

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT FACT SHEET
November 2020
Modifications in Bold at Pages 2, 9 and 16
December 2023

Permittee Name: Arizona Public Service Company

Mailing Address: P.O. Box 53999
Phoenix, AZ 85072

Facility Address: Four Corners Power Plant
P.O. Box 355, Station 4900
Fruitland, NM 87416

Contact Person(s): Jeffrey Jenkins, Plant Manager
Tel: (505) 598-8200

NPDES Permit No.: NN0000019

I. STATUS OF PERMIT

The United States Environmental Protection Agency (hereinafter "EPA Region 9" or "EPA") re-issued the current National Pollutant Discharge Elimination System ("NPDES") Permit (No. NN0000019) for the discharge of treated wastewater from the Arizona Public Service Company's (hereinafter "APS" or "the Permittee" or "the Applicant") Four Corners Power Plant (hereinafter "FCPP" or "the Plant") to No Name Wash in the Navajo Nation on January 24, 2001, with an expiration date of January 24, 2006. On October 5, 2005, APS, as co-owner and operator of the FCPP, applied to the United States Environmental Protection Agency, Region 9 (hereinafter "EPA Region 9" or "EPA") for renewal of APS' permit for discharge of wastewater to waters of the United States, and the permit was administratively extended. APS subsequently provided updates to their initial application, allowing the facility to operate under the administrative extension. Via a letter dated October 30, 2012, EPA Region 9 requested that APS submit a fully revised application that reflected current operations, as well as future plans for the next permit cycle. On or about February 15, 2013, APS submitted a revised application, which included a description of the planned shutdown of Units 1, 2, and 3, as well as likely impacts on surface water discharges to be regulated under a renewed NPDES permit. On December 30, 2013, APS shut down Units 1, 2, and 3. EPA Region 9 developed a permit and fact sheet based on the latest information regarding operations and issued a permit in June 2018 pursuant to Section 402 of the Clean Water Act ("CWA"). The June 2018 permit was then appealed to the Environmental Appeals Board (EAB), and EPA withdrew the permit in December 2018 to comprehensively address certain issues raised on appeal.

The permit was then re-issued on September 30, 2019 with an effective date of December 1, 2019. The permit once again was appealed to the EAB and was stayed before the effective date. Following submittal of written briefs and oral arguments, the EAB issued an order on September 30, 2020 denying review. Pursuant to the appropriate regulations at 40 CFR 124.19 and 40 CFR 23.2, the Regional Administrator of EPA signed a Notice of Final Permit Decision and issued the final permit with an effective date of December 1, 2020. This date operates as the final agency action for purposes of judicial review.

On January 8, 2021, APS submitted a request for permit modification to the existing NPDES permit. This scope of this request for modification was to remove the zero-liquid discharge (“ZLD”) requirement for BATW by December 31, 2023, and allow Bottom Ash Transport Water (“BATW”) discharges of up to 10 percent of the primary active wetted bottom ash system volume on a 30-day rolling average starting January 1, 2024. This request incorporates the standards identified in revised 40 CFR 423.13(k)(2)(i)(A) and (B) for Bottom Ash Transport Water (“BATW”). This request relied on the revised sections of 40 CFR 423 – Steam Electric Power Generating Point Source Category, i.e. the 2020 ELG Steam Electric Reconsideration Rule (“Reconsideration Rule”), and was made pursuant to 40 CFR 122.62(a)(3) (Modification and Reissuance of Permits for Promulgation of New Regulation).

APS also requested that the permit modification take effect no earlier than December 31, 2023, which is the timeframe that APS estimated to be the soonest possible that FCPP could implement the BATW recirculation system consistent with the Reconsideration Rule requirements. APS indicated that given the in-process state of the FCPP BATW recirculation system design, the development of the record for this permit modification would be an iterative process.

Over the period of time from January 2021 to the present time EPA Region 9 and APS have worked iteratively, with multiple submittals of information by APS, including information sought by EPA Region 9 about both the timing of the construction of a high-recycle system and the appropriate volume of BATW that APS may be permitted to discharge consistent with the Reconstruction Rule’s requirement that the total volume of BATW discharged shall be reduced or eliminated to the extent achievable using control measures (including best management practices) that are technologically available and economically achievable in light of best industry practice.

APS submitted its Draft Initial Certification Statement supporting the discharge of bottom ash transport water on May 19, 2022. This Statement indicated that the projected schedule for completing a fully operational high-recycle was experiencing significant challenges as a result of supply chain delays and disruptions due to the Ukraine conflict, as well as limited contractor availability. The Statement proposed approaches to address these issues as APS planned and then began construction of the high-recycle system.

