

# **NPDES PERMIT NO. NM0028851**

## **FACT SHEET**

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

### **APPLICANT**

Central New Mexico Correctional Facility  
1525 Morris Road  
Los Lunas, NM 87031

### **ISSUING OFFICE**

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

### **PREPARED BY**

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### **DATE PREPARED**

August 17, 2010

### **PERMIT ACTION**

Proposed reissuance of the current permit issued December 20, 2004 with an effective date of February 1, 2005 and an expiration date of January 31, 2010.

### **RECEIVING WATER – BASIN**

Los Chaves Drain – Middle 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
CNMCF	Central New Mexico Correctional Facility (permittee)
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
mg/L	Milligrams per liter
µg/L	Micrograms per liter
MGD	million gallons per day
MRGCD	The Middle Rio Grande Conservancy District
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 mean the State of New Mexico.

## **I. CHANGES FROM THE PREVIOUS PERMIT**

Changes from the permit previously issued December 20, 2004, with an effective date of February 1, 2005, and an expiration date of January 31, 2010, are:

- A. The pH limit has been made more stringent.
- B. *E. coli* bacteria limits have been added.
- C. Temperature monitoring requirement established.
- D. FCB limits have been eliminated.
- E. WET limits established.
- F. Ammonia monitoring frequency increased.

## **II. APPLICATION LOCATION and ACTIVITY**

As described in the application, the wastewater treatment plant is located at 1525 Morris Road, in Los Lunas, Valencia County, New Mexico. The effluent from the treatment plant is discharged through eight (8) inch pipe (2200 feet long) to Los Chaves drain canal which runs 20 miles and discharges to the Rio Grande in segment 20.6.4.105 of the Middle Rio Grande Basin. The discharge is located on that water at latitude 34° 46' 50" N and longitude 106° 46' 15" W.

Under the SIC Code 9223, the applicant operates a State of New Mexico Corrections Department's wastewater treatment plant with a design capacity of 0.285 MGD serving a population of approximately 1,100 inmates, 400 employees, and 100 to 200 visitors per day. As described in the application, the influent from the CNMCF receives preliminary treatment in a grinder. The screened influent is lifted to the distribution box and then enters the aeration basin. Three blowers provide air through fine bubble diffusers. Following aeration, the flow enters the clarifier in the center of the package treatment plant and then exits into the chlorine contact chamber.

Wasted sludge is pumped into the aerobic digester for detention and treatment. Sludge is treated in eight drying beds or has been in the past hauled off site to be disposed of at a septage facility in Belen, New Mexico.

### III. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A received January 29, 2010, are presented below:

**POLLUTANT TABLE - 1**

Parameter	Max	Avg
	(mg/L unless noted)	
Flow, million gallons/day (MGD)	0.25	0.17
pH, minimum, standard units (su)	7.2	N/A
pH, maximum, standard units (su)	7.4	N/A
Biochemical Oxygen Demand, 5-day (BOD <sub>5</sub> )	37	19
Fecal Coliform (# bacteria /100 mL)	63	42
Total Suspended Solids (TSS)	51	28
Ammonia (NH <sub>3</sub> )	9	7
Chlorine, Total Residual (TRC)	ND	ND
Dissolved Oxygen (DO)	0.94	0.94
Total Kjeldahl Nitrogen (TKN)	<0.2	<0.2
Nitrate plus Nitrite Nitrogen	<0.05	<0.05
Oil & Grease	<5	<5
Phosphorous	4.06	4.06
Total Dissolved Solids (TDS)	508	508

\*ND- Non-detect

A summary of the last 24-months of available pollutant data: June 2008 though June 2010, taken from DMRs shows no exceedances of permit limits for BOD<sub>5</sub>, TRC and pH (See Pollutant Table 2). TRC was below MQL (non-detect). Fecal coliform and TSS show exceedances of permit limits.

