

NPDES PERMIT NO. NM0031011

STATEMENT of BASIS

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

I. APPLICANT

San Felipe Pueblo WWTP
PO Box 4219
San Felipe Pueblo NM 87001

II. ISSUING OFFICE

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

III. PREPARED BY

Laurence E. Giglio
Environmental Engineer
NPDES Permits & Technical Branch (6WQ-PP)
Water Quality Protection Division
VOICE: 214-665-6639
FAX: 214-665-2191
EMAIL: giglio.larry@epa.gov

IV. DATE PREPARED

October 6, 2008

V. PERMIT ACTION

Proposed first-time issuance of a permit.

Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed in Title 40, Code of Federal Regulations, revised as of September 12, 2008.

VI. CHANGES FROM THE PREVIOUS PERMIT

This is a first-time issuance.

VII. DISCHARGE LOCATION

As described in the application, the plant site is located at 76 Taos Road, San Felipe Pueblo, in Sandoval County, New Mexico. The effluent from the facility is discharged into San Felipe Eastside Ditch, an unclassified intermittent tributary of the Rio Grande River. The discharge, after traveling approximately 2.3 miles from the outfall, enters the Rio Grande. From the entry into the Rio Grande, the discharge travels approximately 2 miles down river until it reaches the Angostura Diversion Structure (ADS) and immediately below that Santa Ana Pueblo land. The main stem of the Rio Grande from the ADS upstream to Cochiti dam is in Segment No. 20.6.4.110 of the Rio Grande Basin. The discharge is on that water at Latitude 32.40° North and Longitude 106.45° West.

VIII. RECEIVING STREAM STANDARDS

Because the San Felipe and Santa Ana Pueblos do not have EPA approved water quality standards, EPA has established monitoring requirements and effluent limitations to protect the downstream State of New Mexico waters. The ADS is the closest downstream water segment that has approved WQS. The general and specific stream standards are provided in "New Mexico State Standards for Interstate and Intrastate Surface Waters, (NMWQS)" (20.6.4 NMAC, amended through August 1, 2007). The known uses of the Rio Grande for Segment No.20.6.4.110 are coldwater and warmwater aquatic life, irrigation, livestock watering, wildlife habitat and secondary contact.

IX. APPLICANT ACTIVITY

Under the Standard Industrial Classification (SIC) Code 4952, the applicant operates a publicly owned wastewater treatment plant (POTW) with a design capacity of 0.60 million gallons per day (MGD) serving a population of approximately 2,000. The facility is currently still under construction with an estimated summer 2008 completion date. The wastewater treatment process consists of a lift station, fine screen, anoxic digesters, aeration basin with fine bubble diffusers, membrane basin using membrane bioreactors, and lastly an ultraviolet disinfection chamber. Sludge is generated during the process with some being sent back to the headworks and the rest sent to a filter press where dried solids are sent to a dumpster and disposed at an approved landfill.

X. EFFLUENT CHARACTERISTICS

The facility has not started discharging and there is no effluent to characterize at this time.

XI. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

The proposed effluent limitations for those pollutants proposed to be limited are based on regulations promulgated at 40 CFR §122.44. The draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR §122.44(a), on best professional judgment

(BPJ) in the absence of guidelines, NMWQS and/or requirements pursuant to 40 CFR §122.44(d), whichever are more stringent.

A. REASON FOR PERMIT ISSUANCE

It is proposed that the permit be issued for approximately a 5-year term following regulations promulgated at 40 CFR §122.46(a). The proposed permit expiration date will coordinate with the EPA Basin Statewide Management Approach to Permitting in New Mexico, adopted March 2, 2000.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Secondary treatment, established at 40 CFR §§133.102(a) and 133.102(b) are 30 mg/l for the 30-day average and 45 mg/l for the 7-day average for BOD₅ and TSS each. The parameter pH is limited to be between 6-9 standard units (su's).