In a November 1, 2022 letter APS reported on progress modifying the once-through bottom ash transport sluice water system for FCPP into a high-recycle system to comply with Reconsideration Rule. APS also submitted revised water balance and water chemistry information indicating that it was aiming to limit permitted discharges of bottom ash

transport water to no more than 2.5% of a 30-day rolling average of the primary active wetted bottom ash system volume. EPA's analysis of the information submitted by APS indicated that this was consistent with the 2020 Reconsideration Rule.

In a January 26, 2023 letter APS, citing global supply chain and material availability constraints outside of its control, requested that the revised discharge limits should reflect a start date of June 30, 2024, instead of January 1, 2024.

EPA is proposing in this modification to retain the January 1, 2024 start date for the operation of the high-recycle BATW recirculation system. However, to ensure safe and reliable plant operations, a startup period of up to six-months is proposed during which APS is authorized to discharge BATW of up to 10% of a 30-day rolling average of the primary active wetted bottom ash system volume (the maximum allowed under the Reconsideration Rule) with the requirement that it reduce such BATW to 2.5% as soon as possible but no later than July 1, 2024.

II. GENERAL DESCRIPTION OF FACILITY

The APS FCPP is located in San Juan County about 20 miles southwest of Farmington, New Mexico. The Plant is located on the Navajo Nation and is partially owned and operated by APS on behalf of itself as well as the Salt River Project Agricultural Improvement and Power District, Navajo Transitional Energy Company, LLC (NTEC), Public Service Company of New Mexico, and Tucson Electric Power Company. The Plant provides electrical power to utilities in Arizona, Texas, and New Mexico.

The Permittee originally operated five generating units. Pursuant to EPA air pollution rules, the FCPP was provided the flexibility to choose between two compliance strategies for reducing NOx emissions: EPA's Best Available Retrofit Technology determination requiring new NOx controls on all five generating units by 2017, or APS' alternative to retire Units 1, 2, and 3 by 2014 and install new NOx controls on Units 4 and 5 by mid-2018.

The Plant's total generation capacity was originally 2100 megawatts, but following the shutdown of Units 1, 2, and 3 (which occurred on December 30, 2013) the capacity is now 1540 megawatts. The Plant burns low sulfur coal obtained from the adjacent Navajo Mine, owned by the NTEC and operated by North American Coal, Bisti Fuels on behalf of NTEC.

The cooling water for the two remaining operational units, Units 4 and 5, comes from Morgan Lake, a 1200-acre manmade cooling pond located adjacent to the Plant that draws water from the San Juan River at an average rate of about 14.3 million gallons per day. Morgan Lake was constructed wholly in uplands in 1961 to supply cooling water to the FCPP and is an integral

part of the Plant's operations.¹ This permit authorizes APS to discharge treated wastewater from Morgan Lake to No Name Wash via Outfall Number 001.

APS applied for authorization to continue to discharge from the following outfalls:

Outfall No. 001: Cooling Pond Discharge

Internal Outfall Nos:

- 01A: Condenser Cooling Water Discharge
- 01B: Chemical Metal Cleaning Wastewater
- 01E: Combined Waste Treatment Pond Discharge

III. DESCRIPTION OF RECEIVING WATER

Outfall No. 001 discharges from Morgan Lake to the No Name Wash which is a tributary to the Chaco River, which in turn drains to Segment 2-401 of the San Juan River. The discharges according to the permit application submitted by APS from Outfall No. 001 are intermittent with an average of four days per week of discharge throughout the course of the year, resulting in an average flow rate for the discharge of 4.2 million gallons a day. The length of the No Name Wash from Outfall 001 (parshall flume) to the Chaco River is about 2.5 miles and the point where the No Name Wash meets the Chaco River is about 7 miles from where the Chaco meets the San Juan River. APS primarily discharges in order to regulate total dissolved solids ("TDS") build up in Morgan Lake. APS operates a closed-cycle recirculating system, circulating from approximately 1000 up to about 1,700 million gallons a day ("MGD") through the FCPP's manmade cooling pond, Morgan Lake.

Internal Outfall No. 01A (Condenser Cooling Water Discharge) discharges condenser cooling water from Units 4 and 5 into an effluent channel to be recirculated through and cooled off in Morgan Lake. In addition, effluent from Internal Outfall No. 01E (Combined Waste Treatment Pond Discharge) is mixed with the cooling water from Internal Outfall No. 01A before entering Morgan Lake.

Internal Outfall No. 01B (Chemical Metal Cleaning Wastewater) is not in use. The Plant currently disposes chemical metal cleaning wastewater into its lined ash pond pursuant to the Dietrich exemption under the Resource Conservation and Recovery Act, but APS requested to retain Internal Outfall No. 01B for potential future use. The location of Internal Outfall No. 01B (Chemical Metal Cleaning Wastewater) must be provided to, and approved by, EPA prior to any discharge.

