

# **NPDES PERMIT NO. NM0000108**

## **FACT SHEET**

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

### **APPLICANT**

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### **ISSUING OFFICE**

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### **DATE PREPARED**

February 6, 2013

### **PERMIT ACTION**

Revoke and reissue of a permit previously issued October 31, 2008, with an effective date of December 1, 2008, and an expiration date of November 30, 2013.

### **RECEIVING WATER – BASIN**

Rio Grande – Rio Grande 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
FWS	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
ML	Minimum quantification level
O&G	Oil and grease
POTW	Publically owned treatment works
RP	Reasonable potential
SS	Settleable solids
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
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. CHANGES FROM THE PREVIOUS PERMIT

Changes from the previous permit issued October 31, 2008, with an effective date of December 1, 2008, and an expiration date of November 30, 2013, are:

1. The permit eliminates selenium limits.
2. Monitoring for sulfate has been eliminated.
3. The monitoring frequency for total dissolved solids and chloride has been changed to once per quarter.

## II. APPLICANT LOCATION and ACTIVITY

As described in the application, the facility is located at 3501 Doniphan Drive in Sunland Park, Dona Ana County, New Mexico. Under the SIC Code 4911, the applicant operates an electric generating and distribution power plant.

### PLAT OF EL PASO ELECTRIC RIO GRANDE POWER STATION



The El Paso Electric (EPE) Rio Grande Power Station is a natural gas fired electric generating station that currently operates three power plant units and service heat exchange units identified as Unit #6 – 50 mega watts (MW), Unit #7 – 50 MW and Unit #8 – 150 MW. Unit #6 was built in 1957, Unit #7 was added in 1958 and Unit #8 was added in 1972. Previously, five power plant units numbered 1-5, have been retired. The facility operates three cooling tower units (CTU) also identified as No. 6, 7 and 8. Water sources include municipal water supply and groundwater wells. The facility reuses some wastewater in the CTU. The facility has two canals; designated as Lower Canal and Upper Canal, to store wastewater and stormwater. The facility is proposing the addition of a new power plant unit; Unit #9 – estimated 88 MW.

Outfall 001: Since May, 2010, EPE does not discharge wastewater from the Lower Canal to the Rio Grande River through Outfall 001. The storm water within the drainage area of the Lower Canal either flows into the Lower Canal or evaporates. Storm water is also pumped from the Lower Canal to a surface depression located south of the Lower Canal where the water is held for evaporation. The water in the Lower Canal can be pumped to the Upper Canal and reused. In the event of a discharge from Outfall 001, the nature of the effluent would be consistent with those from Outfall 002. Since EPE has not discharged wastewater through Outfall 001 since May 2010, there was no wastewater flow to be sampled for the permit renewal application.

Outfall 002: Outfall 002 is for the discharge of wastewater contained in the Upper Canal. The Upper Canal receives stormwater runoff; metal cleaning wastewater from internal Outfalls 106, 107 and 108; and wastewater from service heat exchangers, boiler blowdown, and floor drains. Metal cleaning wastewater generated from hydroblasting the main heat exchangers, condenser and smaller service heat exchangers discharge through floor drains from the power plant units to oil/water separators before being routed to the Upper Canal. The metal cleaning wastewater is temporarily stored in a tank for testing prior to discharge. Compliance monitoring of the metal cleaning wastewater routed to internal outfalls is obtained from the tank prior to discharge to the upper canal. The service heat exchangers supply “closed loop” cooling water for plant equipment. Wastewater from the heat exchangers is routed to oil/water separators. Oil/water separator No. 1 for Unit #6 is routed to the cooling towers. Oil/water separators No. 2 for Unit #7 and No. 3 for Unit #8 discharge to the Upper Canal. Boiler blowdown from Units 6, 7, and 8 are also routed to oil/water separator No. 1. Water used for the boiler systems is treated with oxygen scavengers, polymers and other chemicals to adjust pH. Booms and absorbent pads are used in the Upper Canal to remove and control oil. Water levels in the Upper Canal are normally maintained by re-circulation to cooling towers. Cooling tower make-up water is drawn from the Upper Canal, oil/water separator No. 1 and ground water wells. Cooling tower water is treated to control scale, solids, corrosion, pH, and algae through chlorination and other chemicals. Discharges from Outfall 002 consist of blowdown from CTU #6, 7 & 8 which are de-chlorinated prior to discharge to Montoya Drain then to the Rio Grande. Dechlorination is currently operated manually while the facility investigates other automated systems. Compliance monitoring samples of the cooling tower blowdown effluent are collected from a sampling valve after de-chlorination and prior to discharge at Outfall 002. Reverse osmosis backwash and cleaning activity flows are now routed to a tank and discharged to El Paso’s sanitary sewer.

