NPDES PERMIT NO. NM0031135
FACT SHEET

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

Farmington Electric Utility System - Bluffview Power Plant
101 N. Browning Parkway
Farmington, NM 87401

ISSUING OFFICE

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DATE PREPARED

April 1, 2019

PERMIT ACTION

Reissuance of a permit previously issued June 26, 2014, with an effective date of August 1, 2014, and an expiration date of July 31, 2019.

RECEIVING WATER – BASIN

San Juan River – San Juan River Basin

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

4Q3	Lowest four-day average flow rate expected to occur once every three-years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
mg/l	Milligrams per liter
ug/l	Micrograms per liter
MGD	Million gallons per day
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES Permit Implementation Procedures
NMWQS	New Mexico State Standards for Interstate and Intrastate Surface Waters
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
POTW	Publically owned treatment works
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TDS	Total dissolved solids
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSS	Total suspended solids
UAA	Use attainability analysis
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Service
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

I. BACKGROUND

The Bluffview Power Plant has discharged its wastewater to the City of Farmington Wastewater Treatment Plant (NPDES No. NM0020583) for treatment. Because the City WWTP could not meet the effluent limitation for TDS in accordance with the basin wide Colorado River Salinity Control Program (CRSCP), To resolve the TDS permit violation, the City issued an Industrial Pretreatment Program permit to order that the Bluffview Power Plant acquires its own NPDES permit for authorization of wastewater discharges.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the City of Farmington Bluffview Power Plant (BPP) is located at 755 W. Murray Drive, Farmington, San Juan County, New Mexico. Under the Standard Industrial Classification Code 4911, the BPP is a steam electrical power plant.

BPP is owned and operated by the City of Farmington Electric Utility System (FEUS) and is a natural gas-fired generation plant. The BPP was built in 2004 and consists of one combustion turbine, one heat recovery steam generator and one steam turbine. It can generate a nominal 62 megawatt of electricity. Outfall 001is designed for discharge of plant effluent directly to the San Juan River downstream of the confluence with the Animas River.

III. EFFLUENT CHARACTERISTICS

A flow schematic and water balance chart attached to the Application Form 2C indicates that the plant effluent consists of cooling tower blowdown, demineralization reverse osmosis wastewater, evaporative cooler (summer only), and various floor drains (including oily water header that is treated by an oil separator, and process areas drain header). Boiler blowdown and city water are used in the cooling tower. The applicant has provided effluent characteristics in the application.

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water,” more commonly known as the “swimmable, fishable” goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

The BPP submitted a complete permit application signed on December 12, 2018. It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR §122.46(a).

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

A. OVERVIEW OF TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations contained in 40 CFR §122.44 require that NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. General Comments

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

2. Effluent Limitation Guidelines

Technology based requirements for this type of discharger are contained in 40 CFR §423, Steam Electric Power Generating. The BPP generates electricity from natural gas fueled units installed after 1982 when ELGs were established in 1982 for BPT, BAT and new source performance standards (NSPS). The facility generates 62 MW, more than the 25 MW threshold for certain ELGs contained in 40 CFR §423. The ELGs for this type of facility are based on NSPS.

Based on 40 CFR §423.15 for NSPS, the permittee must achieve the following ELGs:

The pH of all discharges, except once through cooling water, shall be within the range of 6.0–

9.0.

There shall be no discharge of polychlorinated biphenyl compounds (PCBs) such as those commonly used for transformer fluid.

The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the concentration listed in the following table:

Pollutant	Effluent limitations	
	Daily Max (mg/l)	30-Day Avg (mg/l)
TSS	100	30
Oil & Grease	20	15

The term low volume waste sources means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in this part. Low volume wastes sources include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment system, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

The quantity of pollutants discharged in chemical metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of chemical metal cleaning wastes times the concentration listed in the following table:

Pollutant	Effluent limitations	
	Daily Max (mg/l)	30-Day Avg (mg/l)
TSS	100	30
Oil & Grease	20	15
Copper, total	1.0	1.0
Iron, total	1.0	1.0

The term chemical metal cleaning waste means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

For any plant with a total rated generating capacity greater than 25 MW, the quantity of pollutants discharged in once through cooling water shall not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in the following table:

Pollutant	Effluent limitations
	Daily Max (mg/l)
Total residual chlorine	0.2

The term once through cooling water means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat.

