

NPDES Inspection Report – Water Treatment Plant

National Database Information	
Inspection Date: May 14, 2024	Inspection Type: Water Treatment Plant
Entry/Exit Time: 14:00 / 15:10	NPDES ID Number: MTDW0005I
NAICS Code: 221310	Inspection ID: 202405_MTDW0005I
Lead inspector and affiliation: Lisa-kay Prideaux / US EPA Region 8	
Inspector and affiliation: Akash Johnson / US EPA Region 8	

Facility Location Information	
Site/Facility Name & Location: Hardin Water Treatment Plant 101 East 4th Street Hardin, Montana 59034 Facility: 45.7325975°N; -107.6040161°W Outfall: 45.732771°N; -107.580924°W	Email Report to: Michael Hurff – Public Works Director City of Hardin publicworks@hardinmt.com

Contact Information	
	Name(s)/Title
Site/Facility Contacts:	Michael Hurff / Public Works Director / City of Hardin / Present
Site/Facility Contacts:	Trevor Lutt / Lead Water Treatment Operator / City of Hardin / not present during the inspection
Site/Facility Contacts:	Merle Johns / 1B Water Operator / City of Hardin / Present
Site/Facility Contacts:	Richard Jefferson / 1B Water Operator / City of Hardin / Present
Person/Company meeting definition of "Operator"	City of Hardin
Indian Health Services Contact	N/A
Tribal Government Contacts	Marvin (Wes) Stops, Jr. / Environmental Director / Crow Tribe / Not present

Permit Information	
Is the permit on site and available? No	
Effective Date: March 2, 2022	Expiration Date: June 30, 2024
Latitude: 45.732771°N	Longitude: 107.580924°W
Receiving Water(s): Big Horn River	
Regulatory Inspector's source of information: General Permit, Statement of basis, previous inspection, Integrated Compliance Information Systems (ICIS), Enforcement & Compliance History	

Online (ECHO), facility representatives and field observations.

Areas Evaluated During Inspection

<u>Permit</u>	<u>Self-Monitoring Program</u>	Pretreatment
<u>Records</u>	Compliance Schedule	Pollution Prevention
<u>Facility Site Review</u>	<u>Laboratory</u>	Stormwater
<u>Effluent/Receiving Waters</u>	<u>Operations and Maintenance</u>	Combined Sewer Overflow
Flow Measurement	<u>Sludge Handling/Disposal</u>	Sanitary Sewer Overflow

Report Review and Signature

Drafter Name	Address/Phone Number	Date
 Prideaux, LisaKay Digitally signed by Prideaux, LisaKay Date: 2024.07.18 15:25:08 -06'00'	U.S. EPA Region 8, Montana Operations Office Helena, Montana Prideaux.lisakay@epa.gov 406-457-5022	07.11.2024
Reviewer Name	Address/Phone Number	Date
Akash Johnson	U.S. EPA Region 8 Denver, Colorado Johnson.akash@epa.gov 303-312-6067	07.17.2024
Management Signature/Name	Address/Phone Number	Date
 EMILIO LLAMOZAS Digitally signed by EMILIO LLAMOZAS Date: 2024.07.18 15:31:33 -06'00'	U.S. EPA Region 8 Denver, Colorado Llamozas.emilio@epa.gov 303-312-6407	07/18/2024
Emilio Llamozas, NPDES and Wetlands Enforcement Section Supervisor		

Inspection Narrative and Site Description

The inspection was conducted at the Hardin Water Treatment Plant (facility) to evaluate compliance with applicable Clean Water Act (CWA) and National Pollutant Discharge Elimination System (NPDES) EPA Region 8 General Permit for Wastewater Discharges Associated with Drinking Water Production in Indian Country (general permit) requirements. The EPA issued NPDES general permit coverage to the facility, effective on March 2, 2022. General permit coverage for the facility was effective at the time of the inspection, but the general permit expired on June 30, 2024, and has been administratively extended for the facility as of this report.