Changes in the operations at the facility due to the addition of Unit #9 will not materially change the effluent from Outfalls 001 or 002. Slight differences for Unit #9 are the oily waste from

floor drains will not be sent to the canal system but instead will be hauled offsite for final disposal.

The facility requests that similar to the previous permit, discharges from the canal system be allowed from both Outfalls 001 and/or 002. While Outfall 002 is primarily the discharge outfall, during certain events such as maintenance or storms, EPE may be required to use Outfall 001. Since the discharge quality is identical for both, the permit will maintain both Outfalls with identical limits.

The locations of the two outfalls based on the application package are:

Outfall 001 - Latitude 31° 48' 13" North, Longitude 106° 32' 47" West

Outfall 002 - Latitude 31° 48' 16" North, Longitude 106° 32' 59" West

### **III. EFFLUENT CHARACTERISTICS**

The applicant provided effluent data as part of the permit renewal application package. Effluent has not discharged from Outfall 001 since 2010 and data is not available for analysis. A condition for testing from this outfall will be placed in the draft permit when and if discharges commence from it. Those pollutants that were detected in the effluent above the appropriate MQL for Outfall 002 are shown in Appendix A of the fact sheet. The internal outfalls; 106, 107 and 108 do not test effluent for water quality parameters as they are for reporting only technology-based pollutants.

A review of DMR data over the past 24-months of available data; July 2010, thru June 2012, from the Online Tracking Information System (OTIS) shows several exceedances for the facility. Outfall 001 had an exceedance of TSS in May 2012, monthly average of 33.6 mg/l (limit 30 mg/l). Outfall 002 had three exceedances and all were for O&G. The first one was May 2011, a daily maximum exceedance of 23.5 mg/l (limit 20.0 mg/l) and the other two were both in November 2011, daily maximum exceedance of 51.9 mg/l (limit 20 mg/l) and a monthly average exceedance of 25.8 mg/l (limit 15 mg/l). There were no exceedances for any of the three internal outfalls; 106, 107 and 108.

### **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 facility submitted a complete permit application December 2, 2011. The facility submitted the NPDES permit application early to request an earlier reissuance of the permit to allow the addition of power plant unit No. 9. It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The applicant submitted a complete application package so the EPA will revoke and reissue the permit according to 40 CFR §124.5(c).

## **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.

Technology-based numerical effluent limitations are established in the proposed draft permit for TSS, oil & grease, total copper, total iron and a narrative prohibition of the discharge of 124 toxic pollutants in detectable amounts from cooling tower maintenance chemicals. Water quality-based effluent limitations are established in the proposed draft permit for pH and TRC.

### **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. Part 423 applies to "...discharges resulting from the operation of a generating unit by an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel (coal, oil, or gas) or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium." The EPE generates electricity from natural gas fueled units installed prior to 1982. Unit 9 is planned to be in service in 2013. ELGs were established in 1982 for BPT, BAT and new source performance standards (NSPS). The facility generates 250 MW, more than the 25 MW threshold for certain ELGs contained in 40 CFR §423. The ELGs for this type of facility are a mixture of both BPT/BAT and NSPS. For the purposes of establishing technology-based limitations, only minor differences exist between the three sections of 40 CFR §423 which will be noted below.