The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the concentration listed below:

Pollutant	Effluent limitations	
	Daily Max (mg/l)	30-Day Avg (mg/l)
Free available chlorine	0.5	0.2

Pollutant	Effluent limitations	
	Daily Max (mg/l)	30-Day Avg (mg/l)
The 126 priority pollutants (Appendix A) contained in chemicals added for cooling tower maintenance, except:	*1	*1
Chromium, total	0.2	0.2
Zinc, total	1.0	1.0

Footnote:

*1 No detectable amount.

The term blowdown means the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the permit issuing authority, that the units in a particular location cannot operate at or below this level of chlorination.

At the permitting authority's discretion, instead of the monitoring in 40 CFR 122.11(b), compliance with the limitations for the 126 priority pollutants in paragraph (j)(1) of this section may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.

3. Cooling Water Intake Structure

Regulations contained in CWA §316(b), requires that the location, design, construction and capacity of cooling water intake structures (CWIS) reflect the best technology available for minimizing adverse environmental impact. CWIS cause adverse environmental impact by pulling large numbers of fish and shellfish or their eggs into a power plant's or factory's cooling system. There, the organisms may be killed or injured by heat, physical stress, or by chemicals used to clean the cooling system. Larger organisms may be killed or injured when they are trapped against screens at the front of an intake structure.

Because BPP uses city water for cooling water make-up, it does not withdraw water from the waters of United States, so it causes no adverse environmental impact. It complies with the CWA 316(b) requirements. Therefore, no further permit conditions are established for operations of the CWIS.

4. Draft Permit Effluent Limitation Guidelines

a. TSS and Oil & Grease (O&G)

Because the ELG of TSS and O&G for the low volume waste source applies to the discharges of cooling tower blowdown, RO waste and floor drains which are composed of the effluent at Outfall 001, EPA proposes to establish the ELG-based TSS and O&G limitations at Outfall 001, instead of at separate internal outfalls.

b. 126 Priority Pollutants

In accordance with the provision in section 423.15(j)(3), at EPA's discretion, a narrative restriction is proposed as "If cooling tower maintenance chemicals are required, the permittee must demonstrate through engineering calculations that the 126 priority pollutants (listed at 40 CFR §423, Appendix A) are limited in the discharge to "no detectable amount," except total chromium (0.2 mg/l) and total zinc (1.0 mg/l). The use of chemical additives which may contain any of the 126 priority pollutants or may adversely impact aquatic lives is not authorized unless approval is obtained and limitations are established on a case-by-case basis. Records of chemical applications and engineering calculations must be kept on site for three years or longer."

c. Chemical Cleaning Waste

EPA has established a narrative restriction of "There shall be no discharges of metal cleaning wastes or chemical metal cleaning wastes" to regulate metal cleaning wastes through the NPDES permit for all power plants in the State of New Mexico.

d. Total Residual Chlorine or Free Available Chlorine

Because the ELG for chlorine is to protect aquatic life in the receiving stream and also because the ELG concentration is higher than the applicable state WQS for total residual chlorine (TRC), the most stringent state acute aquatic life standard of 0.019 mg/l of TRC is established at Outfall 001.