On May 14, 2024, I, U.S. Environmental Protection Agency (EPA) inspector Lisa-kay Prideaux, accompanied by EPA inspector Akash Johnson (collectively, inspectors) conducted an announced compliance evaluation inspection at the Hardin Water Treatment Plant, located in Big Horn County, Montana. The plant intake structure, backwash ponds treatment system, and outfall are located within the exterior boundaries of the Crow Indian Reservation (Reservation), and the treatment plant is located in Hardin, outside the exterior boundaries of the Reservation. A letter notifying the Crow Indian Tribe of the EPA's inspection presence on the Reservation was sent on April 14, 2024. The inspection commenced at approximately 14:00, when the inspectors arrived at the facility. After arriving at the facility, the inspectors presented their credentials to Michael Hurff - Public Works Director, Merle Johns - water plant operator, and Richard Jefferson - water plant operator, and had an opening conference to explain the purpose of the inspection. The inspectors asked a series of questions of the facility representatives to help evaluate facility operations, maintenance, and compliance with relevant CWA and NPDES requirements. Throughout the inspection, observations and photograph descriptions were documented in bound field logbooks. All photographs taken during the inspection are included in the attached photo log.

Facility Description

The facility is owned and operated by the City of Hardin. The treatment plant was originally constructed in 1921 and has undergone several upgrades including the latest in 2012 when a Supervisory Control and Data Acquisition (SCADA) system was installed. The facility is a conventional water treatment plant, treating surface water from Big Horn River. The facility pumps approximately 1,700 gallons per minute (gpm) of water from the Bighorn River to the treatment plant, producing an average of 400,000-500,000 gallons per day in the winter, approximately 1 million gallons per day (mgd) in the summer, and a maximum of 2.16 mgd of treated drinking water for distribution. The distribution system is approximately 25 miles, made of primarily of PVC piping materials, with approximately 1,400 residential and commercial hookups, serving approximately 3,500 people.

The facility has one raw water intake from the Bighorn River. As the raw water enters the facility, it is treated with aluminum sulfate, polyaluminum hydroxychlorosulfate, and a polymer for coagulation and flocculation in a flocculation basin. It then goes into a settling basin to be clarified. After flocculation and clarification, the treated water is filtered by one of four anthracite filters and chlorinated prior to distribution.

Wastewater is generated through filter backwashing and settling basin washing, discussed in greater detail below. Wastewater is pumped to three backwash ponds which used to be old wastewater treatment lagoons and are located off-site near the City of Hardin's Wastewater Treatment Plant.

Records Review

After the facility representatives provided a background description of the facility operations, the inspectors initiated a facility records review. The following records were requested for review in an email dated May 2, 2024, prior to the inspection. Applicable records were made available to review on-site.

- Copy of the National Pollutant Discharge Elimination System (NPDES) Drinking Water General Permit
- Copy of Authorization letter (MTDW0005I)
- Monitoring records for any discharge during the timeframe of July 2023 to December 2023
 - Discharge Monitoring Reports (DMRs)
 - Daily operational logs
 - Laboratory analytical reports
 - Chain of custody forms
 - Quality Assurance Records for Process Control Monitoring
- Records of Laboratory Equipment and Controls
 - Calibration records
 - Maintenance records
- Treatment plant records
 - Operations and Maintenance manual (O&M)
 - Operations and Maintenance activities logbook
 - Standard Operating Procedures (SOPs)
 - As built engineering drawings
 - Facility Inspections
- Correspondence with EPA
- Noncompliance reports

Site Review

After reviewing records, the inspectors were escorted through the water treatment process, areas where waste is generated, and the in-house laboratory. We started with the location where raw water enters the facility and the water is treated with aluminum sulfate, polyaluminum hydroxychlorosulfate, and a polymer for coagulation and flocculation via two alternating injection pumps (photos 28 & 29). Water then flows to a flocculation basin for approximately 2 hours while rapid and slow mixers incorporate the injected treatment (photo 30). Treated water then moves into the sediment basin where it moves through a U-shaped channel allowing settling and clarification (photo 31). From the settling basin, treated water is filtered by one of four anthracite filters (photo 32). Water moves through the filter layers via gravity entering the top of the filters and exiting the bottom. Filtered water moves to a wet well where it is chlorinated with chlorine gas prior to entering the clear well for distribution.