¹ As an artificial cooling pond constructed wholly in uplands, Morgan Lake falls within the waste treatment system exclusion from the definition of "waters of the United States." See 40 CFR 122.2.

Internal Outfall No. 01E (Combined Waste Treatment Pond Discharge) discharges from the combined waste treatment pond (CWTP). The CWTP is a treatment lagoon that treats between 5 and 8 MGD of various waste streams, including in plant storm water runoff. Effluent from the CWTP enters a culvert leading to the cooling water discharge canal and Internal Outfall No. 01E. Water from Internal Outfall No. 01E is then blended with condenser cooling water discharges prior to discharge from Internal Outfall No. 01A into Morgan Lake.

Sanitary waste and flue gas desulfurization (“FGD”) blowdown wastewater are not regulated in the permit. The facility has its own domestic treatment package plant with a capacity of 30,000 gallons per day. Chemical metal cleaning and FGD wastewater is sent to a series of two lined ash ponds. Underflow from Units 4 and 5, metal cleaning wastes, and sanitary wastewater effluent from the package plant are combined before being sent to the ash ponds. The two ash ponds operate in a series. The first is a single lined pond where solids settle and floatables are removed and sold for revenue. The effluent from the single lined pond is sent through a siphon drain system downhill to the double lined pond. The double lined pond serves as retention basin holding the effluent before it is pumped for desulfurization reuse. The ash ponds do not discharge to Morgan Lake. The two ash ponds or coal-combustions residual (CCR) surface impoundments will initiate closure and cease receiving wastewater as soon as technically feasible, but no later than April 11, 2021.

For a schematic representation of the various outfalls and flows see the Flow Diagram attached to the permit in Attachment D.

IV. DESCRIPTION OF DISCHARGE

A. Application Discharge Data

As part of the permit renewal application, the Permittee provided data from an analysis of the facility’s treated wastewater discharge. The Permittee also provided data from a priority pollutant scan on the effluent samples collected August 20-24, 2012, and reported in September 2012.

B. Recent Discharge Monitoring Report (DMR) Data

The last inspection of the APS facility was conducted in April 2017. The inspection report indicated that there were two minor (4 gallons and 10 gallons) unauthorized discharges of oil and grease which were timely reported to EPA and followed up with 5-day report indicating that they were resolved. No DMR violations at the facility were reported since the previous inspection. DMR data for the last 2 years, between March 2017 and March 2019 was reviewed and the facility has not reported any instances of violations in their Discharge Monitoring Reports.

V. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

The discharge limitations are based on 40 CFR Part 423 – Effluent Limitation Guidelines (ELGs). EPA has established national standards based on the performance of treatment and control technologies for wastewater discharges to surface waters for certain industrial categories.

ELGs represent the greatest pollutant reductions that are economically achievable for an industry and are based on Best Practicable Control Technology (BPT), Best Conventional Pollutant Control Technology (BCT), and Best Available Technology Economically Achievable (BAT). (Sections 304(b)(1), 304(b)(4), and 304(b)(2) of the CWA respectively).

The ELGs for Steam Electric regulations, were last updated in 2015 via a final rule entitled “Effluent Limitation Guidelines and Standards for the Steam Electric Power Generating Point Source Category” (“2015 ELGs”) which were published in the Federal Register on November 3, 2015. The 2015 ELGs provide there shall be no discharge of pollutants in bottom ash transport water. The 2015 ELGs required dischargers to meet the new discharge prohibition by a date determined by EPA that is as soon as possible beginning November 1, 2018, but no later than December 31, 2023. On September 18, 2017, EPA issued a rule “Postponement of Certain Compliance Dates for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category” (“Postponement Rule”) extending the earliest compliance date for the 2015 ELGs for bottom ash transport water from November 1, 2018, to November 1, 2020. The Postponement Rule did not extend the December 31, 2023 date.

The revised permit is updated from the June 2018 withdrawn permit to include the 2015 ELGs for bottom ash transport water. The 2015 ELGs, 40 CFR Section 423.11(t), allow EPA to select a later date within the range, after receiving information from the discharger, based on the following factors 1) time to expeditiously plan, design, procure, and install equipment; 2) changes being made at the plant pursuant to other regulations, including CCR under the Resource Conservation and Recovery Act of 1976, as amended (RCRA), and 3) other factors as appropriate. The Applicant submitted information to EPA addressing these factors and requested that EPA utilize December 31, 2023, as the applicable date for the bottom ash transport water discharge prohibition. EPA evaluated the information submitted by the Applicant pursuant to the factors in 40 CFR Section 423.11(t) and selected December 31, 2023, as the applicable date for the no discharge prohibition pursuant to the 2015 ELGs, as modified by the Postponement Rule.