5. Technology-Based Mass Limits

Regulations at 40 CFR §122.45(f)(1) require all pollutants limited in permits to have limits expressed in terms of mass such as pounds per day for continuous dischargers. For Outfall 001, the highest monthly average flow is 58 gallons per minute, which is 0.083 MGD. So, the mass limits for TSS and O&G are calculated as

Mass Loads (lb/day) = Concentration Limits (mg/l) × 8.34 × Flow (MGD)
where 8.34 is a conversion factor. Therefore,

	Monthly Average (Lbs/day)	Daily Maximum (Lbs/day)
TSS	20.77	69.22
O&G	10.38	13.84

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC amended through August 11, 2017). The facility discharges into the San Juan River in segment number 20.6.4.401 of the San Juan River Basin. The designated uses of the receiving water are public water supply, industrial water supply, irrigation, livestock watering, wildlife habitat, primary contact, marginal coldwater aquatic life and warmwater aquatic life.

4. Permit Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. pH

Stream segment specific (20.6.4.403 NMAC) WQS for pH, 6.6 to 9.0 su, are established in the draft permit. These are more stringent than technology based limitations noted above. This pH limit range is in the current permit.

b. Total Dissolved Solids – Colorado Salinity Control Program

NMWQS section 20.6.4.54 COLORADO RIVER BASIN states that “For the tributaries of the Colorado river system, the state of New Mexico will cooperate with the Colorado river basin

states and the federal government to support and implement the salinity policy and program outlined in the most current “review, water quality standards for salinity, Colorado river system” or equivalent report by the Colorado river salinity control forum.
A. Numeric criteria expressed as the flow-weighted annual average concentration for salinity are established at three points in the Colorado river basin as follows: below Hoover dam, 723 mg/L; below Parker dam, 747 mg/L; and at Imperial dam, 879 mg/L.
B. As a part of the program, objectives for New Mexico shall include the elimination of discharges of water containing solids in solution as a result of the use of water to control or convey fly ash from coal-fired electric generators, wherever practicable.
[20.6.4.54 NMAC - Rn, Paragraphs (1) through (3) of Subsection K of 20.6.4.12 NMAC, 05-23-05; A, 05-23-05]”

The discharge to the San Juan River is part of the Colorado River Basin where a basin wide Colorado River Salinity Control Program (CRSCP) was established by EPA in December 1974. The objective of the CRSCP, as provided in Sections I.A. and I.B., is to achieve "no salt return" whenever practicable for industrial discharges and an incremental increase in salinity over the supply water for municipal discharges.

Under the 2017 review of the NPDES permit program policy for implementation of Colorado River salinity standards, it provides a policy to regulate all new industrial sources as below:
“…"A new industrial source with operations and discharging facilities at multiple locations under common or affiliated ownership or management” shall be defined for purposes of NPDES permitting, as an industrial source that commenced construction on a pilot, development or production scale on or after October 30, 2002.

a. The permitting authority may permit the discharge of salt upon a satisfactory demonstration by the permittee that:

i. It is not practicable to prevent the discharge of all salt from the new construction or,

ii. In cases where the salt loading to the Colorado River from the new construction is less than one ton per day or 366 tons per year, or

iii. The proposed discharge from the new construction is of sufficient quality in terms of TDS concentrations that it can be considered "fresh water" that would have no adverse effect on achieving the adopted numeric standards for the Colorado River System….”

The BPP has reused city water and boiler blowdown for the cooling tower and such technologies are the best available technology under the CWA 316(b) and cause “zero” adverse impacts to aquatic life in terms of impingement and entrainment. The quantity of discharges from BPP has been minimized in comparison with once-through cooling water system. It may not be practicable to remove all salt from cooling tower blowdown prior to discharging. Therefore, EPA proposes to authorize the discharge to San Juan River with a Daily Maximum TDS limitation of < 2000 lb/day. A loading limit of 2000 lb/day is equivalent to 2889.25 mg/l concentration limitation based on 0.083 MGD daily discharge. EPA proposes a TDS concentration limit of 2889 mg/l which is less than the current limit of 3475 mg/l due to the increase of effluent flow.

c. TOXICS

i. General Comments

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criteria, the permit must contain an effluent limit for that pollutant.

ii. Reasonable Potential – Toxics

The low flow or 4Q3 was provided by NMED as 435.51 cfs and the harmonic mean flow used to evaluate human health impacts is 1055.9 cfs. To convert 4Q3 expressed in cfs to 4Q3 expressed as MGD, the constant 1.548 cfs/MGD is used. The calculated 4Q3 and harmonic mean flows are 281.34 MGD and 682.11 MGD, respectively. The gauge station to measure these flows is on the San Juan River downstream of the facility; therefore the plant maximum daily flow of 58 gallons per minute which is equivalent to 0.083 MGD was subtracted from the flow recorded at gauge station. Stream TSS of 98 mg/l and hardness of 125.9 mg/l are used for RP calculations. The values of TSS and hardness are the average values recorded at 64SanJuan101.6 Stations.

