

# NPDES PERMIT NO. NM0026395

## 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

August 12, 2013

#### PERMIT ACTION

Proposed reissuance of the current permit issued December 14, 2006 with an effective date of February 1, 2007 and an expiration date of January 31, 2011.

#### RECEIVING WATER – BASIN

Pecos River of the Pecos 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 limitations 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
MPN	Most Probable Number
µg/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
PCB	Polychlorinated Biphenyl
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

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

In this document, references to State WQS and/or rules shall collectively mean the State of New Mexico.

## I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued August 29, 2006 with an effective date of October 1, 2006, and an expiration date of August 31, 2010, are:

- A. *E. coli* limits replace FCB limits.
- B. Limits for aluminum, vanadium, adjusted gross alpha, Ra 226+228, boron, cobalt, molybdenum, benzo (a) pyrene, [2,3,7,8-TCDD Dioxin], Aldrin, alpha-BHC, beta-BHC, Lindane (Gamma-BHC), chlordane, [4,4' -DDT and derivatives], dieldrin, alpha-endosulfan, beta-endosulfan, endosulfan sulfate, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, PCBs, and Toxaphene removed.
- C. Critical dilution for WET changed from 93% to 57%.

## II. APPLICATION LOCATION AND ACTIVITY

As described in the application, the wastewater treatment plant is located off of US 62- Hobbs Highway towards Hobbs, 2.5 miles southeast of Carlsbad, right on county road 605 ( US Refinery Rd), then take next right on country Rd 606 (Blackfoot Rd), in Eddy County, New Mexico. The effluent from the treatment plant is discharged into the Pecos River in segment 20.6.4.202 of the NMWQS. The facility and discharge are located on that water at latitude 32° 24' 34.91" N and longitude 104° 10' 44.60" W, in Eddy County, New Mexico.

Under the SIC Code 4952, the discharge is from a publicly owned treatment works (POTW) with a design capacity of 5 MGD serving a population of approximately 26,352.

As described in the application and the Compliance Evaluation Inspection on April 27, 2011, the treatment processes for the City of Carlsbad WWTP facility is as follows:

There are approximately 10 to 11 lift stations within the entire collection system. Seven of these lift stations feed directly to the primary lift station located at the west side of the Pecos River. All raw sewage from the City is lifted by this primary lift station to the WWTP on the east side of the Pecos River. The primary lift station is at the City's former WWTP. It has two lift pumps and backup power. The WWTP has an entrance that consists of an automatic bar screen, with an automatic overflow bypass to either of two primary clarifiers, and 18 inch flume, and an aerated grit chamber. Grit and screening are hauled to the landfill after being dried on the drying beds.

The flow is divided into the two primary clarifiers; one clarifier is larger and newer than the other clarifier. The flow then combines and is treated through a total of twenty aeration basins, connected in series. The flow passes through both anoxic and aeration zones for nitrogen removal. The wastewater flows into two secondary clarifiers, then into a junction box where chlorine is added. The chlorine contact chamber is converted from the old secondary clarifier. As the wastewater exits the chlorine contact chamber, sulfur dioxide is added for dechlorination. Both the chlorine and the sulfur dioxide feed are flow weighted.

The effluent flow is measured using an 18 inch flume with a secondary flow totalizing meter. The final effluent is discharged to the Pecos River through an effluent pipeline that is located just upstream of the old, deteriorated effluent pipe.

The sludge from the two primary clarifiers is pumped to the primary sludge digesters for anaerobic treatment. The Return activated Sludge (RAS) from the secondary clarifiers is pumped up to the head of the activated sludge basins. When wasting is necessary, the Waste Activity Sludge (WAS) can be directed to the belt thickener, or can be pumped back to the entrance works for resettling in the primary clarifiers. A polymer is added prior to the belt thickener for enhanced dewatering. The primary digester, which is heated and mixed constantly, and then the secondary anaerobic sludge digester, which is heated and is mixed intermittently, is located next to the drying beds. Gas collected during primary digestion can be used to fuel one of the two new recirculation water boilers. The second boiler is fueled by natural gas only; the first can be fueled by natural gas or digester gas.