We then discussed the waste generated at the facility and the backwash ponds which were visited earlier in the day. The facility backwashes one anthracite filter per day, generating approximately 19,000 gallons of backwash wastewater. Wastewater is also generated through draining and power washing

the settling basin once per year (approximately 242,350 gallons). The sludge, settling basin power wash water and filter backwash water are all pumped from a WTP lift station to the backwash ponds located offsite, next to the city's wastewater treatment plant.

The facility has a total of three backwash ponds. Waste streams from the facility can be pumped either to Pond 1 (photo 25) or Pond 2 (photo 26), depending on the season. At the time of the inspection, the facility was discharging to Pond 1. Direction of the backwash ponds' influent into either Pond 1 or Pond 2 is controlled manually with gates. The ponds typically operated where Ponds 1 and 2 are parallel and both have the ability to discharge to Pond 3. The total surface area of all 3 ponds is 6.95-acres (see figure 1). Backwash usually infiltrates or evaporates before it reaches the overflow to Pond 3. If Backwash Pond 3 were to reach its storage capacity, wastewater can be discharged on the northeast side through a pipe to the Bighorn River via Outfall 001 (photos 23 & 24). However, the system is designed not to discharge during normal operation and there has been no reported discharge. Facility representatives indicated solids are removed from the ponds (1 and 2) every 7 to 8 years and landfilled; the last sludge removal was in Fall of 2018.

Figure 1. Hardin WTP waste ponds and outfall.



Closing

A closing conference was held on-site with Mr. Hurff, Mr. Johns, and Mr. Jefferson, during which the inspectors discussed preliminary findings, as well as the process for the issuance of this inspection report. The inspection concluded at 15:10.

Findings, Corrective Actions and Recommendations

Finding #1: NPDES General permit was not available for review.

Specifically, the facility is permitted under the National Pollutant Discharge Elimination System (NPDES) General Permit Associated with Drinking Water Production, and had a copy of the March 2, 2022, authorization letter; however, the facility did not have a copy of the general permit.

Regulatory requirement:

Part 4.7 of the 2019 general permit states "Data collected on site, data used to prepare the DMR, copies of DMRs, and a copy of this NPDES Permit must be maintained on site."

A copy of the 2019 general permit is attached to this report and can be found at the following location:
<https://www.epa.gov/sites/default/files/2019-08/documents/mtdwxxxx-permit-2019.pdf>

Corrective Action:

Maintain a copy of the NPDES general permit at the facility or with facility records. In a response to this report, provide EPA and the Crow Tribe Environmental Department with a description of corrective actions taken to address this finding.

Finding #2: Buffer solutions for pH calibration were expired.

Specifically, the City of Hardin's Water Treatment Plant is not discharging; however internal pH monitoring is occurring, and in the event of a discharge, the facility's buffer solutions for calibrating the pH meter are expired. The facility uses buffer solutions 7 and 10 which both expired in April of 2018.

Regulatory requirement:

Part 5.1 of the general permit requires the facility to comply with all conditions of the general permit and authorization MTDW0005I.

Part 3.2 and Table 4 of the general permit indicates the sample type and monitoring frequency.

Part 4.2 of the general permit requires monitoring to be conducted according to test procedures approved under 40 C.F.R. Part 136.

40 C.F.R. Part 136 lists test procedures and sample collection requirements. Standard method procedures for pH include calibrating the pH probe with buffer solutions.

Corrective Action:

Ensure buffer solutions used in the calibration of all monitoring equipment (pH meter) are within the expiration date. In the response to this report, provide the EPA and the Crow Tribe Environmental Department with a description of the corrective actions taken to address this finding.

Finding #3: In-house pH meter calibrations are not being recorded outside the meter memory.

Specifically, the pH meter is being calibrated on a weekly basis; however, the calibration numbers and slope are not being recorded in a logbook or worksheet. The pH meter has an internal memory, but it is unknown how much data can be stored and how to retrieve the information required.