For Outfall 001, the effluent flow Q_e is 0.083 MGD. CD is expressed as the ratio of the effluent flow (Q_e) divided by the sum of the low flow (Q_a) and the effluent flow as follows:

$$CD = Q_e/[Q_e + Q_a]$$

The CD for the site based on this rate is:

$$CD = 0.083/[281.34]$$
$$CD = 0.000295 \text{ or } 0.030\%$$

Some pollutant values reported in the original application have demonstrated RP to exceed WQS because the operator did not use sufficient sensitive analytical methods which could detect chemical-specific concentrations equal or below the Minimum Qualification Levels (MQLs) provided in the current permit. While a value was reported as less than a value which is higher than the associate MQL for a specific pollutant, a value which equals to half of the MQL was assigned for RP screening purpose. The current permit Part II, section A-Minimum Qualification Level states "…For pollutants listed on Appendix A of Part II below with MQL's, analyses must be performed to the listed MQL…. In addition, any additional pollutant sampling for purposes of this permit, including renewal applications or any other reporting, shall be tested to the MQL shown on the attached Appendix A of Part II." The permittee was informed to re-test the following metals listed in Application Form 2C: antimony, arsenic, beryllium, cadmium, mercury, nickel, selenium, thallium, and zinc. The permittee re-submitted new testing results on March 21, 2019, and new effluent data have demonstrated no RP.

New effluent data has demonstrated no RP for total aluminum and therefore, EPA proposes to remove effluent limitation and monitoring requirement for total aluminum from the current permit.

iii. TRC

The levels of discharge of chlorine at technology-based levels are quite higher than State WQS. WQS allow TRC of 11 ug/l for chronic and 19 ug/l for acute. Chronic criteria are allowed dilution based on the ratio of discharge flow and receiving water lowflow; CD, while acute criteria must meet end-of-pipe criteria. The acute 19 ug/l end-of-pipe criteria is more restrictive than the chronic after mixing and EPA proposes 19 ug/l at Outfall 001. Effluent TRC data of 0.2 mg/l (200 ug/l) reported in the application is much higher than the permitted limit and therefore, effluent limitation and daily monitoring requirement remain in the permit.

5. Stream Impairment Requirements

The San Juan River in the segment number 20.6.4.401 from Navajo boundary at Hogback to Animas River is listed as not supporting for marginal coldwater aquatic life and primary contact uses. The probable causes of impairment are E. coli, sedimentation/siltation and turbidity. According to the Assessment Rationale for the 2018-2020 State of New Mexico §303(d)/ §305(b) Integrated List (https://www.env.nm.gov/wp-content/uploads/2018/03/Assessment-Rationale-ROD.pdf), sedimentation/siltation (5C) and turbidity were added through 2012 action. And, through 2014 action, turbidity was removed, and sedimentation was remained as a cause of impairment. E, coli was remained as a cause through 2016 action. The probable sources include drought-related impact, municipal point source discharge, on-site treatment system, rangeland grazing, and unknown sources. Bacteria are not expected in the discharge and sanitary waste is not authorized in the permit, limitations for bacteria are not required in the draft permit for the impairment. The turbidity was listed as a cause of stream impairment in 2012, but removed in 2014. Because it was unclear how the discharge may contribute turbidity when EPA developed the current permit in 2014, no specific permit condition was established in the 2014 permit. Therefore, the removal of turbidity from the impairment list will not affect the permit condition.