Thus, the permit provides that beginning December 31, 2023, there shall be no discharge of bottom ash transport water from Internal Outfall O1E (Combined Waste Treatment Pond Discharge). The permit maintains the discharge limitations for Internal Outfall O1E (Combined Waste Treatment Pond Discharge) from the previous permit that apply until December 31, 2023. These limitations are consistent with the ELGs currently in effect.

In addition to technology-based effluent limitations, the Clean Water Act (CWA) Sections 402 and 301(b)(1)(C) require that an NPDES permit contain effluent limitations that, among other things, are necessary to meet water quality standards. An NPDES permit must contain effluent limits for pollutants that are determined to be discharged at a level which has “the reasonable potential to cause or contribute to an excursion above any State [or Tribal] water quality standard, including State [or Tribal] narrative criteria for water quality.” 40 CFR 122.44(d)(1)(i).

To determine whether the discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants, the regulatory authority must consider a variety of factors. 40 CFR 122.44(d)(1)(ii). These factors include the following:

- Dilution in the receiving water;

- Existing data on toxic pollutants;
- Type of industry;
- History of compliance problems and toxic impacts; and
- Type of receiving water and designated use.

EPA, as the NPDES permit issuing authority, can use any combination of federal, state or tribal standards that EPA deems most protective of the beneficial uses of the receiving water, pursuant to its Best Professional Judgment (BPJ) authority under the Clean Water Act. Here EPA, pursuant to its BPJ authority, decided to use the numeric standards approved in the 2007 Navajo Nation Water Quality Standards to both assess “reasonable potential” for exceedances of water quality standards and to protect “downstream” beneficial uses in the Chaco River.

Pursuant to its BPJ authority and applying the factors listed above to the APS FCPP operations and wastewater quality monitoring data provided in the application, as well as ambient monitoring data from other sources, EPA concluded that the discharge does not present a "reasonable potential" to cause or contribute to an exceedance of water quality standards in the receiving water. EPA did not consider any dilution in imposing limits, making the most conservative and protective assumption of no available dilution in its requirement that effluent limits must meet water quality standards at the end of the pipe prior to discharge.

EPA concluded, consistent with the previous permit, that other than the effluent limitations for pH, total suspended solids (TSS), and Oil and Grease, which are promulgated under the Steam Electric Power Generation ELGs, as described in 40 CFR Part 423, that there is no reasonable potential for other pollutants to cause or contribute to a violation of receiving water standards. However, EPA included monitoring in the permit for mercury and selenium, as well as a requirement for screening for priority pollutants listed in 40 CFR 423, Appendix A at least twice during the permit term to verify these assumptions.

The permit also sets general conditions based on narrative water quality standards contained in Section 202 of the Navajo Nation Surface Water Quality Standards 2007. Again, EPA as the permitting authority decided to use the approved narrative standards of the downstream jurisdiction, i.e. the Navajo Nation, pursuant to its BPJ authority under the Clean Water Act. These narrative standards are set forth in the Section entitled General Discharge Specifications of the permit.

A. Outfall No. 001 – Cooling Pond Discharge

The permit sets flow (14.7 million gallons per day) temperature (32.2 degrees centigrade monthly average and 35 degrees daily maximum), pH limits (no less than 6.0 or greater than 9.0 standard pH units). Temperature is to be monitored continuously and flow must be monitored on a weekly basis. Monitoring for pH is required on a weekly basis and TDS on a monthly basis. TDS monitoring is required for discharges to tributaries of the San Juan River. These requirements are consistent with the previous permit.

In addition to the limits established for Outfall 001, the permit also establishes limits for several internal outfalls as listed below. Internal outfalls are authorized pursuant to 40 CFR 122.45(h) when imposing such limits at the final discharge point would be impracticable because the wastes at the point of final discharge would be so diluted as to make monitoring and detection very difficult if not impossible.

B. Internal Outfall No. 01A – Condenser Cooling Water Discharge

Although Morgan Lake is a closed-cycle man-made cooling pond, EPA is applying the definition from 40 CFR 423.11(g) for “once-through cooling water” to the internal outfall for chlorine. Internal Outfall No. 01A is subject to the limitations outlined in 40 CFR 423.13(b)(1) and 423.13(b)(2) for chlorine.

Intermittent chlorination is used as a system biocide in once-through cooling waters. The regulations at 40 CFR Part 423 limit chlorination duration and frequency (two hours/unit/day) to protect the receiving water from chlorine toxicity. The permit limits chlorine residual in the discharge based on the calculations described below.

Total Residual Chlorine: In accordance with 40 CFR 423.13(b)(1), for any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once-through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of the once-through cooling water from each discharge point times the daily maximum concentration of 0.2 milligrams per liter (mg/L). The total maximum flow from the two units during periods of chlorination (571.6 million gallons a day) is used in the following calculation:

$$\frac{571.6 \text{ million gal}}{\text{Day}} \times \frac{0.2 \text{ mg}}{\text{L}} \times \frac{8.345 \text{ lbs/million gal}}{1 \text{ mg/L}} = 954 \text{ lbs/day}$$

Oil and Grease: Daily maximum and 30-day average concentration limits for oil and grease are established at Internal Outfall No. 01A at 20.0 and 15.0 mg/L respectively.

