

# **NPDES PERMIT NO. NM0020303**

## **FACT SHEET**

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

### **APPLICANT**

Village of Los Lunas  
660 Main Street, NW  
P.O. Box 1209  
Los Lunas, NM 87031

### **ISSUING OFFICE**

U.S. Environmental Protection Agency  
Region 6  
1445 Ross Avenue  
Dallas, Texas 75202-2733

### **PREPARED BY**

Miranda Hodgkiss  
ORISE Fellow  
TMDL Section (6WQ-PT)  
Water Quality Protection Division  
VOICE: 214-665-7538  
FAX: 214-665-2191  
EMAIL: hodgkiss.miranda@epa.gov

### **DATE PREPARED**

November 8, 2012

### **PERMIT ACTION**

Proposed revocation and reissuance of the current permit issued with an effective date of July 1, 2007 and an expiration date of June 30, 2012.

### **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 <sub>5</sub>	Biochemical oxygen demand (five-day)
BPJ	Best professional judgment
C/100 mL	Colonies (#) per 100 Milliliters
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
MDL	Method detection limit
mg/L	Milligrams per Liter
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
POTW	Publically Owned Treatment Works
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSS	Total suspended solids
UAA	Use attainability analysis
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Service
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

**I. CHANGES FROM THE PREVIOUS PERMIT**

Changes from the permit previously issued May 31, 2007, with an effective date of July 1, 2007, and an expiration date of June 30, 2012, are:

- A. Mass limits for BOD<sub>5</sub> and TSS increased due to the increased design flow for the facility.
- B. Percent removal requirements for BOD<sub>5</sub> and TSS were added.
- C. A limit of  $\geq 5.0$  mg/L (24-hour average) for dissolved oxygen (D.O.) was added.
- D. Quarterly monitoring for ammonia was added.
- E. The monitoring frequencies were increased for the following pollutants: pH, BOD<sub>5</sub>, TSS, and *E. coli*.
- F. The monitoring frequencies for effluent testing required by the permit renewal application (Form 2A) were specified.
- G. Pretreatment language was added.
- H. *E. coli* limits were added.

**II. DISCHARGE LOCATION**

As described in the application, the facility is a POTW located at 1960 Heaton LP, S.E., Los Lunas, Valencia County, New Mexico.

The discharge from the POTW is to the Rio Grande in Waterbody Segment No. 20.6.4.105 of the Rio Grande Basin. The single outfall of the facility is located at:

Latitude 34° 46' 48" North, Longitude 106° 43' 50" West

## AERIAL VIEW OF FACILITY AND DISCHARGE LOCATION



### III. APPLICANT ACTIVITY

Under the SIC Code 4952, the facility is a POTW treating domestic wastewater. No industrial wastewater is conveyed to the facility.

The facility has a design flow of 2.7 MGD serving a total population of 14,835 people.

The design capacity has increased (from 0.9 MGD to 2.7 MGD) since the previous permit issuance with the addition of the Membrane Bioreactor (MBR) system. The MBR consists of an entrance works, two anoxic zones (north and south), two pre-aeration basins (north and south), and four MBR basins (N1, N2, S1, S2) with an ultraviolet (UV) disinfection system. The effluent exits the MBR and flows along a pipe that then enters a blending box to be blended with effluent from the activated sludge plant prior to discharge in a 16" pipe to the Rio Grande. The activated sludge plant consists of an entrance works with grit tank, two aeration basins (east, west), two secondary clarifiers, and UV disinfection. UV disinfection is used as a method for pathogen control at this facility.

Sludge is thickened on a gravity belt thickener and then pumped to an aerobic digester. Final sludge disposal is land application.

#### IV. EFFLUENT CHARACTERISTICS

The facility submitted EPA Permit Application Form 2A, received February 9, 2012, which provides a quantitative description of the discharge shown below. The *E. coli* data was not included as part of the application form, so values were obtained from the Online Tracking Information System (based on data from April 2010 – March 2012).