6. Temperature

The stream segment number 20.6.4.401, the San Juan River from the Navajo Nation boundary at the Hogback upstream to its confluence with the Animas River, has a maximum criterion of 90 °F. The temperature of the cooling tower blowdown ranges from 50 to 70 °F and the effluent will be significantly diluted when it mixes with the high volume of San Juan River stream, temperature will not be a concern at all. No monitoring for effluent temperature is required.

7. Monitoring Frequency for Limited Parameters

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1).

Flow is proposed to be estimated daily. pH and TRC are monitored daily using grab sample. Because the volume of discharge and technology-based TSS and O&G effluent limitations are unlikely to cause adverse impact to the receiving water after the dilution, monitoring frequency of 1/month which is less than recommended frequency in the NMIP is proposed. Grab samples shall be used for TSS and O&G. TDS shall be sampled monthly using 12-hour composite samples. The TDS sampling frequency was the same as one established for the Farming Animas Power Plant.

D. WHOLE EFFLUENT TOXICITY LIMITATIONS

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP, March 2012. Table 11 of Section V of the NMIP outlines the type of WET testing for different types of discharges. The critical dilution was calculated above and it was determined to be very low, 0.029%. The BPP is rated as a minor industrial facility discharging to a perennial waterbody with a CD ≤ 10%. Provisions in the NMIP for WET testing with this CD allows for a 10:1 acute to chronic ratio be used and allow the less expensive acute test. Using the 10:1 ratio will allow an acute test of 0.29% CD. The draft permit will require WET testing using *Daphnia pulex* and *Pimephales promelas*. The test is to be done at a frequency of once per six-months for both species. The permittee has requested a monitoring frequency reduction. The Implementation Guidelines only allow for frequency reductions after the first full year of characterization in a permit cycle. The option to request a frequency reduction is included in this permit. The permittee may request a reduction after the first four tests for each species have been conducted. The reduction would last until the expiration date of the permit unless there are failures. There were nine WET tests conducted during the previous permit cycle, with no failures. No WET limits are included in this permit. Discharges shall be limited and monitored by the permittee as specified below:

WHOLE EFFLUENT TOXICITY TESTING (48-Hr Acute Static Renewal/ NOEC) *	VALUE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Daphnia pulex	Report	Once/Six Months	24-Hr Composite
Pimephales promelas	Report	Once/Six Months	24-Hr Composite

FOOTNOTES:

* Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions. Grab samples are allowed per method, if needed.

VI. ANTIDEGRADATION & ANTIBACKSLIDING

The NMAC, Section 20.6.4.8 "Antidegradation Policy and Implementation Plan" sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the proposed permit are developed from the State water quality standards and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The proposed permit is not an increased

discharge. The permit requirements and the limits are protective of receiving waters, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2.

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR §122.44(l), which state in part that effluent limitations must be as stringent as those in the previous permit. If new effluent data demonstrates no RP for WQ-based limitations, those limitations (e.g., total recoverable aluminum) are removed based on 40 CFR §122.44 (l)(B), new information that was not available at the time the previous permit was issued and was discussed in Part V above. WQ-based effluent limitations may be changed due to new discharge flow rate, new stream flow rate, or new criteria. Due to a slight increase of discharge flow, the calculated mass load limits for total suspended solids (TSS) and oil & grease (O&G) also increase while the ELG-based concentration limits remain the same.

VII. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at USFWS ECOS-Environmental Conservation Online System website, nine species in San Juan County are listed as endangered (E) or threatened (T): three fishes including the Colorado pike minnow (*Ptychocheilus lucius*), (E) with critical habitat, the razorback sucker (*Xyrauchen texanus*), (E) with critical habitat, the Zuni bluehead Sucker (*Catostomus discobolus yarrowi*) (E), two birds including the yellow-billed Cuckoo (*Coccyzus americanus*) (T), the southwestern Willow flycatcher (*Empidonax trallii extimus*) (E), three plants including the Knowlton cactus (*Pediocactus knowltonii*) (E), Mancos milk-vetch (*Astragalus humillimus*) (E), the Mesa Verde cactus (*Sclerocactus mesae-verdae*) (T), and one mammal Canada Lynx(Lynx canadensis) (T).