Other requirements: The pH restricted range is 6.0 to 9.0 standard pH units. Chronic toxicity monitoring is required on a quarterly basis during the first year following issuance of the permit. APS may petition for a reduced measurement frequency after the first year provided there is no reasonable potential for chronic toxicity demonstrated. Flow rates must be calculated and reported.

Imposing these limits at Outfall No. 001 would be impracticable due to dilution in Morgan Lake and therefore pursuant to 40 CFR 122.45(h) applying limits at Internal Outfall No. 01A is appropriate.

C. Internal Outfall No. 01B Chemical Metal Cleaning Wastewater

Internal Outfall No. 01B meets the definition of chemical metal cleaning waste under 40 CFR 423.11(c) and is regulated as such under 40 CFR 423.12(b)(5) and 423.13(e). The limits for TSS and oil and grease are as follows: The permit sets daily maximum concentration limits of 100.0 and 20.0 mg/L for TSS and oil and grease, respectively. Monthly average concentration limits are 30.0 and 15.0 mg/L for TSS and oil and grease respectively. Limits for copper and iron are each set at 1.0 mg/L for both the daily maximum

and monthly average limits. Additionally, the permit restricts pH to a range of 6.0 to 9.0 standard pH units. These requirements are consistent with the previous permit.

Imposing these limits at Outfall No. 001 would be impracticable due to dilution in Morgan Lake and therefore pursuant to 40 CFR 122.45(h) applying limits at Internal Outfall No. 01B is appropriate.

D. Internal Outfall No. 01E Low Volume Wastewater (LVWW)

A large component of Internal Outfall No. 01E discharge is bottom ash transport water (“BATW”), with low-volume wastewater constituting a smaller component of the discharge. (See 40 CFR 423.11(f) for definition of bottom ash.) As such, Internal Outfall No. 01E is regulated under 40 CFR 423.12(b)(4) for TSS and oil and grease. TSS and oil and grease are subject to the same limits as those for Internal Outfall No. 01B above. The permit also restricts pH to a range of 6.0 to 9.0 standard pH units, and flows must be estimated and reported. These requirements are consistent with those of the previous permit.

In late 2020 EPA revised sections of 40 CFR 423 – Steam Electric Power Generating Point Source Category (i.e., the 2020 ELG Steam Electric Reconsideration Rule) which removed the requirement for Zero Liquid Discharge (“ZLD”) of BATW and permitted discharge of up to 10% of a 30-day rolling average of the primary active wetted bottom ash system volume on a case-by-case basis, with a requirement to reduce or eliminate such discharge to the extent achievable using control measures that are technologically and economically achievable in light of best industry practice.

For a period of up to six months, starting on January 1, 2024 APS is authorized to discharge bottom ash transport water of no more than 10% of a 30-day rolling average of the primary active wetted bottom ash system volume, the maximum permissible under the 2020 Reconsideration Rule. This initial period is to allow the permittee to test the newly installed high-recycle BATW system and ensure safe and reliable plant operations for up to a six-month period. The permit includes a requirement that APS discharge no more than 2.5% of a 30-day rolling average of the primary active wetted bottom ash system as soon as possible after January 1, 2024 but no later than July 1, 2024. This 2.5% discharge is authorized for the remainder of the permit term.

Imposing these limits at Outfall No. 001 would be impracticable due to dilution in Morgan Lake and therefore pursuant to 40 CFR 122.45(h) applying limits at Internal Outfall No. 01E is appropriate.

Imposing these limits at Outfall No. 001 would be impracticable due to dilution in Morgan Lake and therefore pursuant to 40 CFR 122.45(h) applying limits at Internal Outfall No. 01E is appropriate.

VI. ANTI-BACKSLIDING/ANTIDEGRADATION

A. Anti-Backsliding

CWA Section 402(o) prohibits the renewal or reissuance of an NPDES permit that contains effluent limits less stringent than those established in the previous permit, except as provided in the statute. The permit does not establish any effluent limits less stringent than those in the previous permit and does not allow backsliding.

B. Antidegradation Policy

EPA's antidegradation policy at 40 CFR 131.12 and Navajo Nation Water Quality Standards require that existing water uses and the level of water quality necessary to protect the existing uses be maintained. As described in this document, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone, therefore these limits will apply at the end of pipe without consideration of dilution in the receiving water. A priority pollutant scan has been conducted of the effluent, demonstrating that most pollutants will be discharged below detection levels. Although the permit allows loadings of oil and grease, receiving water monitoring data show that existing mass loadings of oil and grease have not resulted in a violation of the narrative standards which states that "the discharge shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, or other activities of man". Furthermore, the waterbody is not listed as an impaired waterbody for TSS, turbidity or oil and grease under CWA Section 303(d). Therefore, the discharge is not expected to adversely affect receiving water bodies or result in any degradation of water quality.