Based on 40 CFR §423, 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 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 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 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. 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 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. 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.

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.

The facility does not employ “once through cooling water” instead relying on “recirculated cooling water” as defined in Part 423. The facility uses a cooling tower and the draft permit will require that the facility operate the cooling tower properly pursuant to the manufacturers operating manual.

TSS, oil & grease, total copper and total iron are limited for discharges from cleaning waste sources at internal outfalls 106, 107, and 108. TSS and oil & grease for low volume wastes apply at Outfalls 001 and 002. The discharge at Outfall 002 is cooling tower blowdown which consists of various sources of water. Part 423.13 requires that the maximum concentration and the average concentration for 126 priority pollutants (Appendix A) contained in chemicals added



for cooling tower maintenance are not detectable in the final discharge. According to the Development Document for the Steam Electric (EPA-440/1-82/029), the document states: "The discharge of 124 toxic pollutants is prohibited in detectable amounts from cooling tower discharges if the pollutants come from cooling tower maintenance chemicals." The proposed permit adds a narrative condition which prohibits the use of any tower maintenance chemicals which contain any of the 126 priority pollutants.

Mass loading limits will not be established for internal outfalls since the concentration limits in the ELGs provide the basis of compliance.

Since the discharge from either outfall may at times allow an increase of flow greater than historical data has shown, consistent with the previous permit, mass loading limits will not be established in either. Concentration limits will be protective of the environment.

### 3. Cooling Water Intake Structures (CWIS)

A NPDES permit for any new or existing facility (see special definitions at 40 CFR §125.83 and 125.133) operating a CWIS must contain permit conditions meeting the requirements applicable to CWIS's under section 316(b) of the CWA. Section 316(b) of the CWA requires that the location, design, construction, and capacity of CWIS's reflect the best technology available (BTA) for minimizing adverse environmental impact (AEI). Under current regulations at 40 CFR §125.90(b) and 401.14, existing facilities are subject to section 316(b) conditions that reflect BTA for minimizing AEI on a case-by-case, BPJ basis. The EPE Rio Grande Station facility uses cooling tower technology and make-up water is from municipal water supply and water wells. Therefore, the facility is not subject to section 316(b). The facility is required to operate the cooling tower properly.

## 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 November 20, 2012). The facility discharges from Outfall 001 directly to the Rio Grande and from Outfall 002 to Montoya Canal thence the Rio Grande; both in Segment No. 20.6.4.101 of the Rio Grande Basin. The Rio Grande has the following designated uses: irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat, and primary contact. Additionally, at mean monthly stream flows above 350 cfs, the Segment No. 20.6.4.101 has site-specific WQS for TDS 2,000 mg/l or less, sulfate 500 mg/l or less, and chloride 400 mg/l or less. Typically these flows are during the irrigation season, which have been defined in the previous permit to be March 1 through October 31.

Data from the following sources outlined in the previous permit development document was used to calculate initial dilution, in-stream waste concentrations, and effluent limitations.

USGS Station: USGS Station in Rio Grande at American Dam gage.

4Q3 Critical Low Flow: 37.43 cfs.

Ambient Monitoring Station: LRG101.000109 - the Rio Grande at Santa Teresa Station in 1995 Intensive Water Quality Stream Surveys.

Stream TSS (mg/l): 54.9

Stream Hardness (mg/l): 273

### 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

Criteria for pH is listed in 20.6.4.900.D. for primary contact and H.(6) marginal warmwater aquatic life and both require pH to be within the range of 6.6-9.0 su's. These are more restrictive than the technology-based limitation above and are identical as the previous permit.