##### POLLUTANT TABLE – 1

<u>PARAMETER</u>	<u>Max. Daily</u> (mg/L, unless noted)	<u>Avg. Daily</u> (mg/L, unless noted)
Flow, MGD	1.77 MGD	1.05 MGD
Temperature, winter	15.50 °C	16.30 °C
Temperature, summer	29.60	28.30
pH, minimum	6.92 s.u.	--
pH, maximum	8.01 s.u.	--
BOD <sub>5</sub>	22.0	4.29
FCB	2,987.0 (C/100 mL)	60.55 (C/100 mL)
<i>E. coli</i> bacteria	231.56 (C/100 mL)	35.11 (C/100 mL)
TSS	128.0	7.91
Ammonia (as N)	0.00	0.00
TRC	0.18	0.04
D.O.	6.50	5.05
Total Kjeldahl Nitrogen (TKN)	1.25	1.0
Nitrate plus Nitrite Nitrogen	16.0	14.0
Oil & Grease	0.00	0.00
Phosphorus	2.50	1.97
Total Dissolved Solids (TDS)	578.0	575.0

The facility has to sample and report all priority pollutants identified in Part D, Expanded Effluent Testing Data of EPA Permit Application Form 2A. All the pollutants were sampled and those pollutants that were detected at concentrations exceeding the MQL are listed below:

##### POLLUTANT TABLE – 2 – Expanded Pollutant List

<u>PARAMETER</u> (Pollutants greater than MQL)	<u>Max. Daily</u> (mg/L, unless noted)	<u>Avg. Daily</u> (mg/L, unless noted)
Arsenic	0.012	0.01047
Chromium	0.0013	0.000993
Copper	0.0075	*less than MQL
Lead	0.0017	0.00057
Mercury	0.00730 µg/L	*less than MQL
Nickel	0.0022	0.0021
Zinc	0.061	0.059
Hardness (as CaCO <sub>3</sub> )	72	69.67
Carbon Tetrachloride	0.24 µg/L	0.08 µg/L

Chloroethane	1.9 µg/L	1.83 µg/L
1,2-Dichloroethane	1.5 µg/L	1.0 µg/L
Methyl Bromide	0.46 µg/L	0.153 µg/L
Methyl Chloride	1.3 µg/L	1.23 µg/L
Methylene Chloride	1.3 µg/L	1.23 µg/L
1,1,2-Trichloroethane	0.81 µg/L	0.27 µg/L
Trichlorethylene	0.21 µg/L	0.07 µg/L

A summary of the last 24 months of available pollutant data, from April 2010 through March 2012, taken from Discharge Monitoring Reports (DMRs) is shown in **Appendix B** of the Fact Sheet. The facility did not report any data for the months of April – June 2010 and October – December 2011. For the last 24 months of available data, the DMR data show exceedances of the daily maximum *E. coli* values during the months of April and September 2011. The average *E. coli* limit was exceeded in September 2011.

## 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 pollutant discharges into the waters of the United States. In addition, the amendments 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 February 9, 2012. It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The existing permit is administratively continued until this permit is issued.

## 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 effluent limitation guidelines, 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 BOD and TSS. Water quality-based effluent limitations are established in the proposed draft permit for pH, *E. coli* bacteria, D.O., and TRC.

## 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 (Best Practicable Control Technology Currently Available)** – 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 (Best Conventional Pollutant Control Technology)** – Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

**BAT (Best Available Control Technology Economically Achievable)** – 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 facility is a POTW treating sanitary wastewater. POTW's have technology-based ELG's established at 40 CFR Part 133, Secondary Treatment Regulation. Pollutants with ELG's established in this Chapter are BOD<sub>5</sub>, TSS and pH. BOD<sub>5</sub> limits of 30 mg/L for the 30-day average, 45 mg/L for the 7-day average, and no less than 30-day average 85 percent removal (minimum) are found at 40 CFR §133.102(a). TSS limits are also 30 mg/L for the 30-day average, 45 mg/L for the 7-day average, and no less than 30-day average 85 percent removal (minimum), and are found at 40 CFR §133.102(b). The percent removal requirements for BOD<sub>5</sub> and TSS are new permit limits which were not included in the previous permit. The percent removal is calculated as follows:

$$\{[(\text{influent concentration} - \text{effluent concentration}) / \text{influent concentration}] \times 100\}$$

ELG's for pH are between 6.0 – 9.0 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 (with exceptions noted in 40 CFR §§122.45(f)(1)(i)-(iii)). When determining mass limits for POTW's, the plant's design flow is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

