

**Environmental Assessment:**  
**Reissuance of the NPDES Permit for Discharges from the Steam Electric Power**  
**Generating Point Source to San Juan River in New Mexico**  
April 2019

**I. Background**

The U.S. Environmental Protection Agency (EPA) intends 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).

**II. Project Description**

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.

The 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 001 is designed for discharge of plant effluent directly to the San Juan River downstream of the confluence with the Animas River.

**III. Physical and Biological Descriptions of Affected Area**

(Source: Biological Assessment for Farmington Electric Utility System Proposed Bluffview Power Plant Cooling Tower Discharge Outfall, May 2014)

The San Juan Basin, the area in which the proposed project is located, is a late Cretaceous-Early Tertiary structural depression lying along the eastern edge of the Colorado Plateau, on the northwestern New Mexico and southwestern Colorado border. Over 14,000 feet of thickness of Jurassic and Cretaceous age rock have been recorded in the basin. The basin is bounded on the northwest by the Hogback Monocline, on the north by the San Juan-La Plata Domes, on the northeast by the Archuleta Arch, on the east by the Nacimiento Uplift, and on the south by the less dramatic Chaco Slope.

The general region surrounding the proposed project area is characterized by rolling badlands, low mesas, and broad lowland valleys. The elevation within the proposed project area ranges from 6,820 to 6,900 feet above mean sea level. Terrain within the proposed project area is rolling to hilly. The local slope varies in direction; the slope is generally gentle to moderate. There are many ephemeral drainages in the general proposed project area.

The general region surrounding the proposed project area is characterized by broad basins vegetated with sagebrush shrublands and desert scrub communities. Low mesas and hills are vegetated with piñon-juniper woodlands. Minimally vegetated badlands are also scattered throughout the region. One vegetation type was identified in the proposed project area: desert riparian (disturbed).

Within the desert riparian vegetation community at the proposed project site, dominant species include Fremont cottonwood (*Populus fremontii*), New Mexico privet (*Forestiera neomexicana*), Russian olive (*Elaeagnus angustifolia*) and salt cedar (*Tamarix ramosissima*). Shrubs include rubber rabbitbrush (*Ericameria nauseosa*) and skunkbush sumac (*Rhus trilobata*). Grasses are sparse with sand dropseed (*Sporobolus cryptandrus*) and Indian ricegrass (*Achnatherum hymenoides*) being prevalent. Invasive, non-native weeds include Russian knapweed (*Centaurea repens*) and Russian thistle (*Salsola tragus*).

The vegetation community in the immediate proposed project vicinity is highly disturbed in the immediate proposed project area. The area was used historically for settling and finishing ponds associated with the adjacent City of Farmington cooling tower discharge treatment plant. There is a complex of old berms, levees, roads, and ponds in the immediate area that were abandoned in place. Currently, during the biological field survey, a Russian olive/salt cedar removal project was being conducted in the proposed project area; whereby, the salt cedar and Russian olive trees/shrubs were being hydro-mulched, cut, and stacked into large piles. There are large areas of disturbed ground cover associated with this proposed project. The levees and roads associated with the abandoned sewer works are barren.

#### **IV. Proposed Action**

The BPP was discharging 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.

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.

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 Best Practicable Control Technology (BPT), Best Available Technology (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. The permit also establishes water quality-

based effluent limitations to ensure the authorized discharges will comply with State Water Quality Standards.

The proposed permit establishes the following conditions:

During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge cooling tower blowdown, Reverse Osmosis (RO) waste, evaporator coolant (summer only), and various floor drains to San Juan River, in Segment Number 20.6.4.401, from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS	
	Standard Units	
POLLUTANT	MINIMUM	MAXIMUM
pH	6.6	9.0

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS			
	lbs/day, unless noted		mg/l, unless noted (*2)	
POLLUTANT	30-DAY AVG	DAILY MAX	30-DAY AVG	DAILY MAX
Flow	Report MGD	Report MGD	***	***
Total Dissolved Solids (TDS)	Report	<2,000	Report	2,889
Total Suspended Solids (TSS)	20.77	69.22	30	100
Oil & Grease (O&G)	10.38	13.84	15	20
Total Residual Chlorine (TRC)	N/A	N/A	N/A	19 ug/l

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING	
Whole Effluent Toxicity Testing (48-Hour Static Renewal) (*2)	30-DAY AVG MINIMUM	48-HOUR MINIMUM
Daphnia pulex	Report	Report
Pimephales promelas	Report	Report

Footnotes:

- \*1 The maximum total residual chlorine (TRC) shall be monitored by grab sample once per day and analyzed within 15 minutes of collection. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*2 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.

The permit establishes following discharge restrictions to minimize toxic pollutants from discharging to the environment:

1. TRANSFORMER FLUID DISCHARGE

There shall be no discharge of transformer fluid containing polychlorinated biphenyl (PCB) compounds.

2. METAL CLEANING WASTE

The term "metal cleaning waste" means any wastewater resulting from cleaning (with or without chemical cleaning compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

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

There shall be no discharges of metal cleaning wastes or chemical metal cleaning wastes.

### 3. COOLING TOWER MAINTENANCE CHEMICALS

If cooling tower maintenance chemicals are required, the permittee must demonstrate through engineering calculations that the 126 priority pollutants (listed at 40CFR423, Appendix A) contained in chemicals are limited to "no detectable amount," in the discharge, 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.