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, EPA has determined that the issuance of this permit will have "*no effect*" on listed threatened and endangered species nor will adversely modify designated critical habitat on the previous consultation baseline. EPA makes this determination based on the following:

1. Plant Species. The authorized discharge is directly to San Juan River in New Mexico State Waterbody Segment Code 20.6.4.401, of the San Juan Basin, and therefore the permitting action has no effect on three plant species which are Knowlton cactus (*Pediocactus knowltonii*), Mancos milk-vetch (*Astragalus humillimus*), and Mesa Verde cactus (*Sclerocactus mesae-verdae*).

2. Bird Species. The authorized discharge is directly to San Juan River and only contribute 0.083 MGD which is about 0.030% of stream flow during the 4Q3 low stream flow condition to the San Juan River. Therefore, it is unlikely to affect bird species: yellow-billed Cuckoo and southwestern Willow flycatcher. The authorized discharge is not within the critical habitats of flycatcher and the main causes of the decline in Southwestern willow flycatcher populations are extensive areas of suitable riparian habitat have been lost due to river flow-regulation and channelization, agricultural and urban development, mining, road construction, and overgrazing.

The permitting action does not contribute any decline factors as mentioned above. The Yellow-Billed Cuckoo's riparian habitat being converted to farmland and housing has been the main cause of population decline. The permitting action does not contribute either destroy or modification of yellow-billed cuckoo's habitat. Also, the permitting action is not within the list of USFWS Refuges in which this cuckoo population is known to occur: Bill Williams River National Wildlife Refuge, Bosque del Apache National Wildlife Refuge, Browns Park National Wildlife Refuge, Butte Sink Wildlife Management Area, Cibola National Wildlife Refuge, Hart Mountain National Antelope Refuge, Havasu National Wildlife Refuge, Imperial National Wildlife Refuge, Leslie Canyon National Wildlife Refuge, Little Pend Oreille National Wildlife Refuge, Maxwell National Wildlife Refuge, Ouray National Wildlife Refuge, Sacramento River National Wildlife Refuge, San Bernardino National Wildlife Refuge, Seedskadee National Wildlife Refuge, Sevilleta National Wildlife Refuge, Sheldon National Wildlife Refuge, Sutter National Wildlife Refuge.

3. Previously Consulted Fish Species. On March 26, 1999, the US Fish and Wildlife Service (FWS) concluded Endangered Species Act consultation (Consultation #2-22-98-I-257) with EPA on the reissuance of NPDES Permit No. NM0020583. The FWS concurred with EPA's determination that the reissuance of the permit "may affect, but is not likely to adversely affect" the Colorado pikeminnow or razorback sucker; and "will not destroy or adversely modify their critical habitats." EPA determines that the proposed permitting action does not change the 2000 ESA consultation baseline. Furthermore, the record shows that the design flow rate of Farmington POTW was 5.8 MGD which is about 70-fold of BPP maximum monthly flow. Therefore, EPA determines the discharge from BPP has no effect on listed fish species.

4. New Fish Species. The Zuni bluehead sucker was once common in the Little Colorado and Zuni River drainages. Scientists postulate that this subspecies may be a prehistoric hybrid of the Rio Grande sucker (*Catostomus plebeius*) and bluehead sucker (*Catostomus discobolus*). Now genetic isolation may be affecting the fish. The current range of the Zuni bluehead sucker has been reduced to less than 10 percent of its historic distribution. The fish is now restricted to three semi-isolated populations (totaling just three stream miles) in the upper Rio Nutria drainage in west-central New Mexico, and scattered areas along 27 miles of the Kinlichee (a.k.a. "Kin Li Chee") watershed in Arizona. Based on distribution information available, EPA determines that this permitting action is not within the species distribution areas. Also, this permitting action does not contribute any threat to the fish as described below: "The fish faces a host of threats, including habitat modification and stream siltation caused by logging, livestock grazing, road construction, residential development and reservoirs; reduced or discontinuous stream flow from water withdrawal for irrigation; application of piscicides (fish toxicants); and competition with and predation by exotic fishes and crayfish."