The facility has solid bottom sludge beds equipped with micro screens for decanting liquid. The decant water from the sludge beds enter a former trickling filter unit now covered which acts as a large storage tank. It is then slowly pumped back to the head of the WWTP, along with the decant water from the belt press.

The sludge on the solids beds is mixed and turned to enhance drying using a front end loader. It is then stockpiled and composted to meet Class A pathogen reduction requirements. The composted sludge is used by the City golf course, where it is stockpiled. This is "Exceptional Quality" according to the permittee's testing results and records.

### III. RECEIVING STREAM STANDARDS

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC, amended through January 14, 2011). The receiving waterbody, Segment No. 20.6.4.202, has designated uses industrial water supply, irrigation, livestock watering, wildlife habitat, primary contact, and warm water aquatic life.

### IV. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A received March 15, 2010, are presented in Pollutant Table 1 below:

POLLUTANT TABLE – 1

Parameter	Max	Avg
	(mg/L unless noted)	
Flow, million gallons/day (MGD)	5.50	2.02
pH, minimum, standard units (su)	7.2	N/A
pH, maximum, standard units (su)	7.9	N/A
Biochemical Oxygen Demand, 5-day (BOD <sub>5</sub> )	5.77	2.44
<i>E. coli</i> (MPN /100 mL)	1162	30
Total Suspended Solids (TSS)	9.5	2.78
Ammonia (NH <sub>3</sub> )	1.85	0.329
Chlorine, Total Residual (TRC)	0.015	0.001
Dissolved Oxygen (DO)	8.21	7.94
Total Kjeldahl Nitrogen (TKN)	2.93	2.11
Nitrate plus Nitrite Nitrogen	8.87	5.07
Oil & Grease	ND	ND
Phosphorous	14.57	8.32
Total Dissolved Solids (TDS)	932	860

\*ND- Non- detect.

A summary of the last 24-months of available pollutant data: December 2010 through December 2012, taken from DMRs shows no exceedances of permit limits for BOD<sub>5</sub>, pH, TSS, and TRC, (See Pollutant Table 2). *E. coli* shows one exceedance in May 2012. All of these parameters will have their limit carried forward into the next permit term.

POLLUTANT TABLE – 2

Date	BOD <sub>5</sub>				pH		TSS				TRC	E. coli	
	30 DAY AVG	30 DAY AVG	7 DAY AVG	7 DAY AVG	Min	Max	30 DAY AVG	30 DAY AVG	7 DAY AVG	7 DAY AVG	Max	30 DAY AVG	Daily Max
	lbs/day	mg/L	lbs/day	mg/L	s.u.	s.u.	lbs/day	mg/L	lbs/day	mg/L	µg/L	cfu/100 mL	cfu/100 mL
Limit	1251	30	1877	45	6.0	9.0	1251	30	1877	45	11	126	410
12/31/2010	64	4	80	5	7.3	7.8	96	6	143	9	0	20	39
1/31/2011	66	4	97	6	7.3	7.7	88	6	177	11	0	21	37
2/28/2011	69	4	102	6	7.2	7.8	87	5	126	7	0	6	9
3/31/2011	55	5	70	5	7.0	7.6	55	5	77	6	0	16	78
4/30/2011	44	4	103	7	7.2	7.6	40	3	146	9	0	16	27
5/31/2011	39	3	45	4	7.2	7.6	29	3	35	3	0	27	51
6/30/2011	33	3	51	4	7.3	7.7	36	3	69	6	0	20	43
7/31/2011	31	3	42	3	7.4	7.8	24	2	64	5	0	25	62
8/31/2011	33	3	46	3	7.3	7.78	21	2	39	3	0	25	100
9/30/2011	34	3	58	3	7.0	7.6	25	2	28	3	0	46	78
10/31/2011	33	3	45	3	7.1	7.6	29	2	58	4	0	24	37
11/30/2011	34	2	73	3	7.2	7.6	29	2	33	2	0	23	53
12/31/2011	51	3	69	3	7.1	7.5	67	4	101	7	0	30	43
1/31/2012	82	5	116	8	7.1	7.4	93	6	200	13	0	45	80
2/29/2012	106	7	141	9	7.0	7.5	101	7	210	15	0	20	84
3/31/2012	63	5	82	6	7.1	7.4	92	7	151	11	0	24	67
4/30/2012	57	5	78	7	7.0	7.5	78	7	117	10	0	33	90
5/31/2012	148	11	229	16	7.6	7.2	182	12	444	24	0	70	871†
6/30/2012	262	22	345	27	7.1	7.5	257	22	338	30	0	80	246
7/31/2012	157	10	254	14	7.0	7.5	273	18	472	27	0	61	163
8/31/2012	103	8	183	15	7.0	7.2	98	7	205	16	0	29	113
9/30/2012	36	3	51	4	7.1	7.4	35	2	68	4	0	22	34
10/31/2012	48	4	109	7	7.0	7.4	55	5	105	7	0	16	73
11/30/2012	33	2	51	3	7.1	7.6	31	2	63	4	0	4	7
12/31/2012	35	2	38	3	7.1	7.9	43	3	69	5	0	3	4

