

Region 9 Enforcement Division
75 Hawthorne Street
San Francisco, CA 94105

Inspection Date(s):	June 7, 2023		
Time:	Entry: 10:00 AM	Exit: 3:00 PM	
Media:	Water		
Regulatory Program(s)	Clean Water Act NPDES		
Company Name:	Arizona Public Service Company		
Facility or Site Name:	Four Corners Power Plant		
Facility/Site Physical Location:	San Juan County, approximately 20 miles southwest of Farmington, New Mexico		
Geographic Coordinates:	Latitude: 36° 42' 16.5" N Longitude: 108° 29' 12" W		
Mailing address:	P.O. Box 53999		
	Phoenix, AZ 85072-3999		
Facility/Site Contact:	Cameron Corley	Title: Sr. Environmental Scientist	
	Phone: 505-860-3619	Email: cameron.corley@aps.com	
Facility/Site Identifier:	NPDES Permit NN0000019		
Facility/Site Personnel Participating in Inspection:			
Name	Affiliation	Title	Email
Pamela Norris	APS	Environmental Section Leader	Pamela.norris@aps.com
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Inspection Report Author:	Adam Howell	415-947-4248	
		Date:	
Supervisor Review:			
	Elizabeth Aubuchon	415-972-3327	
		Date:	

SECTION I – INTRODUCTION

I.1 Purpose of the Inspection

The purpose of the inspection was to evaluate compliance with the NPDES permit and applicable Federal regulations covering the discharge of wastewaters into waters of the United States. EPA Region 9, issued NPDES Permit NN0000019 to APS Four Corners Power Plant on November 9, 2020 and it became effective December 1, 2020. The permit expires November 30, 2025. The permit was modified on December 1, 2023 to incorporate revised steam electric power generating standards found in 40 CFR 423.13(k)(2)(i)(A) and (B) for Bottom Ash Transport Water (BATW). The modification allows for certain circumstances where APS may discharge a portion of their BATW into the cooling water pond.

SECTION II – FACILITY / SITE DESCRIPTION

II.1 Facility Description

The Four Corners Power Plant is located 20 miles southwest of Farmington, New Mexico. The plant opened in 1962 with 3 coal burning units. Units 4 and 5 were constructed in 1970 to increase power production. On December 30, 2013 Units 1-3 were decommissioned. Only Units 4 and 5 are currently in use. They produce, on average, 650-700 megawatts per unit each day.

Coal is transported to the power plant via train from the Navajo Mine, which is the plant's only source. The coal is stored on property adjacent to the power plant. This property is owned and managed by the Navajo Mine. Two different types of coal are mixed before being provided to APS. The coal is then stored in silos for the units. Approximately 6 million tons of coal are burned per year.

Water from the San Juan River flows to an intake structure (Photos 1 & 2) located approximately 3.5 miles North of the Power Plant at the "River Station". Water from this structure is pumped to the Plant's recirculated cooling water pond, also known as Morgan Lake (Photo 3). A plan approved by the United States Fish and Wildlife Service (USFWS) governs the pumping of river water to Morgan Lake.

The APS Four Corners Power Plant has one NPDES permitted outfall (Outfall 001 in Photos 4 & 5) that discharges to No Name Wash, which is located near the northeast corner of Morgan Lake. A blowdown structure is used to transport water from Morgan Lake out to No Name Wash, which is a tributary to the Chaco River, and then the San Juan River. Additionally, there are three permitted internal outfalls: 01A, 01E, and 01B. Outfall 01A is the canal (photos 6 & 7) that receives wastewater and stormwater from the plant. The sampling point for Outfall 01A is near the end of the canal (Condenser Cooling Water Canal) prior to water entering Morgan Lake, a man-made cooling water pond. Outfall 01E is located in the canal upstream of outfall

01A. Discharge from Outfall 01E consists primarily of low-volume wastewater, with potential for some BATW. Outfall 01B is designed for discharge resulting from the chemical cleaning of the boiler. However, instead of being discharged through outfall 01B, wastewater from the boiler is comingled with BATW and sent throughout the recycle treatment system.