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

The previous permit established mass loading amounts based on the design flow of 0.9 MGD. The design flow has since been increased to 2.7 MGD for this proposed permit term. An anti-degradation review was conducted by NMED's Surface Water Quality Bureau. The findings indicated that the increased design flow would present "de minimus" impacts to the receiving water body for BOD<sub>5</sub> and TSS. Thus, the facility may utilize the increased flow for its new loading limits. The calculations of mass limits are as follows:

30-day average TSS/BOD<sub>5</sub> loading = 30 mg/L \* 8.345 lbs/gal \* 2.7 MGD

30-day average TSS/BOD<sub>5</sub> loading = 676 lbs/day

Based on 40 CFR §122.45(f), all pollutants limited in permits shall have limitations expressed in terms of mass. Limits are established in the draft permit for the 7-day average limits for BOD and TSS as follows:

7-day average TSS/BOD<sub>5</sub> loading = 45 mg/L \* 8.345 lbs/gal \* 2.7 MGD

7-day average TSS/BOD<sub>5</sub> loading = 1,014 lbs/day

**Technology-Based Effluent Limits – based on 2.7 MGD flow**

PARAMETER	DISCHARGE LIMITATIONS			
	30-Day Avg.	7-Day Avg.	30-Day Avg.	7-Day Avg.
	(lbs/day)		(mg/L, unless noted)	
Flow	***	***	Measure MGD	Measure MGD
BOD <sub>5</sub>	676	1,014	30	45
TSS	676	1,014	30	45
Percent Removal (minimum), BOD <sub>5</sub> and TSS	85% BOD <sub>5</sub> & TSS (30-day average)			
pH	6.0 – 9.0 standard units			

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 §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

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 “New Mexico State Standards for Interstate and Intrastate Surface Waters,” (NM WQS), 20.6.4 NMAC, as amended through January 14, 2011. The

designated uses of the receiving water are irrigation, marginal warmwater aquatic life, livestock watering, public water supply, wildlife habitat, and primary contact.

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. BACTERIA

The applicable criteria for *E. coli* bacteria, based on the primary contact designated use for the receiving water body (see NMAC 20.6.4.900.D), are a monthly geometric mean of 126 cfu/100 mL and a single sample of 410 cfu/100 mL.

During the last permit term, a TMDL was written for the Middle Rio Grande, and a WLA was assigned to Los Lunas WWTP. In order to remain consistent with the assumptions of the TMDL, new mass-based limits have been assigned to the facility. For further discussion of the TMDL and limit calculations, see Section D below.

b. pH

The applicable criterion for pH, based on the primary contact designated use for the receiving water body (see NMAC 20.6.4.900.D) as well as the aquatic life marginal warmwater designated use (see NMAC 20.6.4.900.H(6)), is 6.6 to 9.0 s.u. This is more restrictive than the technology based limits for pH.

c. TOXICS

i. General Comments

CWA §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 and 2S, 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.

The facility is designated a major POTW for permitting purposes and must supply the expanded pollutant testing list described in EPA Application Form 2A as presented above in Part IV of this Fact Sheet.

Based on the pollutant data provided by the facility and shown in Part IV of this Fact Sheet, a water quality screen has been run to determine if discharged pollutant concentrations demonstrate RP to exceed WQS for the various designated uses. If RP exists, the screen would also calculate the appropriate permit limit needed to be protective of such designated uses. The screen is based on the NMIP as of March 15, 2012. The receiving stream hardness value, 125.1 mg/L, represents the average of values obtained from a STORET water quality station (32RGRAND394.8, "Rio Grande at Hwy. 6") about 1.5 miles upstream of the facility discharge, and it was used in the screen for any hardness-dependent WQS. The water quality screen is shown in **Appendix A** of the Fact Sheet.

As shown in **Appendix A** of the Fact Sheet, none of the pollutants demonstrate RP to violate WQS consistent with the designated uses for the receiving water.

#### ii. Critical Conditions

Critical conditions are used to establish certain permit limitations and conditions. The State of New Mexico Water Quality Standards allow a mixing zone for establishing pollutant limits in discharges. The state establishes a critical low flow designated as 4Q3, which is the minimum average four consecutive day flow that occurs with a frequency of once in three years. The Surface Water Quality Bureau of NMED provided EPA with the 4Q3 value for the Rio Grande.