† Violation of effluent limitation.

In addition, the permittee was required to perform pollutant testing for radioactivity and pesticide pollutants during the last permit term (See Pollutant Tables 3-7). Aluminum was the only toxicant to exhibit exceedance(s). No other toxicants were found to be present in the effluent even as the permittee monitored annually. The permittee has not exhibited reasonable potential for any pollutant in Tables 3-7 other than aluminum. The reason the permittee was required to test for these pollutants in the previous permit was due to a WET limit failure. The WET limit will be carried over from the previous permit. Furthermore, the permittee will not be required to perform additional testing on pollutants from Tables 3-7 during the upcoming permit term because the previous permit term demonstrated with annual testing that these toxicants were not present. Based on the data from Pollutant Table 3, Appendix A demonstrates that with the new aluminum standard, reasonable potential to exceed WQS is not present. The results are included in Pollutant Table 3-7:





## POLLUTANT TABLE – 7

Date	Endrin aldehyde		Heptachlor		Heptachlor Epoxide		PCBs		Toxaphene	
	30 DAY AVG	Daily MAX	30 DAY AVG	Daily MAX	30 DAY AVG	Daily MAX	30 DAY AVG	Daily MAX	30 DAY AVG	Daily MAX
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Limit	0.22	0.33	0.00056	0.00084	0.00029	0.00043	0.00047	0.00071	0.00014	0.00021
1/31/2008	0	0	0	0	0	0	0	0	0	0
1/31/2009	0	0	0	0	0	0	0	0	0	0
1/31/2010	0	0	0	0	0	0	0	0	0	0
1/31/2011	0	0	0	0	0	0	0	0	0	0
1/31/2012	0	0	0	0	0	0	0	0	0	0

## V. 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.

It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The existing NPDES permit initially issued December 14, 2006 with an effective date of February 1, 2007, and an expiration date of January 31, 2011 is administratively continued until this permit is reissued.

## VI. 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 ELGs, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

Technology-based effluent limitations are established in the proposed draft permit for TSS and BOD<sub>5</sub>. Water quality-based effluent limitations are established in the proposed draft permit for *E. coli* bacteria, TRC, and pH.

### B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

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.

The City of Carlsbad facility is a WWTP treating sanitary wastewater. POTWs have technology-based ELGs established at 40 CFR 133, Secondary Treatment Regulation. Pollutants with ELGs established in this Chapter are BOD, TSS and pH. BOD<sub>5</sub> limits of 30 mg/L for the 30-day average and 45 mg/L for the 7-day average are found at 40 CFR §133.102 (a). TSS limits; also 30 mg/L for the 30-day average and 45 mg/L for the 7-day average, are found at 40 CFR §133.102(b). ELGs for pH are between 6-9 s.u. and are found at 40 CFR §133.102 (c).

