted to address/investigate the observed discharge immediately. We continued back to the sedimentation basin area where Mr. Martin opened a cover/lid to a vault containing the piping/valves associated with the return/recycle piping to the raw water wet well from the sedimentation basin. Mr. Martin discovered that the bypass valve for

the NPDES permitted discharge line was slightly open (**Photo 4**). The discharge valve was located off the return/recycle piping to the raw water wet well from the sedimentation basin. Mr. Martin discussed that he was previously unaware of the discharge/valve opening and would have to follow-up with the other operators on the cause. Mr. Martin discussed that it's possible the valve handle was inadvertently moved when the vault was manually cleaned by another operator earlier in the year. Mr. Martin closed the discharge valve fully and the discharge stopped.

Location: Water Treatment Plant

Observation #: OB-002

We continued the tour to raw water pump station and observed the three raw water pumps within the enclosed pump station (**Photo 5**). Two wet wells (north and south) are used to supply raw water to the water treatment plant. Within the pump station, we observed the raw water monitoring equipment, including inline flow and turbidity meters (**Photo 6**).

We continued into the water treatment plant area and generally followed the process flow as we observed the membrane filter units (**Photo 8**), neutralization tank (**Photo 9**), filtrate water piping (**Photo 10**) and distribution pumps (**Photo 11**). We then observed the SCADA system display and Mr. Martin when through the various components and display options (**Photo 12, Photo 13**).

We continued outside to the sedimentation basin and observed the basin, sludge lift station pump and decent structures (**Photo 14 – Photo 17**). Following our time at the sedimentation basin, we departed the Facility, and I followed Mr. Martin in our vehicles to his office located at the City of Orofino's wastewater treatment plant to conduct the records review portion of the inspection.

SECTION III – Records Review

The following records were reviewed as part of the inspection:

Record: Discharge Monitoring Reports (DMRs) & Monitoring Data

Ref #: RR-001

Prior to the inspection, I reviewed monthly DMR's that were submitted over the past 5-years (July 2019 – June 2024). This was also completed by a review of an exceedance report generated by EPA's Integrated Compliance Information System (ICIS). The DMR review noted that the Facility had reported no discharge for each DMR submitted, which corresponds with no reported exceedances.

At the time of inspection, it was confirmed with Mr. Martin that the Facility had not had a known discharge since the new treatment plant came online in 2014. Therefore, no monitoring data had been generated. In the event the Facility needed to discharge, Mr. Martin discussed that the Facility is prepared to sample for the required parameters outlined in the NPDES Permit.

Record: Best Management Practices (BMP) Plan, Quality Assurance Plan (QAP), Operation & Maintenance Plan

Ref #: RR-002

At the time of the inspection, I requested to review the permit required BMP Plan, QAP and Operation & Maintenance Plan. Mr. Martin provided me with a copy of the Facility's "Best Management Practices Plan

(B.M.P.P) For Discharges of Backwash Water From The Orofino Water Treatment Facility” and a copy of the Facility’s “City of Orofino Quality Assurance Plan for Laboratory Operations.” It was discussed that the Facility maintains O&M manuals associated with current components of the water treatment system but does not have designated Operations and Maintenance Plan.

The “Best Management Practices Plan (B.M.P.P) For Discharges of Backwash Water From The Orofino Water Treatment Facility” was dated February 7, 2017, and included sections discussing chemical storage, discharge procedures and limited BMPs.

The “City of Orofino Quality Assurance Plan for Laboratory Operations” was not dated, however, Mr. Martin explained that the document was several years old and likely in need of some minor updates. The document was developed for the City of Orofino’s lab which also includes sampling and analysis for the City’s wastewater treatment plant operations.

SECTION IV– SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

No sampling was conducted for this inspection.