Regulatory Requirement:

Part 5.1 of the general permit requires the facility to comply with all conditions of the general permit and authorization MTDW0005I.

40 C.F.R Part 122.41(j) and Part 4 of the general permit requires monitoring to be conducted according to test procedures approved under 40 C.F.R. Part 136, and retaining records of all monitoring information, including calibration records.

Corrective Acton:

The facility must establish a mechanism in which calibration details are recorded and maintained other than the meter's internal memory. In the response to this report, provide the EPA and the Crow Tribe Environmental Department with a description of the corrective actions taken to address this finding.

Finding #4: The facility has not submitted all Discharge Monitoring Reports and/or annual reports.

Specifically, Discharge Monitoring Reports (DMRs) for the timeframe between January 1, 2023, through the date of this report, were not submitted to the EPA. In addition, the facility did not submit an annual report. The table below lists the absent information:

DMR Monitoring period & location	DMR due date	DMR Submitted	Days late
January 31, 2023 (001-M)	April 28, 2023	None	431
February 29, 2023 (001-M)	April 28, 2023	None	431
March 31, 2023 (001-M)	April 28, 2023	None	431
April 30, 2023 (001-M)	July 28, 2023	None	340
May 31, 2023 (001-M)	July 28, 2023	None	340
June 30, 2023 (001-M)	July 28, 2023	None	340
July 31, 2023 (001-M)	October 28, 2023	None	248
August 31, 2023 (001-M)	October 28, 2023	None	248
September 30, 2023 (001-M)	October 28, 2023	None	248
October 31, 2023 (001-M)	January 28, 2024	None	156
November 30, 2023 (001-M)	January 28, 2024	None	156
December 31, 2023 (001-M)	January 28, 2024	None	156
Annual Report (001-A)	January 28, 2024	None	156
January 31, 2024 (001-M)	April 28, 2024	None	65
February 29, 2024 (001-M)	April 28, 2024	None	65
March 31, 2024 (001-M)	April 28, 2024	None	65

Regulatory Requirements:

Part 5.1 of the general permit requires the facility to comply with all conditions of the general permit and authorization MTDW0005I.

Part 4.4 of the general permit requires the electronic submittal of DMRs quarterly using NetDMR, and the submissions must be made no later than the 28th of the month following the completed reporting period.

Part 3 of the general permit states "If no discharge occurs during the entire monitoring period, it shall be stated in NetDMR on the copy of Record that no discharge or overflow occurred."

Corrective Action:

Within 30 days of the date of this report, submit all missing DMRs. Continue submitting DMRs by the date required within the permit. In the response to this report, provide the EPA and the Crow Tribe Environmental Department with a description of the corrective actions taken to address this finding.

Finding #5: Facility inspections do not include visual observations of the dike walls.

Specifically, the facility conducts weekly inspections of the backwash pond inlet and outfall, and records observations; however, the observations do not include the health of the backwash pond dike walls.

Regulatory Requirement:

Part 5.1 of the general permit requires the facility to comply with all conditions of the general permit and authorization MTDW0005I.

Part 5.5.1 of the general permit requires the facility to inspect its wastewater treatment facility on at least a weekly basis.

Part 5.5.1.2-5.5.1.6 of the general permit has inspection requirements specific to dike walls.

Part 5.5.3 of the general permit states “problems identified during the inspection shall be addressed through proper operations and maintenance” (Part 5.6 of the general permit)

Corrective Action:

The facility must include visual observations of the dike walls for all three backwash ponds, any problems identified, and the corrective actions taken to address any identified problems. All observations must be included on weekly inspection logs. In the response to this report, provide the EPA and the Crow Tribe Environmental Department with a description of the corrective actions taken to address this finding.

Recommendation #1: Backup generator.

Part 5.6 of the general permit states the facility must properly operate and maintain all facility and systems of operational control. This provision requires the operation of a back-up or auxiliary facilities. During the inspection, it was noted the facility does not have a back-up generator to run the treatment system; however, they do have a small generator to backup the SCADA system. To continue proper operation of the facility during power outages, it is recommended the facility obtain a generator sufficient to run the treatment plant at full load capacity.