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. When determining mass limits for POTWs or WWTPs, the plant's design flow is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/L \* 8.345 lbs/gal \* design flow in MGD

30-day average BOD<sub>5</sub>/TSS loading = 30 mg/L \* 8.345 lbs/gal \* 5 MGD

30-day average BOD<sub>5</sub>/TSS loading = 1252 lbs.

Daily maximum BOD<sub>5</sub>/TSS loading = 45 mg/L \* 8.345 lbs/gal \* 5 MGD

Daily maximum BOD<sub>5</sub>/TSS loading = 1878 lbs.

Technology-Based Effluent Limits – 5 MGD design flow.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS			
	lbs/Day		mg/L (unless noted)	
Parameter	30-Day Avg.	Daily Max.	30-Day Avg.	Daily Max.
Flow	N/A	N/A	Measure MGD	Measure MGD
BOD <sub>5</sub>	1252	1878	30	45
TSS	1252	1878	30	45
pH	NA	NA	6.0 - 9.0 s.u.	

NA- Not applicable.

### 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 the 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 1, 2007). The facility discharges to the Pecos River. This is designated as segment number 20.6.4.202. The designated uses of the receiving water require protective limits

for industrial water supply, irrigation, warmwater aquatic life, livestock watering, wildlife habitat, and primary contact.

#### 4. Permit Action – Water Quality-Based Limits

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.

All applicable facilities are required to fill out appropriate sections of the Form 2A to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to POTWs, but also to facilities that are similar to POTWs, but which do not meet the regulatory definition of “publicly owned treatment works” (like private domestics, or similar facilities on Federal property). The forms were designed and promulgated to “make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities,” per the summary statement in the preamble to the Rule. These forms became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

##### a. pH

The State of New Mexico stream segment specific WQS require pH to be between 6.6 and 9.0 s.u. This is more limiting than the technology-based limits presented earlier. The draft permit shall establish 6.6 to 9.0 s.u. for pH based on the State’s WQS. The monitoring frequency will remain daily as an instantaneous grab (field measurement) sample.

##### b. Bacteria

The previous permit had limits for fecal coliform bacteria (FCB). Since the previous permit issuance, New Mexico has adopted *E. coli* as the State bacteria standard in lieu of FCB. New Mexico stream segment specific WQS require *E. coli* of 126 cfu/100 mL monthly geometric mean and single sample of 410 cfu/100 ml at the end-of-pipe. To remain consistent with the NMIP, the monitoring frequency will increase to five (5) times a week as a grab sample.

FCB is eliminated and replaced with *E. coli* bacteria. This change does not constitute antibacksliding. The draft permit will propose *E. coli* bacteria limits of 126 cfu/100 mL monthly geometric average and a 410 cfu/100 mL single maximum.

##### c. Toxics

###### (i) Critical Conditions

Critical conditions are used to establish certain permit limitations and conditions. The State of New Mexico WQS allow a mixing zone for establishing pollutant limits in discharges. The state

establishes a critical low flow designated as 4Q3, as the minimum average four consecutive day flow which occurs with a frequency of once in three years. According to an email from Barbara Cooney, NMED to Paul Juarez, EPA- Region 6, the 4Q3 for the receiving water body had changed from 0.349 MGD to 3.76 MGD due to water being held back for irrigation. The SWQB of the NMED provided EPA with the 4Q3 for the City of Carlsbad WWTP.

For permitting purposes of certain parameters such as WET, the critical dilution of the effluent to the receiving stream is determined. The critical dilution, CD, is calculated as:

$CD = Q_e / (F \cdot Q_a + Q_e)$ , where:

$Q_e$  = facility flow (5 MGD)

$Q_a$  = critical low flow of the receiving waters (3.76 MGD)

$F$  = fraction of stream allowed for mixing (1.0)

$$CD = (5 \text{ MGD} / [(1.0)(3.76) + 5]) * 100 \\ = 57\%$$

The critical dilution shall be 57%.