**POLLUTANT TABLE - 2**

Date	BOD <sub>5</sub>			pH		TSS			TRC	Fecal Coliform	
	30 DAY AVG	30 DAY AVG	7 DAY AVG	Min.	Max.	30 DAY AVG	30 DAY AVG	7 DAY AVG	Max.	30 DAY AVG	Daily Max
	lbs/day	mg/L	mg/L	s.u.	s.u.	lbs/day	mg/L	mg/L	µg/L	cfu/100 mL	cfu/100 mL
Limit	71.3	30	45	6	9	71.3	30	45	11	500	500
6/30/2008	5	3.9	4.48	7	7.2	4.4	3.5	4	0	21	300
7/31/2008	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
8/31/2008	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
9/30/2008	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
10/31/2008	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
11/30/2008	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
12/31/2008	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1/31/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2/28/2009	36	26	37	7.2	7.2	52	37*	51*	0	735*	60000*
3/31/2009	6	5	7	7.2	7.2	16	13	15	0	13	18
4/30/2009	21	18	19	7.2	7.2	7	11	12	0	5999.9*	5999.9*

5/31/2009	6	5	6	7.2	7.3	7	5	7	0	47	63
6/30/2009	5	4	4	7.2	7.3	6	4	5	0	ND	ND
7/31/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
8/31/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
9/30/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
10/31/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
11/30/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
12/31/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1/31/2010	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2/28/2010	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3/31/2010	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4/30/2010	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5/31/2010	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6/30/2010	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

\*-denotes exceedance of permit limit

NR- EPA has not received DMR report

ND- No discharge

In addition, the permittee was required to perform pollutant testing for total ammonia during the last permit term. The results are as follows in Pollutant Table 3:

**POLLUTANT TABLE - 3**

Date	Total Ammonia (as Nitrogen)		
	30 DAY AVG	30 DAY AVG	7 DAY AVG
	lbs/day	mg/L	mg/L
6/30/2008	0.12	<0.1	<0.1
7/31/2008	NR	NR	NR
8/31/2008	NR	NR	NR
9/30/2008	NR	NR	NR
10/31/2008	NR	NR	NR
11/30/2008	NR	NR	NR
12/31/2008	NR	NR	NR
1/31/2009	NR	NR	NR
2/28/2009	0.51	0.41	0.41
3/31/2009	ND	ND	ND
4/30/2009	10	9	9
5/31/2009	ND	ND	ND
6/30/2009	ND	ND	ND
7/31/2009	NR	NR	NR
8/31/2009	NR	NR	NR
9/30/2009	NR	NR	NR
10/31/2009	NR	NR	NR
11/30/2009	NR	NR	NR
12/31/2009	NR	NR	NR
1/31/2010	NR	NR	NR
2/28/2010	NR	NR	NR
3/31/2010	NR	NR	NR
4/30/2010	NR	NR	NR
5/31/2010	NR	NR	NR
6/30/2010	NR	NR	NR

NR- Have not received DMR report

ND- No discharge

**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.

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 20, 2004 with an effective date of February 1, 2005, and an expiration date of January 31, 2010 is administratively continued until this permit is reissued.

## 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 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 CNMCF facility is a POTW treating sanitary wastewater. POTW's 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,

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 \* 0.285 MGD  
 30-day average BOD<sub>5</sub>/TSS loading = 71.3 lbs.

7-day average BOD<sub>5</sub>/TSS loading = 45 mg/L \* 8.345 lbs/gal \* 0.285 MGD  
 7-day average BOD<sub>5</sub>/TSS loading = 107 lbs.

Technology-Based Effluent Limits - 0.285 MGD design flow.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS			
	lbs/Day		mg/L (unless noted)	
Parameter	30-Day Avg.	7-Day Avg.	30-Day Avg.	7-Day Avg.
Flow	N/A	N/A	Measure MGD	Measure MGD
BOD <sub>5</sub>	71.3	107	30	45
TSS	71.3	107	30	45
pH	NA	NA	6.0 - 9.0 s.u.	

## 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 PSWQS, 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 into the Los Chaves Drain thence to the Rio Grande in segment number 20.6.4.105 of the Rio Grande Basin. The designated uses of the receiving water are irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and secondary contact need protective limits.

### 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

The State of New Mexico stream segment specific WQS require pH to be between 6.6 and 9.0 s.u. and are more limiting than the technology-based limits presented earlier. They are also more restrictive than the current permit. The draft permit shall establish 6.6 to 9.0 s.u. for pH based on the State's WQS.