#### b. 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. Critical Conditions - Toxics

Discharges from the facility are to the Rio Grande. In the attached WQS spreadsheet, Appendix A of the Fact Sheet, WQS were evaluated for the pollutants typical for renewed NPDES industrial dischargers in the state. Based on the results of the spreadsheet, none of the toxicants demonstrated RP to exceed state WQS including selenium. A review of selenium DMR data shows no exceedance of either monthly or daily limits for either Outfall 001 or 002 since the previous permit issuance. Based on these results, the selenium limitations will be eliminated from the permit. Since the removal of selenium is based on WQS, antibacksliding provisions of 40 CFR §122.44(l)(2)(i)(B)(1) apply; new information demonstrating consistent and lower pollutant levels below those that established the previous selenium limits.

iii. TDS, Sulfate and Chloride

The previous permit had monitoring requirements for TDS, sulfate (SO<sub>4</sub>) and Chloride (Cl). The monitoring requirements were placed in the permit since the Rio Grande has segment specific criteria during high river flow conditions; see V.C. 3 above. Since these criteria are only applicable when stream flows are above a minimum river flow of 350 cfs, and are instream values, the first step in analyzing the end-of-pipe concentration is to determine the CD. The CD formula is as follows:

$$\begin{aligned} CD &= Q_e / (Q_e + Q_a) \\ CD &= 0.0026 \end{aligned}$$

The TDS end-of-pipe concentration that would exceed the criteria at the flow rate specified in the WQS would be 2000 / 0.0026 or approximately 780,000 mg/l. For SO<sub>4</sub> the end-of-pipe concentration would be 500 / 0.0026 or approximately 192,300 mg/l and for Cl they would be 400 / 0.0026 or 153,800 mg/l. These values are so high that there are no impacts on the WQS due to the discharge from the facility at the stated conditions. The permit will eliminate further monitoring for the three pollutants due to NMWQS.

c. TMDL CONSIDERATIONS

The Rio Grande, from the Mexico border to the Anthony Bridge, is listed on the “2012-2014 State of New Mexico Clean Water Act Section 303(d)/305(b) Integrated Report.” This segment of the Rio Grande does not support primary contact and the probable cause listed is bacteria. The facility does not discharge bacteria as the sanitary waste from the facility is discharged to the city POTW. No additional permit limits are required to address the impairment. A standard reopener clause is in the permit that would allow additional conditions if a TMDL is revised, and/or new water quality standards established.

## d. TDS, SULFATE and CHLORIDE - DOWNSTREAM STATE IMPACTS

As previously stated, the discharge contains TDS, SO<sub>4</sub> and Cl. The facility is less than 800 feet upstream on the Rio Grande from the Texas/New Mexico border. The State of Texas has criteria for TDS, SO<sub>4</sub> and Cl. Regulations at 40 CFR 122.4 state that a permit may not be issued when the imposition of conditions cannot ensure compliance with the applicable WQS of all affected states. The requirements of 40 CFR 122.4 require that the effluent concentration due to the discharge into the receiving stream does not cause an exceedance of instream numerical criteria of the downstream state.

Texas Surface Water Quality Standards (TSWQS) list the segment criteria; **Cc**, for each of the constituents; TDS, SO<sub>4</sub> and Cl. The reach of the Rio Grande in the Texas WQS for the portion that the discharge enters is designated as Stream Segment 2314, the Rio Grande above the International Dam. Upstream ambient concentrations; **Ca**, for the same pollutants are also available and lastly, DMR data are the effluent concentrations; **Ce**. These values are as follows:

Pollutant	Cc, mg/l	Ca, mg/l	Ce, mg/l
TDS	1800	736	5648
Sulfate	600	235	2117
Chloride	340	110	1510

Additional data required is the previously identified effluent flow, Q<sub>e</sub>, 0.9 cfs and the Q<sub>a</sub>, or 4Q<sub>3</sub> 37.43 cfs. The calculation of the instream criteria after mixing, C<sub>d</sub>, is determined by the following equation taken from the NMIP.

$$C_d = [(FQ_a \times C_a) + (Q_e \times 2.13 \times C_e)] \div (FQ_a + Q_e)$$

Where:

F is the fraction of the stream allowed for mixing and unless conditions require a different value, F = 1.0.