(ii) TRC

The facility uses chlorine for disinfection followed by sulfur dioxide for dechlorination under the previous permit, which had limits for TRC at 11 µg/L. Chronic criteria for TRC is 11 µg/L, so the end-of-pipe limit will continue to be 11 µg/L. The acute criteria for TRC is 19 µg/L which is less stringent than the chronic criteria so chronic criteria will be used as the limit for TRC. This is consistent with the previous TRC permit limit.

(iii) Aluminum

Data from the previous permit term was used to determine if RP existed for any of the pollutants listed (Appendix A). Aluminum exceeded its monthly average limit of 62 µg/L four times (See Pollutant Table 3). Aluminum was then evaluated in Appendix A using the concentration of aluminum that exceeded the previous aluminum limit but was found to not exhibit a reasonable potential to exceed WQS despite the most recent aluminum standard change. Based on new information and current form of evaluation, the aluminum limit will not be carried forward as consistent with 40 CFR 122.44(l)(i)(B)(1). However, a monitoring requirement for aluminum will remain in the permit to assess aluminum's levels in the effluent.

(iv) Toxics monitored in previous permit

This previous permit required monitoring for the following toxicants due to a WET failure: vanadium, adjusted gross alpha, Ra 226+228, aluminum, boron, cobalt, molybdenum, benzo (a) pyrene, [2,3,7,8-TCDD Dioxin], Aldrin, alpha-BHC, beta-BHC, Lindane (Gamma-BHC), chlordane, [4,4' -DDT and derivatives], dieldrin, alpha-endosulfan, beta-endosulfan, endosulfan sulfate, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, PCBs, and Toxaphene. Aluminum was the only toxicant from this list to exceed its limit but re-evaluation with the new

aluminum standard demonstrated no reasonable potential to exceed WQS so a limit will not be required. The rest of the pollutants listed in this section were tested for and resulted in “undetectable” readings for five years so these toxicants will not be monitored in the proposed permit since they were never found to have originally shown a reasonable potential to exceed WQS.

#### 5. 303(d) List Impacts

The receiving waterbody is not listed on the current “2012-2014 State of New Mexico 303(d) List for Assessed River/Stream Reaches Requiring Total Maximum Daily Loads (TMDLs).” A standard reopener clause is established in the permit that would allow additional conditions if a watershed TMDL is developed and/or new water quality standards are established.

#### D. 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). Technology based pollutants; BOD<sub>5</sub> and TSS, are proposed to be monitored once a week consistent with the previous permit. Flow shall be sampled continuously (daily) by totalizing meter consistent with the previous permit. Sample type for BOD<sub>5</sub> and TSS is a 6-hour composite sample. The technology based monitoring frequencies are consistent with the NMIP.

Water quality-based pollutant monitoring frequency for *E. coli* shall be sampled once a week using grab samples, which is consistent with the NMIP. TRC and pH shall be measured daily by instantaneous grab (field measurement), which is consistent with the NMIP. Regulations at 40 CFR Part 136 define instantaneous grab as being analyzed within 15-minutes of collection.

An aluminum limit is not included in the proposed permit but will be monitored quarterly by grab sample.

#### E. EFFLUENT TESTING FOR APPLICATION RENEWAL

In addition to the parameters identified in this fact sheet, EPA designated major POTWs are required to sample and report other parameters listed in tables of the EPA Form 2A and WET testing for its permit renewal. The minimum pollutant testing for NPDES permit renewals specified in Form 2A requires three samples for each of the parameters being tested. Current practice is to obtain the three samples over a short time frame, sometimes within two weeks during the renewal testing process. In order to obtain a meaningful snapshot of pollutant testing for permit renewal purposes, the draft permit shall require that the testing for Tables A.12, B.6, and Part D of EPA Form 2A, or its equivalent if modified in the future, during the second, third and fourth years after the permit effective date. This testing shall coincide with any required WET testing event for that year. The permittee shall report the results as a separate attachment in tabular form sent to the Permits and Technical Assistance Section Chief of the Water Quality Protection Division within 60 days of receipt of the lab analysis.