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:

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

$Q_e$  = facility flow = 2.7 MGD

$Q_a$  = critical low flow of the receiving waters = 54.33 cfs = 35.12 MGD  
\*conversion factor: 1.547 cfs/MGD

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

$CD = 2.7 \text{ MGD} / [(1.0) * (35.12 \text{ MGD}) + 2.7 \text{ MGD}]$   
= 0.0714  
= **7.1%**

#### iii. Total Residual Chlorine (TRC)

The facility uses UV to control bacteria. The previous permit, however, set a 19 µg/L TRC limit when chlorine is used in any process throughout the plant. The same requirement will be maintained in this draft permit. Regulations at 40 CFR Part 136 define "instantaneous grab" as analyzed within 15 minutes of collection. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. Sampling and reporting is required when chlorine is used for either bacteria control and/or when chlorine is used to treat filamentous algae and/or used to disinfect process treatment equipment at the facility.

#### D. TMDL REQUIREMENTS

In April 2010, EPA approved a NMED TMDL for the Middle Rio Grande Watershed for bacteria. The TMDL was developed to address *E. coli* impairments in four assessment units, including the receiving

water for Los Lunas WWTP's discharge. According to the TMDL document, there are probable nonpoint and point sources of *E. coli* bacteria throughout the basin. The TMDL assigned an *E. coli* wasteload allocation (WLA) of  $4.3 \times 10^9$  cfu/day to the facility. This calculation was based on the previous permit's stated design capacity flow of 0.9 MGD, and applied the monthly geometric mean criteria of 126 cfu/100mL.

Based on the facility's updated design flow of 2.7 MGD, the new WLA would be  $1.29 \times 10^{10}$  cfu/day. To accommodate for this increase of  $8.60 \times 10^9$  cfu/day to the WLA, the LA will be reduced from  $9.00 \times 10^{12}$  cfu/day to  $8.99 \times 10^{12}$  cfu/day. These changes to the WLA for Los Lunas WWTP and the LA will not affect the overall TMDL. NMED's Surface Water Quality Bureau was consulted in the development of these limits, and supports these reallocations as an application of Section IV(B)(1) of New Mexico's Water Quality Management Plan (WQMP). Thus, the WLA of  **$1.29 \times 10^{10}$  cfu/day** is incorporated into the draft permit as a mass-based limit for the 30-day average, in addition to the concentration-based limits that were carried forward from the previous permit. To calculate the load based on the facility's actual discharge flow, the formula is:

$$\text{load [cfu/day]} = E. coli \text{ conc. [cfu/100mL]} * \text{flow [MGD]} * 3.79 \times 10^7 \text{ [conversion factor]}$$

The segment to which the POTW discharges is also impaired for temperature. However, temperature is not a pollutant of concern for POTWs, thus monitoring and/or permit limits are not recommended at this time.

#### E. WHOLE EFFLUENT TOXICITY LIMITATIONS

Procedures for implementing WET terms and conditions in NPDES permits are contained in the March 15, 2012 NMIP. Table 11 of Section V of the NMIP outlines the type of WET testing for different types of discharges. Analysis of past WET data to determine RP is shown in **Appendix C** of the Fact Sheet.

#### OUTFALL 001

In Section VI.C.4.d.ii above, "Critical Conditions", it was shown that the critical dilution (CD) for the facility is 7.1%. According to the NMIP, if it is determined that a facility is to receive chronic biomonitoring requirements at a critical dilution of 10% or less, then an acute to chronic ratio of 10:1 may be used in order to allow acute biomonitoring in lieu of chronic.

$$\text{Acute critical dilution} = 7.1\% * 10 = \mathbf{71\%}$$

Based on the nature of the discharge – a POTW with a design flow of more than 1.0 MGD, the perennial nature of the receiving water, and the critical dilution of 71% – the NMIP directs the WET test to be a 48 hour acute test using *Daphnia pulex* and *Pimephales promelas* at a once per quarter frequency consistent with the NMIP. 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 30%, 40%, 53%, 71%, and 95%.

If all WET tests pass during the first year, the permittee may request a monitoring frequency reduction for either or both test species for the following 2-5 years of the permit. The invertebrate species (*Daphnia pulex*) testing frequency may be reduced to once per six (6) months. The vertebrate species (*Pimephales promelas*) testing frequency may be reduced to once per year. If any tests fail during that time, the frequency will revert back to the once per quarter frequency for the remainder of the permit

term. Both species shall resume quarterly monitoring at a once per three months frequency on the last day of the permit.