#### 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 410 cfu/100 ml daily maximum, end-of-pipe.

New Mexico issued a TMDL in June 2010. The TMDL established *E. coli* limits of 126 cfu/100 mL monthly geometric average with a monthly average waste load limit of  $1.36 \times 10^9$  cfu/day. The load limit is based on the following conversion factor:

$$C \text{ as cfu/100mL} \times 1000 \text{ mL/Liter} \times 1\text{Liter}/0.264 \text{ gallons} \times 1,000,000 \text{ gal/MG} = 3.79 \times 10^7 \text{ cfu/MGD}$$

$$\text{Loading limit expressed as cfu/day} = 126 \text{ cfu/100 mL/day} \times 0.285 \text{ MGD} \times 3.79 \times 10^7 = 1.36 \times 10^9 \text{ cfu/day}$$

This TMDL supersedes and replaces a 2002 TMDL that established FCB limits. Since the 2010 TMDL eliminates FCB and replaces it with *E. coli* bacteria, the change does not constitute antibacksliding. The draft permit will propose *E. coli* bacteria limits of 126 cfu/100 mL monthly geometric average with a monthly average waste load limit of  $1.36 \times 10^9$  cfu/day. Since there is no required construction activity to add bacteria control technology, no compliance schedule will be granted in the draft permit to meet the *E. coli* limits.

#### c. Temperature

The State of New Mexico stream segment specific WQS require temperature to be 32.2 °C or less in any single sample. The State of New Mexico Part 303(d) List for Assessed Stream and

River Reaches, 2010-2012 indicates that the Rio Grande, stream segment 20.6.4.105, Rio Grande from Rio Puerco to the Isleta Pueblo boundary is impaired for temperature in the water. A TMDL is scheduled for 2013. Monitoring for temperature will be required during the warmer months of April to September.

d. 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.

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.

The facility is designated as a minor, and does not need to fill out the expanded pollutant testing section Part D of Form 2A. However, certain toxics; ammonia and TRC have been identified in previous permits as being present at concentrations that exceed RP and they will be discussed below.

(ii) 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. Both states establish 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. The SWQB of the NMED provided EPA with the 4Q3 for the CNMCF.

NMED informed EPA during the drafting of the last permit that their staff had personal communications with a representative from the MRGCD. The MRGCD is responsible for administration and maintenance of the system of drains and canals that are hydrologically connected with the Rio Grande from the Cochiti Dam Spillway to the northern boundary line of the Bosque del Apache National Wildlife Refuge.

According to the MRGCD, the Los Chaves Drain conveys water originating from naturally occurring springs as well as discharge from CNMCF. MRGCD stated that the Los Chaves Drain

maintains consistent flow into the Rio Grande, the single flow measurement of 2.3 cfs is available, and no ambient data has been collected from the Los Chaves Drain.

As there is no ambient data available for the immediate receiving water, Los Chaves Drain, EPA will consider ambient data collected from Rio Grande (Storet Agency Code #21NMEX @Los Lunas Bridge and Station No. MRG 72B) to determine the need for WQBELs. EPA believes this data is representative of the drainage area.

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:

$CD = Q_e / (FQ_a + Q_e)$ , where:

$Q_e$  = facility flow (0.285 MGD)

$Q_a$  = critical low flow of the receiving waters (2.3 cfs [1.48 MGD])

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

$$\begin{aligned} CD &= 0.285 \text{ MGD} / [(1.0)(1.48) + 0.285] \\ &= 0.16 \\ &= 16 \% \end{aligned}$$

#### (iii) TRC

The previous permit used chlorine and had limits for TRC of 11 µg/L. Chronic criteria for TRC is 11 µg/L, so the end-of-pipe limit based on chronic criteria would be 11 µg/L / 0.16 critical dilution = 68.75 µg/L. The acute criteria for TRC, applied end-of-pipe, is 19 µg/L which is more stringent than the chronic criteria so this will be used as the new limit for TRC. Due to technical error in the previous permit this will not constitute antibacksliding.

#### (iv) Ammonia

The previous permit had monitor and reporting only requirements for total ammonia. Due to the lack of recent data (June 2008-June 2010) that would be used to evaluate the toxic effects, EPA will continue to require monitoring and reporting for ammonia in this permit at an increased monitoring frequency of once of week instead of once a month. Additionally, an ammonia sample will be taken with every WET test sample taken during the permit term.