F. WHOLE EFFLUENT TOXICITY REQUIREMENTS

In Section V.C.4.c.ii. above; “Critical Conditions”, it was shown that the critical dilution, CD, for the facility is 57%. Based on the nature of the discharge; POTW, the design flow; 5 MGD, the nature of the receiving water; perennial, and the critical dilution; 57%, the NMIP directs the WET test to be a 7-day chronic test using *Ceriodaphnia dubia* and *Pimephales promelas* at a once per three months frequency.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations shall be 24%, 32%, 43%, 57%, and 76%. The low-flow effluent concentration (critical low-flow dilution) is defined as 57% effluent.

The previous permit established WET biomonitoring with CD = 93%. The EPA Reasonable Potential Analyzer (See Appendix B) indicates that RP exists for the *Pimephales promelas* test species. The limit for this test species will be carried over into the proposed permit. The EPA Reasonable Potential Analyzer (See Appendix B) indicates that RP does not exist for the *Ceriodaphnia dubia* test species. However, the 2005 EPA Region 6 WET Permitting Strategy indicates that “WET limits may be removed from a permit after the first five years in effect, based on a demonstration of no lethal or sub-lethal affects during that period.” WET limits will be carried over from the previous permit for the *C. dubia* test species because the facility still failed a WET test in January and July of 2013 at a concentration below the newly lowered critical dilution.

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 to the Pecos River. Discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
	30-DAY AVG MINIMUM	7 Day MINIMUM	FREQUENCY	TYPE
Whole Effluent Toxicity (PCS 22414) (7-Day NOEC) <u>1/</u>	57%			
<i>Ceriodaphnia dubia</i>	REPORT	REPORT	1/Quarter	24-Hr. Composite
<i>Pimephales promelas</i>	REPORT	REPORT	1/Quarter	24-Hr. 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.

## VII. FACILITY OPERATIONAL PRACTICES

### A. SEWAGE SLUDGE PRACTICES

The permittee shall use only those sewage sludge disposal or reuse practices that comply with the federal regulations established in 40 CFR Part 503 "Standards for the Use or Disposal of Sewage Sludge". EPA may at a later date issue a sludge-only permit. Until such future issuance of a sludge-only permit, sludge management and disposal at the facility will be subject to Part 503 sewage sludge requirements. Part 503 regulations are self-implementing, which means that facilities must comply with them whether or not a sludge-only permit has been issued. Part IV of the draft permit contains sewage sludge permit requirements.

### B. WASTE WATER POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute programs directed towards pollution prevention. The permittee will institute programs to improve the operating efficiency and extend the useful life of the treatment system.

### C. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The treatment plant has no non-categorical Significant Industrial User's (SIU) and no Categorical Industrial User's (CIU). The EPA has tentatively determined that the permittee will not be required to develop a full pretreatment program. However, general pretreatment provisions have been required. The facility is required to report to EPA, in terms of character and volume of pollutants any significant indirect dischargers into the POTW subject to pretreatment standards under Section 307(b) of the CWA and 40 CFR Part 403.

### D. OPERATION AND REPORTING

The applicant is required to operate the treatment facility at maximum efficiency at all times; to monitor the facility's discharge on a regular basis; and report the results monthly. The monitoring results will be available to the public.

## IX. ANTIDegradation

The State of New Mexico has antidegradation requirements to protect existing uses through implementation of its WQS. The limitations and monitoring requirements set forth in the proposed draft are developed from the appropriate State WQS and are protective of those designated uses. Furthermore, the policy's set forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. 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.