## V. Federally Listed Endangered Species

Table. USFWS-Listed Species with Potential to Occur in San Juan County, New Mexico

Species	USFWS Status	Occurrence Within Project Region	Habitat	Potential to Occur in Proposed Project Area
PLANTS				
Knowlton cactus ( <i>Pediocactus knowltonii</i> )	Endangered	Known wild population is fenced and protected from disturbance (BLM 2003).	Rolling, gravelly hills in piñon-juniper-sagebrush communities. Elevation 6,200 to 6,300 feet AMSL (New Mexico Rare Plant Technical Council [NMRPTC] 2011).	WOULD NOT OCCUR: Survey area is not within vicinity of known population.
Mancos milkvetch ( <i>Astragalus humillimus</i> )	Endangered	All known populations are within Bureau of Land Management – Farmington Field Office (BLM-FFO) Hogback ACEC (BLM 2003).	Sandstone rimrock ledges and mesa tops in Point Lookout sandstone. Occurs in cracks or eroded depressions. Elevation 5,000 to 6,000 feet AMSL (NMRPTC 2011).	WOULD NOT OCCUR: Survey area is not within vicinity of known population. No sandstone rimrock ledges, mesa tops, or Point Lookout sandstone within survey area.
Mesa Verde cactus	Threatened	All known populations are	Sparsely vegetated (less than 15percent)	WOULD NOT OCCUR:

<i>(Sclerocactus mesae-verdae)</i>		within BLM-FFO Hogback ACEC (BLM 2003).	salt desert scrub communities with mat saltbush ( <i>Atriplex corrugata</i> ) and Gardner's saltbush ( <i>Atriplex gardneri</i> ). Prefers tops of hills or benches and slopes having clay-rich soils derived from Fruitland and Mancos shale formations with 0- to 100-percent igneous or sedimentary gravel and cobble. Elevation 4900 to 5500 feet AMSL (Hazelton 2012).	Survey area is not within vicinity of known population. Mat saltbush and Gardner's saltbush not identified within survey area. Soils within survey area are not derived from the Fruitland or Mancos shale formations.
FISH				
Colorado pikeminnow ( <i>Ptychocheilus lucius</i> )	Endangered with DCH	DCH within portions of San Juan River, beginning in Farmington and continuing downstream (BLM 2003).	Portions of medium to large rivers (NatureServe 2012).	POSSIBLE: Survey area on San Juan River adjacent to DCH.
Razorback sucker ( <i>Xyrauchen texanus</i> )	Endangered with DCH	Known to occur in portions of San Juan River (BLM 2003).	Portions of medium to large rivers and their impoundments (NatureServe 2012).	POSSIBLE: Survey area on San Juan River 18 miles upstream of DCH.
Zuni bluehead sucker ( <i>Catostomus discobolus</i> )	Endangered	Headwater streams of the Little Colorado River; upper Río Nutria drainage in New Mexico (Probst, et al. 2001)	Low velocity pools and pool-runs in portions of small to medium rivers (NatureServe 2012).	WOULD NOT OCCUR: Survey area is not within vicinity of known population
BIRDS				
Sprague's pipit ( <i>Anthus spragueii</i> )	Candidate	Possible rare winter/migration occurrences (New Mexico Partners in Flight [NMPFI] 2007).	Breeds in native prairie and grassland habitats (NatureServe 2012).	WOULD NOT OCCUR: No native prairie or grasslands within or adjacent to survey area.
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	Endangered	Summer/breeding & migration range (BLM 2003).	Breeds in dense riparian habitat (NMPFI 2007).	POSSIBLE: Riparian habitat within or adjacent to survey area.

Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	Proposed Threatened	Possible rare summer/breeding occurrences (Sibley 2000).	Prefers open woodlands with clearings and low, dense, scrubby vegetation. In the southwestern U.S., associated with riparian woodlands dominated by cottonwood or mesquite (). In New Mexico, native or exotic species may be used (NMPIF 2007).	POSSIBLE: Riparian woodlands within or adjacent to survey area.
<p>Within the proposed project area, potential habitat is present for four federally listed species (Colorado pikeminnow, razorback sucker, southwestern willow flycatcher, and yellow-billed cuckoo). No USFWS-listed species were observed during the biological field survey.</p> <p>(Source: Biological Assessment for Farmington Electric Utility System Proposed Bluffview Power Plant Cooling Tower Discharge Outfall, May 2014)</p>				

A mammal species, Canada Lynx (*Lynx canadensis*) is listed as threatened species in the most recent USFWS list. 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 of distribution provided on USFWS website, the species would not occur in the action area.

While two listed fish and two listed birds are possibly present in the action area, it is unlikely the discharge would have effects on these species due to the nature, quantity and quality of discharges. The pollutants of concern are pH which is within the range of 6.6 – 9.0; TDS and TSS which are not toxic and the discharge quantity will not cause any harm to listed species or alter their habitats; oil & grease and TRC which are limited to low concentrations and could be lower to undetectable after mixing with stream at a dilution of 0.012%. Also, the permit has toxicity testing requirement to ensure the authorized discharge will not cause toxic to aquatic life.

## VI. Conclusion

After evaluations of the nature, quality and quantity of the authorized discharge, EPA concludes "Finding of No Significant Impact" (FONSI).