The fly ash impoundments, located southeast of the plant, are no longer used for disposal. In the past fly ash from the power plant was placed here. Fly ash is sometimes sold to contractors for cenospheres production. Although material is no longer added to the fly ash impoundments, they are still managed by the facility under a seepage management and monitoring plan. There are a series of ponds that capture the stormwater runoff from the impoundments and an interceptor ditch to prevent below ground seepage from entering the Chaco River. To control dust from these impoundments a chemical dust suppressant is sprayed onto the surface.

II.2 Wastewater Sources

Water is pumped from Morgan Lake and circulated around the plant to cool machinery, then transported into the canal and sent back into Morgan Lake.

Stormwater is captured in grates around the plant area and then sent into a series of settling ponds with the combined wastewater. Stormwater that falls on the other side of the road from the plant (not impacted by plant activities) flows directly into Morgan Lake. Stormwater around the bag houses flows into a sump and is pumped into to the combined wastewater system. Stormwater from the fly ash impoundments is captured in a retention pond and that water is then used for dust suppression.

Water used for cleaning the boilers is permitted to be directed to Outfall 01B. However, no cleaning water is currently being discharged since this wastewater is mixed with BATW.

II.3 Wastewater Treatment

The combined wastewater stream (cooling water and plant stormwater runoff) is sent through an above ground impoundment. Suspended solids settle out and oils are skimmed off the surface of the water. This water is then discharged to Morgan Lake through Outfall 01B. Water leaves Morgan Lake via a blowdown structure. At Outfall 001 where water from the blowdown structure enters the No Name Wash there is a grate that prevents fish from entering the wash.

Comingled water with fly ash (BATW) is sent through a recycle treatment system and stored in a lined pond for reuse. The modified permit allows for discharge of a small percentage of BATW volumes if necessary for the purposes of maintenance, to adjust the chemistry of the system, or if necessitated by a storm event.

SECTION III – OBSERVATIONS

1. At the time of the inspection, Outfall 001 was not discharging. According to facility personnel, no discharge had occurred since June 2022 due to low water levels in the lake. No Discharge was reported from July 2022 through August 2023.
2. At the time of the inspection, new piping had just been constructed between the river station and Morgan Lake. Facility personnel stated that the construction project would also include repaving the road to the river station.
3. For May 2021, the discharger reported a violation of the daily max limit for residual chlorine of 0.2 mg/L at internal Outfall 01A. The reported value was 0.4 mg/L. This is the only reported violation for the five years leading to the date of the inspection.

SECTION IV – AREAS OF CONCERN

The presentation of areas of concern does not constitute a formal compliance determination or violation.

No areas of concern were identified during this inspection.

SECTION V – DOCUMENTS REQUESTED DURING INSPECTION

- NPDES Permit No. NN0000019;
- Toxicity Reduction Evaluation Workplan;
- Seepage Management and Monitoring Plan;
- USFWS approved Pumping Plan.

APPENDICES

Appendix 1 – Inspection checklist

Appendix 2 – Photograph Log

Appendix 1- INSPECTION CHECKLIST

I. GENERAL

Facility Type	☐ Municipal ☒ Industrial ☐ Agricultural ☐ Federal ☐ Oil & Gas
Inspection Type	☒ Compliance Evaluation (non-sampling) ☐ Compliance Sampling ☐ _____
Weather ☐ Dry ☐ Rain ☒ Clear ☐ Recent Rains ☐ Overcast ☐ _____	
Was facility notified in advance?	Yes ☒ No ☐
Presented credentials?	Yes ☒ No ☐
Notes:	