The previous permit established WET biomonitoring with a CD = 14%. The CD has changed based on changes in both the design flow and 4Q3 flow, which are used to calculate the CD. The previous permit had a design flow of 0.9 MGD, while this permit has a design flow of 2.7 MGD. Also, the 4Q3 has decreased from 62.4 MGD to 35.12 MGD. DMR reports reveal nine (9) passing tests for both the *Daphnia pulex* and *Pimephales promelas* species during the last permit term. The EPA Reasonable Potential (RP) Analyzer for Outfall 001 (**Appendix C**) indicates that RP exists for *Daphnia pulex* and *Pimephales promelas*. Since RP for an excursion of the narrative criterion to protect the aquatic life against toxicity does not actually exist because lethal (acute test) toxic events were not demonstrated, WET limits will not be established in the proposed permit for the invertebrate or vertebrate species for Outfall 001. EPA concludes that this effluent does not cause or contribute to an exceedance of the State water quality standards. Therefore WET limits will not be established in the proposed permit.

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 Rio Grande at segment 20.6.4.105. Discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE MONITORING	
	30-DAY AVG MINIMUM	48-Hr. MINIMUM
Whole Effluent Toxicity Testing (48 Hr. Static Renewal) (*1)		
<i>Daphnia pulex</i>	REPORT	REPORT
<i>Pimephales promelas</i>	REPORT	REPORT

EFFLUENT CHARACTERISTIC	MONITORING REQUIREMENTS	
	FREQUENCY	TYPE
Whole Effluent Toxicity Testing (48 Hr. Static Renewal) (*1)		
<i>Daphnia pulex</i>	1/Quarter	24-Hr. Composite
<i>Pimephales promelas</i>	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.

## F. MONITORING FREQUENCY FOR LIMITED PARAMETERS AND APPLICATION RENEWAL

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, Procedures for Implementing NPDES Permits in New Mexico (NMIP). Based on the design flow of the facility, 2.7 MGD, the NMIP recommends that limited parameters have either daily or weekly monitoring frequencies, depending on the parameter measured. Flow shall be monitored daily using an instantaneous form of measurement. *E. coli* bacteria and D.O. shall be monitored once per week using grab samples. pH shall be monitored daily using grab samples. The other parameters – BOD<sub>5</sub> and TSS – are monitored once per week using 24-hour composite samples. When chlorine is used in any process throughout the plant, total residual chlorine (TRC) shall be sampled daily using instantaneous grab samples. Regulations at 40 CFR Part 136 define instantaneous grab as being analyzed within 15 minutes of collection. Ammonia shall be monitored on a quarterly basis. When WET biomonitoring takes place, ammonia should be monitored at the same time and place that WET samples are collected for that quarter. If WET biomonitoring frequencies are reduced during the permit cycle, ammonia shall continue to be monitored on a quarterly basis.

In addition to the parameters identified in this fact sheet, EPA designated major POTW's 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 permit 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. In addition, one yearly test must be during the warm summer months; defined as the period from June 1 through August 31, and another yearly test shall be sampled during cold weather; defined as the period from December 1 through February 28. The remaining yearly test may be taken during any time in that year. 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 and shall also be reported on the NPDES permit renewal application Form 2A or its equivalent/replacement.

## VII. FACILITY OPERATIONAL PRACTICES

### A. SEWAGE SLUDGE

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." The specific requirements in the permit apply as a result of the design flow of the facility, the type of waste discharged to the collection system, and the sewage sludge disposal or reuse practice utilized by the treatment works. The permittee shall submit an Annual Sludge Status report in accordance with NPDES Permit NM0020303, Parts I and Parts IV.

**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 indicated in Part F of its application (EPA Form 3510-2A) that it does not have any non-categorical Significant Industrial Users (SIU) or any Categorical Industrial Users (CIU).

**D. OPERATION AND REPORTING**

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

**VIII. 303(d) LIST**

In New Mexico's 2012-2014 CWA §303(d) / 305(b) Integrated List, the Rio Grande is listed as being impaired for *E. coli* and temperature. A TMDL for *E. coli* was developed in 2010, and in Part VI.C.5 of the Fact Sheet, permit conditions were identified as being based on the approved TMDL to address the *E. coli* impairment. A temperature TMDL is scheduled to be developed in 2013. The standard reopener language in the permit allows additional permit conditions if warranted by future changes and/or new TMDLs. No additional pollutants are listed for this waterbody.