### 5. 303(d) List Impacts

The Rio Grande, Stream Segment 20.6.4.105, Rio Grande from Rio Puerco to the Isleta Pueblo boundary, is listed as impaired on the "State of New Mexico Part 303(d) List for Assessed Stream and River Reaches, 2010-2012." The waterbody is assessed as Category 5/5A with irrigation, livestock watering and wildlife habitat as fully supporting but secondary contact and marginal warmwater aquatic life as being impaired. Probable causes of impairments are listed as *E. coli* and temperature (water).

The *E. coli* TMDL has just recently been approved and loadings have been previously addressed in the Fact Sheet above. See Section V. C. 4. b. above.

The temperature (water) TMDL is scheduled for 2013. NMWQS require a 32.2 °C temperature maximum. However, since this receiving water is impaired for temperature, a monitoring requirement by instantaneous grab requirement will be added to the proposed permit.

The standard reopener language in the permit allows additional permit conditions if warranted by the additional data based on these requirements and/or new or revised TMDLs.

#### 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 two (2) times a month. 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 grab sample, which is consistent with the NMIP.

Water quality-based pollutant monitoring frequency for *E. coli* shall be sampled two (2) times per month using grab samples. TRC shall be measured daily by instantaneous grab (field measurement). Ammonia shall be monitored weekly by grab sample. Ammonia is monitored in the total form. The pollutant pH shall be monitored daily by instantaneous grab (field measurement) sample consistent with the NMIP. Regulations at 40 CFR Part 136 define instantaneous grab as being analyzed within 15-minutes of collection. All of these monitoring frequencies are consistent with the NMIP.

#### E. WHOLE EFFLUENT TOXICITY LIMITATION REQUIREMENTS

In Section V.C.4.c.ii.(b) above; “Critical Conditions”, it was shown that the critical dilution, CD, for the facility is 16%, based on the 4Q3 data. Based on the nature of the discharge; POTW, the design flow; 0.285 MGD, the nature of the receiving water; perennial, and the critical dilution; 16%, the NMIP directs the WET test to be a 7-day chronic test using *Ceriodaphnia dubia* and *Pimephales promelas* at a once per six months frequency for the entire permit term. 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 7%, 9%, 12%, 16%, and 21%. The low-flow effluent concentration (critical low-flow dilution) is defined as 16% effluent.

The previous permit established 7-day chronic WET biomonitoring with CD = 16%. DMR reports and additional WET testing reveals eleven (11) tests for both the *Ceriodaphnia dubia* and *Pimephales promelas* species. Two (2) tests for the *Ceriodaphnia dubia* test species and three (3) tests for the *Pimephales promelas* test species have failed both the lethal and sub-lethal endpoints. An 18% (2 failures /11 total tests = 0.18 x 100) fail rate for the *Ceriodaphnia dubia* and a 27% (3 failures /11 total tests = 0.27 x 100) fail rate for *Pimephales promelas* is a positive indication that toxicity exists. Therefore, EPA’s professional judgment concludes that CNMCF

has reasonable potential to exceed WQS despite the conclusions of the EPA Reasonable Potential Analyzer (Appendix 1). WET limits will be established for the proposed permit. CNMCF will have three (3) years to come into compliance with the newly established WET limit.

### OUTFALL 001

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 - the discharge to Los Chaves Drain of the treatment system aeration basin. The aeration basin receives process area wastewater, process area stormwater, and treated sanitary wastewater. Discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE MONITORING</u>	
	<u>30-DAY AVG MINIMUM</u>	<u>7-DAY MINIMUM</u>
Whole Effluent Toxicity (PCS 22414) (7 Day NOEC) 1*	16%	16%
<i>Ceriodaphnia dubia</i>	REPORT	REPORT
<i>Pimephales promelas</i>	REPORT	REPORT

<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY</u>	<u>TYPE</u>
Whole Effluent Toxicity (7 Day NOEC) 1*		
<i>Ceriodaphnia dubia</i>	1/ 6 months	24-Hr. Composite
<i>Pimephales promelas</i>	1/ 6 months	24-Hr. Composite

#### FOOTNOTES

- \*1 Monitoring and reporting requirements begin on the effective date of this permit. Compliance with the Whole Effluent Toxicity limitations is required 3 years after the proposed permit is made effective. See PART I, Compliance Schedules, and PART II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

## VI. FACILITY OPERATIONAL PRACTICES

### A. SEWAGE SLUDGE PRACTICES

Wasted sludge is pumped into the aerobic digester for detention and treatment. Sludge is treated in eight drying beds or has been in the past hauled off site to be disposed of at a septage facility in Belen, New Mexico. 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 quarterly. The monitoring results will be available to the public.