Final Effluent Limits 0.6 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 ₅	150	225	30	45
TSS	150	225	30	45
pH	N/A	N/A	6.0 – 9.0 su's	

TSS/BOD₅ loading (lbs/day) = 30 mg/L * 8.345 lbs/gal * 0.6 MGD = 150 lbs/day

TSS/BOD₅ loading (lbs/day) = 45 mg/L * 8.345 lbs/gal * 0.6 MGD = 225 lbs/day

C. 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; BOD₅, pH and TSS, are proposed to be monitored once per week. Flow is proposed to be monitored continuously. These frequencies are consistent with permits that have the same design flow. Sample type for BOD₅ and TSS is 6-Hr composite and pH shall be by grab sample.

D. 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". 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.

E. 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.

F. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The treatment plant has no non-categorical Significant Industrial User's and no Categorical Industrial User's. 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.

G. 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.

H. WATER QUALITY BASED LIMITATIONS

1. General Comments

Effluent limitations and/or conditions established in the draft permit are in compliance with State water quality standards and the applicable water quality management plan.

2. Post Third Round Policy and Strategy

Section 101 of the Clean Water Act (CWA) states that "...it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited..." To insure that the CWA's prohibitions on toxic discharges are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants 49 FR 9016-9019, March 9, 1984." In support of the national policy, Region 6 adopted the "Policy for Post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992. The Regional policy and strategy are designed to insure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State water quality standard resulting in nonconformance with the provisions of 40 CFR §122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

3. Implementation

The Region is currently implementing its post third round policy in conformance with the Regional strategy. 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.

4. State Water Quality Numerical Standards

a. GENERAL COMMENTS

Stated previously, the Rio Grande has designated uses of warmwater and coldwater aquatic life, irrigation, livestock watering, wildlife habitat and primary contact.

b. WATER QUALITY STANDARDS

The New Mexico Water Quality Control Commission (WQCC) adopted WQS for the State of New Mexico. The WQS are available on the New Mexico Environment Department's (NMED) website at <http://www.nmcpr.state.nm.us/nmac/parts/title20/20.006.0004.pdf>. The WQCC established the WQS in accordance with, and under authority of, the NM Water Quality Act [Chapter 74, Article 6, NMSA 1978 Annotated].

c. 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). NM WQS that are applicable for this discharge are based on 20.6.4 NMAC.

i. pH

Stream segment specific WQS for pH exist for the Rio Grande to be between 6.6 and 9.0 su's. These limits are more restrictive than the technology-based limits shown above. The draft permit shall establish pH limitations to be 6.6 to 9.0 su's.

ii. Bacteria

Stream segment specific WQS for E. coli bacteria are 126 cfu/100 ml monthly geometric mean and 410 cfu/100 ml daily maximum. The draft permit will establish these limits for E. coli bacteria for the protection of secondary contact.

iii. Toxics

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 and 2S, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to Publicly Owned Treatment Works (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 classified as a “minor” discharger with a design flow in less than 1.0 MGD and does not need to complete Part D, “Expanded Effluent Testing Data” of Form 2A. There are no toxics to evaluate impacts on the discharge.

When the facility initiates discharges, the draft permit will require submittal of appropriate pollutant testing consistent with the EPA Form 2A application requirements for a facility with a 0.6 MGD design flow.

5. Monitoring Frequency for Limited Parameters

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity 40 CFR §122.48(b) and to assure compliance with permit limitations 40 CFR §122.44(i)(1). The monitoring frequencies for pH and bacteria are proposed at once/week. Flow is proposed to be monitored continuously. These frequencies are consistent with other permittees with a comparable design flow.

6. Whole Effluent Toxicity Limitations

a. GENERAL COMMENTS

The State has established narrative criteria, which in part state that:

“...surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, concentrations or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or that will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms....” (NM WQS Section 20.6.4.13.F.)

The recommendation of the EPA Regional Toxicity Coordinator is to conduct a 48-hour acute test at 100% critical dilution on an annual basis using *Daphnia pulex* and *Pimephales promelas*.