VII. OTHER APPLICABLE WATER QUALITY EFFLUENT LIMITS

A. Narrative Limits

As discussed, EPA, as the permit writing authority may use any combination of federal, state or tribal standards it deems protective of the beneficial uses of the receiving water, pursuant to its BPJ. Here, EPA is relying on the Navajo Nation narrative water quality standards applicable to the receiving waters.

B. General Discharge Specifications

In the previous permit the discharge of polychlorinated biphenyl (PCB) fluids was prohibited. Based on best professional judgment and the requirements of the Clean Water Act, this prohibition continues to apply.

C. Surface Seepage

Based on best professional judgment and consistent with the requirements imposed in the previous permit cycle, surface seepage intercept systems are required to be maintained and operated for existing unlined ash ponds. Water collected by these intercept systems shall be

returned to the double lined decant pond. Additionally, a Seepage Monitoring and Management Plan shall be implemented to determine the source of and pollutants in seepages below all ash ponds that receive or received coal combustion residue either currently or in the past. The Plan shall at a minimum do the following:

1. Identify all seeps within 650 meters down gradient of such impoundments;
2. Conduct sampling (or provide a summary of current data if sufficient and valid) of seepages for boron, mercury, nickel, selenium, uranium, zinc and TDS. The details of the requirements of such a plan are provided in the relevant section of the permit.
3. Provide information about number of flows observed and range of flows observed.
4. Provide information about exceedances of any human health, livestock, or chronic or acute aquatic life standards in the samples collected for analysis.

D. Cooling Water Regulation

APS operates a closed-cycle recirculating system, circulating approximately 1000 to 1,700 MGD through Morgan Lake, a man-made cooling pond. The Applicant withdraws up to a maximum of 24.5 MGD of water from the San Juan River as make-up water to replenish losses that have occurred due to blowdown, drift, and evaporation within Morgan Lake and the cooling system. Currently the San Juan River intake system is equipped with a weir and a channel with a gate. If the water in the river is too low at the intake screens to supply the pumps, the gate in the channel is lowered. The gate and the weir together increase the level at the intake screens to supply the pumps. The intake screens are periodically changed out for cleaning.

Because the facility intakes greater than 2 MGD of cooling water, it must meet requirements under CWA Section 316(b), regulating the design and operations of intake structures for cooling water operations. A rule for existing facilities was adopted by EPA on May 19, 2014, and effective October 14, 2014. See 40 CFR 125.90-98. Forty CFR 125.94 requires facilities to utilize the best technology available (BTA) to minimize adverse environmental impacts due to impingement mortality and entrainment of aquatic organisms in the intake structure. Forty CFR 125.94(c & d) provide that a closed cycle recirculating system as defined by 40 CFR 125.92(c) may be BTA. Forty CFR 125.94(g) allows EPA to include additional measures to protect Federally listed threatened and endangered species and designated critical habitat identified by U.S. Fish and Wildlife Service (USFWS).

Pursuant to the USFWS Biological Opinion reasonable and prudent measures discussed more below, APS will implement a Pumping Plan to minimize impingement mortality and entrainment of fish, fish larvae, and fish eggs at the intake system. The Pumping Plan includes removing the barrier between the two pump trains to reduce intake flow velocity, as well as prohibiting intake during certain periods of the year to minimize inadvertent intake of fish eggs and larvae.

EPA determined that BTA for the cooling water intake structure for the permit consists of a closed cycle recirculating system pursuant to 40 CFR 125.94(c & d) and the USFWS approved Pumping Plan pursuant to 40 CFR 125.94(g). The Applicant must submit

applicable materials under 40 CFR 122.21(r)(1)-(8) within two years of the effective date of the permit.

VIII. MONITORING AND REPORTING REQUIREMENTS

The permit requires the Permittee to conduct monitoring for all pollutants or parameters where effluent limits have been established, at the minimum frequency specified. Additionally, where effluent concentrations of toxic parameters are unknown or where data are insufficient to determine reasonable potential, monitoring may be required for pollutants or parameters where effluent limits have not been established.

A. Effluent Monitoring and Reporting

The Permittee shall conduct effluent monitoring to evaluate compliance with the permit conditions. The Permittee shall perform all monitoring, sampling and analyses in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the permit. All monitoring data shall be reported on monthly DMR forms and submitted quarterly as specified in the permit.