**IX. 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 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.

The design flow for this facility has increased from 0.9 MGD to 2.7 MGD. Mass limits for BOD<sub>5</sub> and TSS have increased due to this increased design flow. This is in accordance with an anti-degradation review conducted by NMED SWQB, which found that the increased design flow would present "de minimus" impacts to the receiving water body.

**X. ANTIBACKSLIDING**

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the CWA, 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. The proposed permit maintains limitations that are at least as stringent as or more stringent than the previous permit.

## **XI. ENDANGERED SPECIES CONSIDERATIONS**

According to the most recent county listing available at USFWS, Southwest Region 2 website, <http://www.fws.gov/endangered/>, four species in Valencia County are listed as endangered or threatened. The Southwestern willow flycatcher (*Empidonax traillii*) and Rio Grande silvery minnow (*Hybognathus amarus*) are listed as endangered. The Mexican spotted owl (*Strix occidentalis lucida*) and Pecos sunflower (*Helianthus paradoxus*) are listed as threatened.

The Environmental Protection Agency (EPA) conducted a consultation with U.S. Fish and Wildlife Service (FWS) on the effects of permit renewal for Los Lunas wastewater treatment plant (WWTP) in 2001. EPA determined that the permit reissuance would have “no effect” on the Southwestern willow flycatcher, bald eagle, black footed ferret, Mexican spotted owl, whooping crane, and Pecos sunflower. EPA also determined that the permit reissuance action “may affect, but is not likely to adversely affect” the Rio Grande silvery minnow and its critical habitat. The FWS concurred with EPA’s determination in a letter dated June 28, 2001 (Cons. # 2-22-01-I-197), that the reissuance of the permit for Los Lunas WWTP “may affect, but is not likely to adversely affect” the Rio Grande silvery minnow and its critical habitat, and would have “no effect” on the Southwestern willow flycatcher.

Since the evaluation made by EPA and FWS in 2001, EPA has determined that the environmental baseline has changed due to the facility’s increase in design flow from 0.9 MGD to 2.7 MGD. In order to protect the species of concern, the Rio Grande silvery minnow, additional limits and monitoring were added to the draft permit. Because the discharge from Los Lunas WWTP provides a substantial amount of the flow needed to support the aquatic habitat for the Rio Grande silvery minnow, it is necessary to ensure that the in-stream D.O. concentration is maintained at an appropriate level for supporting aquatic life. Based on the marginal warmwater aquatic life designated use for the receiving water body (segment 20.6.4.105), the applicable criterion for D.O. is  $\geq 5.0$  mg/L. Thus, a D.O. limit of  $\geq 5.0$  mg/L (24-hour average) was incorporated into the draft permit. Based on data submitted in the facility’s application (Form 2A), both the average daily and maximum daily discharge are  $\geq 5.0$  mg/L, based on 16 samples. Thus, the permit will not include a compliance period for meeting these new limits.

According to effluent testing data supplied by the facility in their application (Form 2A), both the maximum daily and average daily ammonia concentrations are 0.00 ppm, based on a total of 5 samples. To further ensure that ammonia is not a pollutant of concern for this facility with the increased design flow, quarterly monitoring for ammonia has been incorporated into this draft permit.

EPA conducted an informal consultation with FWS in a letter dated November 9, 2012 requesting concurrence under Section 7 of the Endangered Species Act of 1973 that this permit issuance “may affect, but is not likely to adversely affect” the Rio Grande silvery minnow or its designated habitat. In a letter from FWS to EPA dated November 27, 2012, FWS concurred with EPA’s findings.

**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 for during the reissued permit cycle.

**XIII. 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.

**XIV. VARIANCE REQUESTS**

No variance requests have been received.

**XV. 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.

**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 February 9, 2012.

**B. 40 CFR CITATIONS**

Citations to 40 CFR are as of November 8, 2012. 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 January 14, 2011.

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

Statewide Water Quality Management Plan and Continuing Planning Process, as approved by EPA on December 23, 2011.

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

Total Maximum Daily Load for Middle Rio Grande Watershed, April 13, 2010.