SECTION V - AREAS OF CONCERN

The presentation of Area(s) of Concern (AOC) does not constitute a formal compliance determination or violation. The following AOC was identified as during the inspection:

AOC Reference #: AOC-001	Unmonitored/Unplanned Discharge
Regulation and/or Permit Requirement: Section I.B. of the permit states that “the permittee must limit and monitor discharges from outfall 001 as specified in Table 1.” Table 1 includes Monitoring parameters for Total Suspended Solids (TSS), pH, Flow, Hardness, Aluminum, Metals (antimony, arsenic, beryllium, cadmium, total chromium, copper, lead, nickel, selenium, silver, thallium, and zinc), Temperature and Turbidity. Section E. of the permit states that “the permittee must at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.” As discussed earlier in this report, at the time of inspection, Mr. Martin discovered that the bypass valve located off the return/recycle piping to the raw water wet well from the sedimentation basin was slightly open (Photo 4). The open valve resulted in Outfall 001 to have a small amount of flow discharging to the bank of the Clearwater River (Photo 2). The discharge was observed to be clear, with no visible indicators of impaired water quality (i.e., foam, sheen, suspended or submerged matter). Upon discovering, Mr. Martin closed the discharge valve fully and the discharge stopped. The concern is the unplanned/unmonitored discharge that was occurring from Outfall 001 for an unknown amount of time prior to the inspection. Mr. Martin discussed that he was previously unaware of the discharge/valve opening and would have to follow-up with the other operators on the cause. Mr. Martin discussed that it’s possible the valve handle was inadvertently moved when the vault was manually cleaned by another operator earlier in the year.	

AOC Reference #: AOC-002**Quality Assurance Plan (QAP) Content****Regulation and/or Permit Requirement:**

Section II.B.3. of the permit specifies the minimum requirements of the Quality Assurance Plan (QAP), to include:

- a. Details on the number of samples, detailed sampling locations, type of sample containers, preservation of samples, holding times, analytical detection and quantitation limits for each target compound, analytical methods, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements
- b. A map indicating the location of each monitoring point;
- c. Qualifications and training of all personnel involved with water quality sampling;
- d. Specifications for the collection and analysis of quality assurance samples for each sampling event, including matrix spiked and duplicate samples and analysis of field transfer blanks (sample blanks); and,
- e. Name(s), address(es), and telephone number(s) of the laboratories used by, or proposed to be used by, the Permittee.

As discussed earlier in this report, Facility's QAP was reviewed as part of this inspection. The document was developed for the City of Orofino's lab which also includes sampling and analysis for the City's wastewater treatment plant operations.

The concern is that the review noted that the QAP did not include sampling/analysis for several permit required parameters including Aluminum, Metals (antimony, arsenic, beryllium, cadmium, total chromium, copper, lead, nickel, selenium, silver, thallium, and zinc). The review also noted that the contract laboratory information was not included within the QAP. Mr. Martin explained that the document was a few years old and in need of some minor updates.

AOC Reference #: AOC-003**Operation & Maintenance Plan****Regulation and/or Permit Requirement:**

Section II.A. of the permit states that "in addition to the requirements specified in Part IV.E. Proper Operation and Maintenance, the permittee must develop and implement an Operations and Maintenance (O&M) Plan for the wastewater treatment facility.

As discussed earlier in this report, at the time of inspection it was discussed that the Facility maintains O&M manuals associated with current components of the water treatment system but does not have designated Operations and Maintenance Plan.

SECTION VI – CLOSING CONFERENCE**Closing Conference**

Following the Facility walk-through and records review, a closing conference was held with Mr. Martin where I discussed my general observations and potential area of concerns. I then thanked him for his time and cooperation with the inspection and departed the Facility.

SECTION VII – LIST OF APPENDICES

Attachment A – Photograph Log

ATTACHMENT A

Photograph Log

All photographs taken by Jon Klemesrud on July 31, 2024

Nikon Coolpix AW100

Photograph Log – City of Orofino Water Treatment Plant



Photo #:01 (DSCN3840)

Description: Facing west, photo of the raw water intake structure.