B. Priority Toxic Pollutants Scan

The permit requires the Permittee to conduct a priority pollutant scan (“PPS”) using sufficiently sensitive methods as defined in 40 CFR 136 within 30 days after the effective date of the permit or within 30 days after the first discharge from Outfall 001, whichever occurs first. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants. If the results indicate a reasonable potential for an exceedance of applicable water quality standards, then the permit may be re-opened to include additional monitoring or appropriate permit limits. The permit also requires another PPS in the fifth year of the permit cycle prior to applying for a permit renewal.

C. Whole Effluent Toxicity Testing

The permit establishes monitoring for chronic toxicity for discharge from Internal Outfall 01A. The Permittee shall be required to conduct chronic toxicity testing if discharges from Internal Outfall 01A are known to occur during at least five (5) consecutive days. During the previous permit cycle, the Permittee after demonstrating by monthly toxicity testing during the first year of permit term that there was no chronic toxicity, requested a reduction in chronic toxicity testing in accordance with 40 CFR 122.62 by submitting a request for permit modification in writing to EPA Region 9. EPA Region 9 approved this reduced frequency of toxicity testing for the rest of the permit term. As the actual processes that contribute to discharges from Internal Outfall 01A are still basically the same as in the previous permit term, the permit will require quarterly toxicity monitoring in the first year following the issuance of the permit, and then the Permittee may request a reduced frequency of toxicity testing and limitation on testing using the most sensitive species upon demonstrating that there is no reasonable potential for chronic toxicity from Internal Outfall 01A.

IX. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Impact to Threatened and Endangered Species

Section 7 of the Endangered Species Act (ESA) of 1973 requires federal agencies to ensure that any action authorized, funded, or carried out by a federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat. A federal agency must consult with the relevant Service, either USFWS or the National Marine Fisheries Service, if it determines that an endangered or threatened species is present in the area affected by the federal action and that the implementation of such action will likely affect the species. ESA Section 7(a)(3).

To identify the endangered and threatened species that are present in the action area, EPA used the list generated for the Office of Surface Mining Reclamation and Enforcement (OSMRE) for the related but much broader proposed action related to the Four Corners Power Plant and Navajo Mine Energy project. This larger project includes the land and listed species relevant to EPA's permitting action. OSMRE obtained a list of species to be considered from FWS on January 23, 2014. A total of 39 species were identified as potentially occurring in the Action Area of the project, which is much larger than but overlaps with the location of the outfalls covered by the permit. A separate species list was obtained by EPA from FWS on September 2, 2014, and on April 28, 2019, for the limited area that is the subject of this EPA permitting action. Six threatened or endangered species were identified within the area covered by the permit. These species are listed below:

Birds

- Southwestern willow flycatcher (*Empidonax traillii extimus*): Endangered
- Yellow-billed cuckoo (*Coccyzus americanus*): Proposed Threatened

Fish

- Colorado pikeminnow (*Ptychocheilus lucius*) Endangered
- Razorback sucker (*Xyrauchen texanus*) Endangered

Plants

- Mancos milk-vetch (*Astragalus humillimus*) Endangered
- Mesa Verde cactus (*Sclerocactus mesae-verdae*) Threatened

Due to the overlap in the species and area affected by the OSMRE and EPA proposed actions, those agencies, the Permittee and USFWS agreed to consider all of the federal actions in a single ESA consultation for the "Four Corners Power Plant and Navajo Mine Energy Project." The consulting federal agencies submitted to USFWS a comprehensive Biological Assessment dated August 8, 2014, and supplemented and amended that Biological Assessment in a letter dated March 13, 2015. The Biological Assessment concluded, based on the cumulative impacts of the broader proposed project, that there will likely be adverse effects on the listed Colorado pikeminnow (*Ptychocheilus lucius*) and Razorback sucker (*Xyrauchen texanus*) within the area covered by the permit.

The FWS issued its final Biological Opinion for the Four Corners Power Plant and Navajo Mine Energy Project on April 8, 2015. (Available at:

https://www.wrcc.osmre.gov/initiatives/fourCorners/documents/FC_040915-FINALBiOpFCPP-NMEPARMS.pdf) (“Biological Opinion”). The Biological Opinion includes the USFWS scientific analyses of the proposed federal agency actions, as well as an incidental take statement with reasonable and prudent measures for the federal agencies to take in order to assure that these actions avoid jeopardizing the continued existence of listed or candidate species or destroying or adversely modifying critical habitat. The reasonable and prudent measures delineate responsibilities for each of the consulting federal agencies, depending upon each agency’s authorities and the proposed actions.

EPA incorporated two of these measures into the permit; 1) the Pumping Plan for the cooling water intake structure and 2) sufficiently sensitive sampling methods (as described above pursuant to 40 CFR 136) primarily for mercury and selenium; and initiated a longer-term effort to identify appropriate protocols for evaluating fish tissue concentration and water column values. EPA believes that appropriate collaborative implementation of the Biological Opinion will allow EPA to comply with its obligations under the ESA.

B. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. EPA used the analysis conducted by the OSMRE for the related, but much broader Proposed Action related to the Four Corners Power Plant and Navajo Mine Energy Project for which EPA is a signatory agency. Pursuant to the analysis conducted by OSMRE there are no projected disturbances related to construction activities from the reissuance of the NPDES permit. Therefore, pursuant to the NHPA and 36 CFR 800.3(a)(1), EPA is making a determination that issuing this permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require EPA to undertake additional consulting on the permit.

C. Water Quality Certification Requirements (40 CFR 124.53 and 54)

The Applicant submitted a request for certification (or waiver thereof) of the permit under Clean Water Act Section 401(a)(1) on March 27, 2019. In its Application, the Applicant has provided a description of the facility, activity and discharge subject to the permit, including the proposed treatment technology, monitoring methods and the dates of discharge.

The Four Corners Power Plant is entirely within the boundaries of the Navajo Nation. Although the Navajo Nation has received recognition for “treatment as a state” (“TAS”) for both its water quality standards program and for Clean Water Act Section 401 certifications, EPA explicitly excluded the area leased for the Four Corners Power Plant from the TAS recognition. For that reason, EPA is the agency responsible for certifying (or waiving certification) that the permit complies with the applicable provisions of the Clean Water Act as it affects water quality.

Given that the aquatic resources protected by the CWA 401 certification program are the same as the aquatic resources being protected pursuant to the permit and the permit contains conditions necessary to achieve compliance with the CWA, EPA has waived CWA Section

401(a)(1) certification for the permit. The Applicant's request for certification or waiver and the EPA waiver under Section 401(a)(1) are included in the Administrative Record for this permit.

X. STANDARD CONDITIONS

A. Reopener Provision

In accordance with 40 CFR 122 and 124, the permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

B. Standard Provisions

The permit requires the Permittee to comply with EPA Region 9 Standard Federal NPDES Permit Conditions.

XI. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR 124.10)

The public notice is the vehicle for informing all interested parties and members of the public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application. This permit was public noticed in April 2019.

B. Public Comment Period (40 CFR 124.10)

The proposed permit was Public Noticed in the *Navajo Times* and the *Farmington Daily Times* on or about April 30, 2019. The public comment period for interested parties to respond in writing to EPA closed on July 1, 2019. After the closing of the public comment period, EPA responded to all significant comments received during the public comment period in the Response to Comments (RTC) document provided along with the issuance of the permit in and fact sheet in 2019.

C. Permit Modification – The public comment period on the draft permit modification began on September 27, 2023 and ended on October 30, 2023. After the public comment period, EPA responded to all significant comments received during the public comment period in the 2023 Response to Comments (RTC) document provided along with permit modification and factsheet.

XII. CONTACT INFORMATION

Comments, submittals, and additional information relating to this permit may be directed to:

U.S. Environmental Protection Agency, Region 9
NPDES Permits Section, Water Division (WTR-2-3)
Attn: Gary Sheth
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 972-3516 or email to Sheth.Gary@epa.gov

XIII. REFERENCES

- APS 2005 and 2013 *NPDES Permit Reapplication and Supporting Documents*.
- EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water, EPA. EPA/505/2-90-001.
- EPA. 1996. *Regions IX & X Guidance for Implementing Whole Effluent Toxicity Testing Programs*, Interim Final, May 31, 1996.
- EPA. 2002a. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms - Fifth Edition*. Office of Water, EPA. EPA-821-R-02-012.
- EPA. 2010. *U.S. EPA NPDES Permit Writers' Manual*. Office of Water, EPA. EPA-833-K-10-001.
- EPA 2012. *Compliance Evaluation Inspection Report for APS Corners Power Plant*. Final, August 9, 2012.
- NNEPA Water Quality Program. 2008. *Navajo Nation Surface Water Quality Standards 2007*.
- OSMRE 2014. *Four Corners Power Plant and Navajo Mine Energy Project Biological Assessment*.
- USFWS 2014. *List of threatened and endangered species for the APS Four Corners Power Plant*. Consultation Tracking Number 02ENNM00-2014-SLI-0511.
- USFWS 2019. *Species by County Report, San Juan County, New Mexico*.
- OSMRE 2015. *Four Corners Power Plant and Navajo Mine Energy Project Biological Assessment Amendments*.
- USFWS 2015. *Biological Opinion for the Four Corners Power Plant and Navajo Mine Energy Project*. Consultation Tracking Number 02ENNM00-2014-F-0064.
- EAB 2020. *Order Denying Review in Re: Arizona Public Service Co. NPDES Permit No. NN0000019*. NPDES Appeal No. 19-06