## X. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the Clean Water Act, Section 402(o), 40 CFR 122.44(l)(i)(A), 40 CFR 122.44(l)(1), and 40 CFR 122.62 (a)(3)(i)(B) which state that final effluent limitations must be as stringent as those in the previous permit, unless new information (e.g. revised WQS), material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. The proposed permit maintains the mass loading requirements of the previous permit for BOD<sub>5</sub> and TSS with some changes due to a different 4Q3 number and an increased design flow from the previous permit term. The previous permit had limits for fecal coliform bacteria (FCB). Since the previous permit issuance, New Mexico has adopted *E. coli* as the State bacteria standard in lieu of FCB. All of the changes represent permit requirements that are consistent with the States WQS and WQMP. An aluminum limit was not carried over into the proposed permit due to a change in the aluminum standard that demonstrated no reasonable potential to exceed WQS.

## XI. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, <http://www.fws.gov/ifw2es/NewMexico/SBC.cfm>, nine species in Eddy County are listed as endangered (E) or threatened (T). Two species are birds and include the Least Tern (*Stema antillarum*) (E) and Southwestern willow flycatcher (*Empidonax traillii extimus*) (E). The lone mammalian species includes the black-footed ferret *Mustela nigripes* (E). Four species are plants and include the Kuenzler's hedgehog cactus (*Echinocereus fendleri* var. *kuenzleri* Escobaria (=Coryphantha)) (E), Sneed pincushion cactus (*Coryphantha sneedii* var. *sneedii*) (E), Gypsum wild buckwheat (*Eriogonum gypsophilum*) (T), and Lee pincushion cactus (*Coryphantha sneedii* var. *leei*) (T). Two species are fish and include the Pecos gambusia (*Gambusia nobilis*) (E) and Pecos bluntnose shiner (*Notropis simus pecosensis*) (T).

**Southwestern Willow Flycatchers** (not mentioned in the previous permit's fact sheet) habitat occurs in riparian areas along streams, rivers, and other wetlands where dense willow, cottonwood, buttonbush and arrowweed are present. The primary reason for decline is the reduction, degradation and elimination of the riparian habitat. Other reasons include brood parasitism by the brown-headed cowbird and stochastic events like fire and floods that destroy fragmented populations. The permit does not authorize activities that may cause destruction of the flycatcher habitat, and issuance of the permit will have no effect on this species.

When EPA reissued the permit for the City of Carlsbad in 2005, EPA conducted effect analyses and determined that the action had no effect on five other species: Least Tern, Pecos gambusia, Black-footed ferret, Kuenzler's hedgehog cactus, Pecos bluntnose shiner, Gypsum wild-buckwheat, and Lee pincushion cactus. The Sneed pincushion was not evaluated in 2000 and 2002. After reviewing the Federal Register (Vol. 44, No. 217, Nov. 7, 1979) EPA determines that this permitting action will have no effect on the species. The nature and characteristics of the authorized discharge have not been changed since 2000. Therefore, EPA has determined that the issuance of this permit will have *no effect* on these federally listed threatened or endangered species *nor will it destroy or adversely modify* designated critical habitat.

## XII. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites since construction activities are not planned in the reissuance.

## XIII. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of either States WQS are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the States Water Quality Standards are either revised or promulgated. Should either State adopt a new WQS, and/or develop or amend a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standard and/or water quality management plan, in accordance with 40 CFR 122.44(d). Modification of the permit is subject to the provisions of 40 CFR 124.5.

## XIV. VARIANCE REQUESTS

No variance requests have been received.

## XV. CERTIFICATION

The permit is in the process of certification by the State of New Mexico 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.

## XVI. FINAL DETERMINATION

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

## XVII. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

### A. APPLICATION(s)

EPA Application Form 2A received March 15, 2010.

### B. 40 CFR CITATIONS

Citations to 40 CFR as of April 30, 2010.

Sections 122, 124, 125, 133, 136

### C. STATE WATER QUALITY REFERENCES

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

Procedures for Implementing NPDES Permits in New Mexico, March 15, 2012.

Statewide Water Quality Management Plan, December 17, 2002.

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

### D. WHOLE EFFLUENT TOXICITY POLICY DOCUMENTS

EPA Region 6 WET Permitting Strategy, May, 2005. March 9, 2006 letter from Miguel Flores, EPA to L'Oreal Stepney, TCEQ. CC Marcy Leavitt, NMED.