Photo #:02 (DSCN3841)

Description: Facing northeast, photo of Outfall 001 discharging to the bank of the Clearwater River. View/access limited due to vegetation and slope.



Photo #:03 (DSCN3842)

Description: Facing north, photo of Clearwater River below Outfall 001.



Photo #:04 (DSCN3843)

Description: Photo within vault associated with return/recycle valve/piping. Bypass valve (left) to Outfall 001 slightly open.

Photograph Log – City of Orofino Water Treatment Plant



Photo #:05 (DSCN3844)
Description: Photo of raw water pumps within the raw water pump station.



Photo #:06 (DSCN3845)
Description: Photo of raw water monitoring equipment.



Photo #:07 (DSCN3846)
Description: Photo of membrane filtration units.



Photo #:08 (DSCN3847)
Description: Photo of neutralization tank.

Photograph Log – City of Orofino Water Treatment Plant



Photo #:09 (DSCN3848)
Description: Photo of filtrate water piping.



Photo #:10 (DSCN3849)
Description: Photo of distribution pumps.

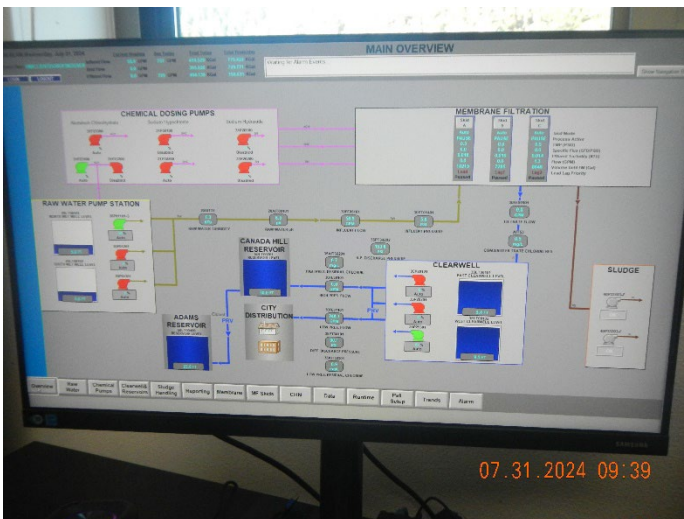


Photo #:11 (DSCN3850)
Description: Photo of SCADA system display (overview).

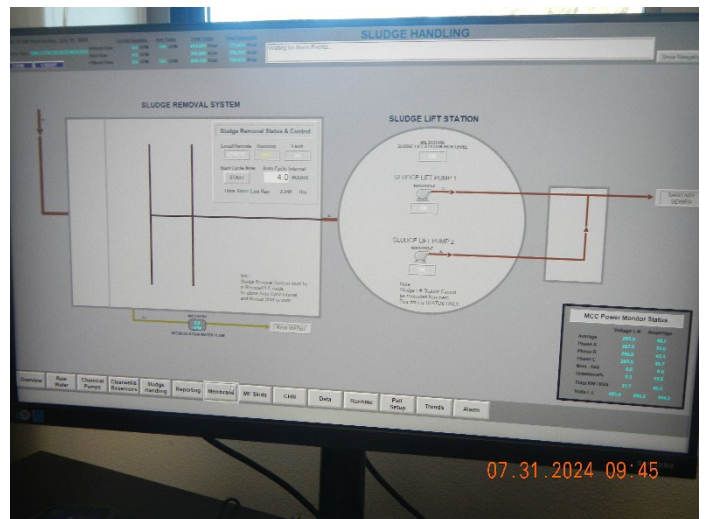


Photo #:12 (DSCN3851)
Description: Photo of SCADA system display (sludge handling).

Photograph Log – City of Orofino Water Treatment Plant



Photo #:13 (DSCN3852)

Description: Photo of sludge handling lift station.

Photo #:14 (DSCN3853)

Description: Photo of the decant control box within the sedimentation basin.



Photo #:15 (DSCN3854)

Description: Photo of the sedimentation basin.