2.13 is a statistical factor used to account for variability in the effluent data.

For TDS:  $C_d = [(37.43 \times 736) + (0.9 \times 2.13 \times 5648)] \div (37.43 + 0.9)$   
 $C_d = 1001 \text{ mg/l}; C_c = 1800 \text{ mg/l}$

For SO<sub>4</sub>:  $C_d = [(37.43 \times 235) + (0.9 \times 2.13 \times 2117)] \div (37.43 + 0.9)$   
 $C_d = 335 \text{ mg/l}; C_c = 600 \text{ mg/l}$

For Cl:  $C_d = [(37.43 \times 110) + (0.9 \times 2.13 \times 1510)] \div (37.43 + 0.9)$   
 $C_d = 183 \text{ mg/l}; C_c = 340 \text{ mg/l}$

Since neither of the instream waste concentrations; **C<sub>d</sub>**, for TDS, SO<sub>4</sub> and/or Cl are greater than the applicable Texas WQS; **C<sub>c</sub>**, for the respective pollutants, the discharge does not represent a RP to exceed Texas WQS for TDS, SO<sub>4</sub> and Cl.

A review of the Texas 303(d) list for Segment 2314 shows that that reach is impaired for bacteria, which is not a pollutant of concern at the facility. Approximately 4.2 river miles downstream from the facility on the Rio Grande, the Rio Grande becomes Texas Segment 2308,

which is not on the 303(d) list. An additional 15.1 river miles downstream; 19.3 miles from the facility, the Rio Grande becomes Texas Segment 2307, which is on the 303(d) list showing impairments for TDS and Cl. In consideration of the downstream impairments and until such time as the Texas Commission on Environmental Quality issues a TMDL, the permit will require TDS and Cl monitoring. The continuing monitoring for SO<sub>4</sub> does not appear to be warranted based on the above and will be eliminated in the draft permit.

#### 5. 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). Sample frequency is based on the March 15, 2012, NMIP.

For Outfalls 001 and 002, flow is proposed to be measured and reported continuously using a totalizer meter consistent with the current permit. The pollutants pH, TRC and oil and grease shall be sampled and reported once per week by grab samples. TSS shall be monitored once per week using 24-hour composite sample. Monitoring for TDS and Cl shall be sampled once per quarter using a 24-hour composite sample year round based on the permit engineers discretion for frequency for non conventional pollutants.

For Internal Outfalls 106, 107 and 108, flow shall be estimated daily. Estimate requirements do not need to meet the same accuracy requirements as measure and may be based on sound analytical techniques. TSS, total copper and total iron shall be sampled and reported daily using 24-hour composite samples. Oil and grease and pH shall be sampled daily using grab samples. These frequencies are identical to the previous permit.

#### D. WHOLE EFFLUENT TOXICITY LIMITATIONS

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP. Table 11 of Section V of the NMIP outlines the type of WET testing for different types of discharges. Based on the previous permit low flow, Q<sub>a</sub>; 37.43 cfs ≈ 24.18 MGD. The Q<sub>e</sub> is 0.581 MGD. The CD is calculated as  $Q_e / (Q_e + Q_a)$ ;  $CD = 0.581 / (0.581 + 24.16)$ ;  $CD = 0.023$  or 2.3%. The previous permit calculated the CD of 3% based on a higher effluent flow. Since gage data has not been available in the Rio Grande, it's not possible to determine if the river low flow has also changed. For purposes of consistency and the relatively close results of the calculations, the CD for WET testing will be maintained at the previous permit 3%.

Test results from the previous permit have been analyzed and the results of that testing, shown in Appendix 2 of the fact sheet, demonstrate that no RP exists for WET effects and WET limits are not required in the draft permit. Since the designated use of stream segment has aquatic life, and the critical dilution is less than 10%, the NMIP requires a 48-hour acute biomonitoring test, using the species *Daphnia pulex* and *Pimephales promelas* and a 10:1 acute to chronic factor (CD = 30%) . A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are 13%, 17%, 23%, 30%, and 40%. The low-flow effluent concentration (critical dilution) is defined as 30% effluent determined above. The test frequency will be once per six-months, using composite samples.

Discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>	
	<u>30-DAY AVG MINIMUM</u>	<u>48-HOUR MINIMUM</u>
Whole Effluent Toxicity (48-Hour Acute NOEC) 1/		
Daphnia pulex	REPORT	REPORT
Pimephales promelas	REPORT	REPORT

<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY</u>	<u>TYPE</u>
Whole Effluent Toxicity (48-Hour Acute NOEC) 1/		
Ceriodaphnia dubia	1/6 months	24-Hour Composite
Pimephales promelas	1/6 months	24-Hour Composite

**FOOTNOTES**

1/ 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.

**VI. ANTIDegradation**

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 facility is adding a new electric generation power unit. The SWQB of the NMED has determined that since the addition of power unit No 9 does not increase the pollutant loading, no antidegradation Tier 2 screening is triggered. The permit requirements and the limits are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2.

**VII. ENDANGERED SPECIES CONSIDERATIONS**

According to the most recent county listing available at USFWS, Southwest Region 2 website, [http://www.fws.gov/southwest/es/ES\\_ListSpecies.cfm](http://www.fws.gov/southwest/es/ES_ListSpecies.cfm), five species in Dona Ana County are listed as endangered (E) or threatened (T). The interior least tern (E) (*Sterna antillarum*), the southwestern willow flycatcher (E) (*Empidonax traillii extimus*), the northern aplomado falcon (E) (*Falco femoralis septentrionalis*), the Rio Grande silvery minnow (E) (*Hybognathus amarus*) and the Sneed pincushion cactus (E) (*Coryphantha sneedii var. sneedii*). Segment 20.6.4.101 of Rio Grande is not within the critical habitat of Rio Grande silvery minnow, and the silvery minnow has been determined to be extirpated in this County. Previously, the FWS stated in the letter dated January 26, 1987, (Consultation #2-22-87-I-017), that no listed species would be affected by the proposed permit issued in 1986.

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 reissuance of this permit will have “no effect” on listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

1. No additions have been made to the USFWS list of threatened and endangered species and critical habitat designation in the area of the discharge since prior issuance of the permit.
2. EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations.
3. The draft permit is consistent with the States WQS and does not increase pollutant loadings from the previous permit.
4. EPA determines that Items 1, thru 3 result in no change to the environmental baseline established by the previous permit, therefore, EPA concludes that reissuance of this permit will have “no effect” on listed species and designated critical habitat.

#### **VIII. 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 outside of the previously disturbed plant footprint.

#### **IX. 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 amends a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

#### **X. VARIANCE REQUESTS**

No variance requests have been received.

#### **XI. ANTIBACKSLIDING**

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)(i)(A)], which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. All of the changes represent permit requirements that are consistent with the WQS and with WQMP.

**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 Forms 1 and 2B received June 12, 2012.

**B. 40 CFR CITATIONS**

Citations to 40 CFR are as of January 25, 2013.  
Sections 122, 124, 125, 133, 136

**C. STATE OF NEW MEXICO REFERENCES**

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as amended through November 20, 2012.

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico, March 15, 2012.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2012 - 2014.

**D. STATE OF TEXAS REFERENCES**

Texas Surface Water Quality Standards, 30 TAC Sections 307.1 - 307.10 (21 TexReg 9765, April 30, 1997).

**E. MISCELLANEOUS**

E-mail from Erin Trujillo, NMED to Isaac Chen, EPA, February 7, 2012, advising that an antidegradation Tier 2 Screening is not triggered for the new electric power unit No 9 addition.

E-mail from Robert Kirkland, EPA to Larry Giglio, EPA, January 31, 2013, providing harmonic mean flow for Texas Segment #2314, Rio Grande.