5. Mammal Species. Lynx and snowshoe hares are strongly associated with moist, cool, boreal spruce-fir forests. Landscapes with high snowshoe hare densities are optimal for lynx survival and reproduction, and research suggests that hare densities consistently at or above 0.5 hares per hectare (0.2 hares/acre) are needed to support persistent lynx populations. Hares are most abundant in young regenerating or mature multi-storied forests with dense understory vegetation that provides food and cover. In the northern contiguous U.S. (i.e., the Lower 48 States), boreal forests become naturally patchy and marginal for lynx as they transition to

temperate forest types that support lower hare densities. Such forests cannot support lynx populations, even though snowshoe hares may still be present. Snow also influences lynx distribution, and populations typically occur where continuous snow cover lasts four months or longer. Such areas are believed to provide lynx with a seasonal competitive advantage over other terrestrial hare predators like bobcats and coyotes (Canis latrans).

Lynx are broadly distributed across most of Canada and Alaska, which combined encompass about 98% of the species breeding range. The contiguous U.S. distinct population segment (DPS) accounts for the other 2% and includes resident breeding populations in northern Maine, northeastern Minnesota, northwestern Montana/northern Idaho, and north-central Washington. An introduced population also occurs in western Colorado, and several other areas may have historically supported small resident populations (e.g., northern New Hampshire, Isle Royale, Michigan, northeastern Washington, and the Greater Yellowstone area of southwestern Montana and northwestern Wyoming). Lynx also have occurred temporarily in many other states, typically during irruptions (mass dispersal events) from Canada when northern hare populations underwent dramatic cyclic declines roughly every 10 years.

Based on information available, EPA determines that this permitting action has no effect on the Canada Lynx species.

6. Conclusions. First, based on the previous consultation determination and new analyses made above, the reissuance of this permit will have “no effect” on listed species and any designated critical habitat either by itself or based upon the previous consultation conclusion. Second, WET testing requirements are established at the outfall that will provide a solid indicator of impacts to the receiving waters, especially to the aquatic species. And, third, the authorized discharge only contributes 0.012% of stream harmonic mean flow, so the discharge itself will have no effect on listed species and will not adversely modify the critical habitat for those species.

IX. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the reissuance.

X. NEW SOURCE NEPA REVIEW

This permitting action is to reissue a National Pollutant Discharge Elimination System (NPDES) individual permit for a new source facility under the Steam Electric Power Generating Point Source (40 CFR Part 423) located onshore New Mexico and discharging to San Juan River. EPA’s reissuance of a new source NPDES permit is a federal action requiring compliance with the National Environmental Policy Act (NEPA), 42 USC §§4321-4370(f). In accordance with Council on Environmental Quality regulation, if a project is not categorically excluded, but also is not obviously a major Federal action significantly affecting the quality of the human environment, it must be subjected to an "Environmental Assessment" (EA). EPA prepares an EA for this permitting action and determines "Finding of No Significant Impact" (FONSI) for the action.

X. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if State Water Quality Standards are promulgated or revised. In addition, if the State develops a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. The permit may also reopened and modified pursuant to the provisions of 40 CFR §124.5.

XI. VARIANCE REQUESTS

No variance requests have been received.

XII. CERTIFICATION

The permit is in the process of certification by the State Agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XIII. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

XIV. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 2C dated December 12, 2018. Revised information dated March 21, 2019.

B. 40 CFR CITATIONS

Citations to 40 CFR are as of March 1, 2019.

C. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as amended through August 11, 2017.

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico, March 2012.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2018 - 2020.

Colorado River Basin Salinity Control Forum. 2017 Review Water Quality Standards for Salinity Colorado River System