The permittee shall conduct separate whole effluent toxicity tests in accordance with the following table:

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

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

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 32%, 42%, 56%, 75%, and 100% based on a 0.75 dilution series with the low-flow effluent concentration (critical low-flow dilution) defined as 100% effluent.

I. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at 40 CFR §122.44, the draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR §122.44(a) or on State WQS and requirements pursuant to 40 CFR §122.44(d), whichever are more stringent.

Technology-based effluent limitations are established in the proposed permit for TSS and BOD₅.

Water quality-based effluent limitations are established in the proposed permit for E. coli bacteria and pH.

XII. 303(d) LIST

The non-pueblo portion of the Rio Grande between the ADS and Cochiti dam has not been identified as impaired on the “State of New Mexico Part 303(d) List for Assessed Stream and River Reaches, 2006-2008.” The waterbody is assessed as an Integrated Report Category 2 that means that available data indicates that most but not all of the designated uses are supported based on numeric and narrative parameters that were tested. Specifically, coldwater and warmwater aquatic life, irrigation, secondary contact and wildlife habitat are fully supporting but livestock watering has not been assessed. The standard reopener language in the permit allows additional permit conditions if a future assessment and a required TMDL is established.

XIII. 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.

XIV. 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/>, four species in Sandoval 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 American bald eagle (*Haliaeetus leucocephalus*) was previously listed in Sandoval 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).

Section 7 of the Endangered Species Act (Act) of 1973, [16 U.S. C. 1531 et seq.], outlines procedures for Federal interagency cooperation for the conservation of federally listed species and designated critical habitats. EPA will fulfill its consultation obligation, under the Act and its implementing regulations, relevant to the issuance of this NPDES permit.

XV. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The San Felipe Pueblo initiated a “Cultural Resource Inventory for Improvements to the San Felipe Pueblo Wastewater System, (CRI)” May 24, 2005, as required by the National Historic Preservation Act of 1966 (as amended) and the Historical Conservation Act of 1974. The cultural resource inventory identified the Cochiti East Side Main Canal (CEMC) as an eligible National Register of Historic Places as part of the investigation. No other sites were identified in the CRI as being eligible under the Historical Conservation Act. The CEMC is under the jurisdiction of the Middle Rio Grande Conservancy District, and to mitigate any impacts on the CEMC, the wastewater line will be bored under it. This action will not affect either the functional integrity or other qualities that make it eligible to the National Register of Historic Places. The issuance of the permit should have no impacts on any additional historical and/or archeological sites.

XVI. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of New Mexico's Water Quality Standards for Interstate and Intrastate Streams are revised or remanded by the New Mexico Water Quality Control Commission. In addition, if WQS are

established by either the San Felipe Pueblo and/or the Santa Ana Pueblo. The permit may be reopened and modified during the life of the permit if relevant procedures implementing the WQS are either revised or promulgated by NMED, the Santa Ana and/or the San Felipe Pueblo's. Should either the State and/or either of the Pueblo's adopt a 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/Tribal 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.

XVII. VARIANCE REQUESTS

No variance requests have been received.

XVIII. CERTIFICATION

The discharge is located within boundaries of tribal trust land and EPA has both permitting and certifying jurisdiction. 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.

XIX. FINAL DETERMINATION

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

XX. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 2A received May 13, 2008.

B. 40 CFR CITATIONS

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 August 1, 2007.

Region 6 Implementation Guidance for State of New Mexico Standards for Interstate and Intrastate Stream, May 1995.

Statewide Water Quality Management Plan, December 17, 2002.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2006 -2008.

D. MISCELLANEOUS REFERENCES

EPA Region 6 "Policy for Post Third Round NPDES Permitting" and "Post Third Round NPDES Permit Implementation Strategy," October 1, 1992.

“Cultural Resource Inventory for Improvements to the San Felipe Pueblo Wastewater System,” Townsend Archeological Consultants, May 24, 2005.

“Habitat Evaluation for the Phase 1 Proposed Wastewater System Improvements Project,” Souder, Miller & Associates, May 23, 2005.