II. RECORDS AND REPORTS REVIEW

RECORDS	Available onsite?			
	Yes	No	N/A	Not Inspected
NPDES permit	☒	☐	☐	☐
Monitoring and reporting records for past 5 years	☒	☐	☐	☐
Maintenance records	☒	☐	☐	☐
Operational records/ log books	☒	☐	☐	☐
Auxiliary power check logs	☐	☐	☐	☒
Employee Training	☒	☐	☐	☐
Have any spills been reported since last inspection?	☒	☐	☐	☐
Spill records	☒	☐	☐	☐
Have any bypasses been reported since last inspection?	☐	☒	☐	☐
Bypass records	☐	☐	☒	☐
Notes:				

REPORTS	Completed in time frame and frequency as required by permit?			
	Yes	No	N/A	Not Inspected
Notification of Non-compliance	☒	☐	☐	☐
Notification of spills	☒	☐	☐	☐
Notification of bypass	☐	☐	☒	☐
Pollution Prevention Plan	☐	☐	☒	☐
Spill prevention control and countermeasure (SPCC) plan	☐	☐	☒	☐
POTW: Biosolids Monitoring/Management Reports	☐	☐	☒	☐
POTW: CSO/ I & I Reports	☐	☐	☒	☐
POTW: Pretreatment Reports	☐	☐	☒	☐
Other: Pumping Plan	☒	☐	☐	☐
Other: Seepage Management Monitoring Plan	☐	☐	☐	☐
Other: Toxicity Reduction Evaluation Workplan	☒	☐	☐	☐
Notes:				

III. SELF MONITORING PROGRAM

SAMPLING RECORDS & DMRS	Yes	No	N/A	Not Inspected
Are DMRs submitted in timeframe and frequency required by permit?	☒	☐	☐	☐
Sampling Records have: Dates, times, location, & name of individual performing sampling:	☒	☐	☐	☐
Lab Reports have: Analytical methods, results, dates and time of analyses:	☒	☐	☐	☐
Are samples collected and preserved using methods approved in 40 CFR Part 136?	☒	☐	☐	☐
Lab Report results are correctly transcribed to DMR:	☒	☐	☐	☐
Detection limits are reported for "less than" results:	☒	☐	☐	☐
Does discharger monitor effluent more frequently than required by Permit?	☐	☐	☐	☒
If Yes, is all data collected reported on DMRs?	☐	☐	☐	☐
Notes:				
	Yes	No	N/A	Not

SAMPLE MONITORING					Inspected
Are sample locations and methods representative of Effluent?		☒	☐	☐	☐
Representative of Influent?		☒	☐	☐	☐
Representative of Receiving Waters?		☒	☐	☐	☐
What Flow Measurement Device is utilized?					
☐ Flume ☐ Weir ☒ Meter ☐ Calculation ☐ Other _____					
Device appears to be functioning properly without obstructions:		☒	☐	☐	☐
Is flow meter calibration available onsite?		☐	☐	☐	☒
Date of last calibration					
Calibration performed by					
Notes:					
ANALYTICAL MONITORING		Yes	No	N/A	Not Inspected
Does discharger perform on-site analysis for compliance monitoring?		☒	☐	☐	☐
List parameters analyzed on-site: Temperature (continuous), Flow rate, pH					
Are records of equipment calibration available?		☒	☐	☐	☐
Is the on-site laboratory certified?		☐	☒	☐	☐
Certification Number					
Expiration Date					
COMPLIANCE MONITORING RATING CODE	Satisfactory ☒	Marginal ☐	Unsatisfactory ☐	Not Rated ☐	
Notes:					

IV. SITE REVIEW OPERATIONS AND MAINTENANCE

General	Yes	No	N/A	Not Inspected
Is the facility as described in the permit/fact sheet for the following?				
Processes	☒	☐	☐	☐
Treatment Units	☒	☐	☐	☐
Flow and/or Production Rates	☒	☐	☐	☐
Outfalls & Monitoring Locations	☒	☐	☐	☐
Receiving Waters	☒	☐	☐	☐