### **VIII. 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.

### **IX. 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. The proposed permit maintains the mass loading requirements of the previous permit for BOD<sub>5</sub> and TSS. The

pollutant pH has been made more stringent and this action is not subject to antibacksliding provisions. 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.

## **X. 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/southwest/es/EndangeredSpecies/lists/>, five species in Valencia County are listed as endangered (E) or threatened (T). The lone aquatic species is the Rio Grande silvery minnow (*Hybognathus amarus*) (E). Two species are birds and include the southwestern willow flycatcher (*Empidonax traillii extimus*) (E) and the Mexican spotted owl (*Strix occidentalis lucida*) (T). The only mammal is the black-footed ferret *Mustela nigripes* (E). The lone flowering plant is the Pecos Sunflower (*Helianthus paradoxus*) (T). The American bald eagle (*Haliaeetus leucocephalus*) was previously listed in Valencia County; however, the USFWS, removed the American bald eagle in the lower 48 states from the Federal List of Endangered and Threatened Wildlife Federal Register, July 9, 2007, (Volume 72, Number 130).

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. EPA is determining that re-issuance of the permit will have “no effect” on listed species and designated critical habitat after considering potential changes to the environmental baseline from the 2001 and 2004 conditions that supported EPA’s determinations of “no effect” of the prior permit re-issuance(s). EPA’s determination is based on the following:

1. EPA established in 2001 and subsequently in 2004 that reissuance of the NPDES Permit No. NM0028851 (Los Lunas Correctional Facility) will have “no effect” on listed species. The USFWS responded to EPA’s BE on February 2, 2001, concurring with EPA’s “no effect” determination for the Rio Grande silvery minnow (*Hybognathus amarus*), southwestern willow flycatcher (*Empidonax traillii extimus*), Mexican spotted owl (*Strix occidentalis lucida*), Pecos Sunflower (*Helianthus paradoxus*), and American bald eagle (*Haliaeetus leucocephalus*). (Consultation No. 2-22-01-I100)
2. No changes have been found to the USFWS list of threatened and endangered species and designated critical habitat listing since 2004.
3. Concerns regarding potential effects to proposed future sites for Rio Grande silvery minnow refugia to be established in the Isleta Reach of the Middle Rio Grande have been alleviated after EPA has identified that the discharge into the Los Chaves Drain would return to the Rio Grande downriver from the proposed sites. The Bureau of Reclamation proposed in its “Perennial Silvery Minnow Refugia at Drain Outfalls Environmental Assessment”, dated July 2007, to construct refugia at Los Chaves Wasteway, Peralta Wasteway, and Lower Peralta Drain No. 1 outfalls to the Rio Grande.

4. Permit conditions remain unchanged except for the inclusion of Whole Effluent Toxicity (WET) limits in lieu of biomonitoring in the permit, thereby providing greater protection. WET limits in the proposed permit protect aquatic life in the Los Chaves Drain. WET testing shall be performed at dilutions representing the proportion of effluent to low flow conditions (4Q3) historically found in the Drain (16% effluent). Any Rio Grande silvery minnow that might be present at the outfall of the Los Chaves Drain into the Rio Grande, some 15-20 miles from the facility discharge into the Drain, are protected from effluent effects by the additional dilution provided by the Rio Grande (0.5% effluent at Rio Grande low flow).

## **XI. 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.

## **XII. 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.

## **XIII. VARIANCE REQUESTS**

No variance requests have been received.

## **XIV. 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.

## **XV. FINAL DETERMINATION**

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

## **XVI. ADMINISTRATIVE RECORD**

The following information was used to develop the proposed permit:

### **A. APPLICATION(s)**

EPA Application Form 2A received January 29, 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 August 1, 2007.

Procedures for Implementing NPDES Permits in New Mexico, November 2009.

Statewide Water Quality Management Plan, December 17, 2002.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2010 -2012.

#### D. MISCELLANEOUS REFERNCES

Perennial Silvery Minnow Refugia at Drain Outfalls Environmental Assessment. July 2007.