Have there been significant changes in operation since last inspection or permit reissuance?	☒	☐	☐	☐
Plant schematic is up to date	☒	☐	☐	☐
Notes:				
Treatment Units & Supporting Equipment				
	Yes	No	N/A	Not Inspected
Hydraulic and loadings rates appear consistent with the permit and plant design	☒	☐	☐	☐
Tanks, floats, pipes, valves, etc. appear in good working condition	☒	☐	☐	☐
Equipment appears adequately maintained and functioning correctly	☒	☐	☐	☐
There is no visible evidence of hydraulic short-circuiting	☒	☐	☐	☐
Process controls appear adequate	☒	☐	☐	☐
No safety concerns observed that may interfere with operation, maintenance, monitoring	☒	☐	☐	☐
Notes:				
Operation & Maintenance				
	Yes	No	N/A	Not Inspected
O &M Manuals are organized and maintained for use:	☒	☐	☐	☐
The maintenance activities, spare parts on-hand, and equipment available appear adequate to ensure continuous operation of treatment system:	☒	☐	☐	☐
Is a maintenance management program in place?	☐	☐	☐	☒
Number of open work orders:				
Oldest date of open work order:				
Notes:				
Emergencies / Power Outage				
	Yes	No	N/A	Not Inspected
Alarm systems for power and equipment failure:	☐	☐	☐	☒
Auxiliary power available and maintained:	☐	☐	☐	☒
Notes:				
Stormwater				
	Yes	No	N/A	Not Inspected
Does facility have exposure and potential to discharge Stormwater ?	☒	☐	☐	☐
Is discharger subject to Multi Sector General Permit (MSGP) ?	☐	☒	☐	☐

If Yes→ Filed Notice of Intent?	☐	☐	☒	☐
If Yes → Stormwater Pollution Prevention Plan (SWPPP) available	☐	☐	☐	☐
Is there evidence of unauthorized (non-stormwater) discharges?	☐	☒	☐	☐
Are there signs of spills to soil, groundwater, or surface water ?	☐	☒	☐	☐
Is adequate equipment available for spill cleanup and containment?	☒	☐	☐	☐
Are the following areas observed to be free of materials to prevent stormwater pollution?				
	Yes	No	N/A	Not Inspected
Storage areas	☒	☐	☐	☐
Fueling areas	☒	☐	☐	☐
Maintenance areas	☒	☐	☐	☐
Loading and unloading areas	☒	☐	☐	☐
Waste disposal areas	☒	☐	☐	☐
Chemicals are stored in secondary containment:	☒	☐	☐	☐
Notes:				

V. FINAL EFFLUENT AND RECEIVING WATER MONITORING

EFFLUENT APPEARANCE	Yes	No	N/A	Not Inspected
Clear	☐	☐	☐	☒
Colorless	☐	☐	☐	☒
Free of oil sheen	☐	☐	☐	☒
Free of floatables	☐	☐	☐	☒
Free of objectionable odor	☐	☐	☐	☒
Notes:	Facility was not discharging from Outfall 001, the only external outfall, at the time of inspection.			
RECEIVING WATER APPEARANCE	Yes	No	N/A	Not Inspected
Free of visible plume	☒	☐	☐	☐
Free of foam and sheen	☒	☐	☐	☐
Free of erosion at the discharge point	☒	☐	☐	☐
Free of bottom deposits, algae growth	☒	☐	☐	☐
Notes:				

VI. SINGLE EVENT VIOLATIONS

Were any Single Event Violations (SEV) Observed?	☐ Yes ☒ No
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If Yes Describe SEV:	SEV CODE

Appendix 2 – Photograph Log

The photographs were taken during the inspection by Adam Howell using a Panasonic DMC-TS5..
Original copies of the photos are maintained by EPA Region 9.



Photo 1 : River station pump gallery.



Photo 2 : Cooling water intake structure in the San Juan River.



Photo 3: Morgan Lake on left and APS Four Corners Power Plant on right.



Photo 4 : Outfall 001.



Photo 5 : Looking downstream from Outfall 001 towards No-Name Wash.



Photo 6 : Canal.



Photo 7: Discharge of condenser cooling water to the Canal.