

NPDES PERMIT NO. NM0020168

FACT SHEET

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

I. APPLICANTS

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II. ISSUING OFFICE

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IV. DATE PREPARED

April 2, 2009

V. DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations may be used. They are as follows: BAT - best available technology economically achievable, BMP - best management plan, BOD₅ - five-day biochemical oxygen demand, BPJ - best professional judgment, CD - critical dilution, CFR - Code of Federal Regulations, cfs - cubic feet per second, CIU - Categorical Industrial User's, COD - chemical oxygen demand, COE - United States Corp of Engineers, CWA - Clean Water Act, DMR - discharge monitoring report, EPA - United States Environmental Protection Agency, ESA - Endangered Species Act, FWS - United States Fish and Wildlife Service, MGD - million gallons per day, NMAC - New Mexico Administrative Code, NMED - New Mexico Environment Department, 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 - Publicly Owned Treatment Works, RP - reasonable potential, SIC - standard industrial classification, SIU - Significant Industrial User's, su - standard units, 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, WET - whole effluent toxicity, WQCC - New Mexico Water Quality Control Commission, and WWTP - wastewater treatment plant.

VI. PERMIT ACTION

EPA is proposing reissuance of the current permit issued May 17, 2006, with an effective date of July 1, 2006, and an expiration date of May 31, 2009.

Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed in Title 40, Code of Federal Regulations, revised as of March 4, 2009.

VII. DISCHARGE LOCATION

The facility is located at 900 S. Oliver Street, Aztec, NM. The effluent from the site is discharged into the Animas River in water quality Segment No. 20.6.4.403 of the San Juan River Basin. The discharge is located on that water at Latitude 36° 49' 07" North and Longitude 108° 01' 24" West, in San Juan County, New Mexico.

VIII. RECEIVING STREAM STANDARDS

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC, effective July 17, 2005 and amended through August 1, 2007). The receiving waterbody, Segment No. 20.6.4.403, has designated uses of municipal and industrial water supply, irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, warmwater aquatic life, and primary contact.

IX. APPLICANT ACTIVITY

Under SIC Code 4952, the discharge is from a POTW. The treatment processes include bar screen, oxidation pond, secondary and final clarifiers, and ultraviolet (UV) disinfection. The current design flow is 1.0 MGD. The facility is undergoing upgrades and completion of construction is expected by November 2009. The facility will add an extended aeration basin, phosphorous removal basin, up-flow filters for nitrogen removal, and digesters for bio-solid treatment. The expanded facility will have 1.2 MGD design flow.

X. SEWAGE SLUDGE PRACTICES

The sludge produced at the site passes through a belt filter and sludge cake is deposited on a cement storage pad for further dewatering and drying. Sludge is hauled to the Bonddad Landfill for disposal.

XI. EFFLUENT CHARACTERISTICS

The facility submitted effluent data with its Application Form 2A, dated December 29, 2008. The permit application was received on January 5, 2009, and determined to be administratively complete. Effluent characteristics indicate that the following priority pollutants were detected in the discharge:

<u>Pollutant</u>	<u>Avg Conc. ug/l</u>	<u>Pollutant</u>	<u>Avg Conc. (ug/l)</u>
Cadmium	0.186	Copper	3.96
Lead	1.69	Nickel	2.06
Zinc	66.6	Cyanide	2.61
Chloroform	0.35	Bis(2-EH)Phthalate	4.49

A RP screening of effluent characteristics against the State WQS demonstrates that the discharge has no RP to exceed the applicable WQS for the above pollutants.

XII. 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 BPJ in the absence of guidelines, NM WQS 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 a five-year term, following regulations promulgated at 40 CFR 122.46(a). The proposed permit term will coordinate with the EPA Basin Statewide Management Approach to Permitting in New Mexico, adopted March 2, 2000. This program also known as the Statewide Basin Management Approach to Permitting is a comprehensive framework to better coordinate and integrate water resource management activities geographically by river basin.

B. 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.

C. 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 effluent limitations guidelines where applicable, on BPJ in the absence of guidelines, or on a combination of the two.

Secondary treatment effluent limitations, established at 40 CFR 133.102(a) and 40 CFR 133.102(b) are 30 mg/l for the 30-day average and 45 mg/l for the 7-day average for both BOD₅ and TSS. These values are based on 85 percent removal efficiency. Mass loadings are calculated based on the design flow of 1.0 and 1.2 MGD, respectively.

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."

E. Waste Water Pollution Prevention Requirements

The facility has no significant industrial users. EPA determined that the permittee will not be required to develop a full pretreatment program.

F. Water Quality Based Limitations

1. General Comments

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

2. Post Third Round Policy and Strategy

Section 101 of the 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, 3/9/84)." 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, and the EPA Region 6 WET Permitting Strategy on May 1, 2005. The Regional policy and strategies 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 strategies. 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

The water quality standards that the permit must meet are for perennial Segment 20.6.4.403 NMAC.

b. WATER QUALITY STANDARDS

The current WQS adopted by WQCC as effective July 17, 2005, and amended through August 1, 2007. The WQCC established the revised WQS in accordance with, and under authority of, the NM Water Quality Act [Chapter 74, Article 6, NMSA 1978 Annotated]. The WQS have been approved by EPA in accordance with Section 303 of the CWA.

c. REASONABLE POTENTIAL

Effluent data were screened against the EPA approved 2005 WQS. Stream flow data from USGS gauge 09363500 were used to calculate the 4Q3 low flow and harmonic mean flow. The critical low flow 4Q3 is 184 cfs and the harmonic mean flow is 426 cfs. The stream geometric mean TSS, 17 mg/l, geometric mean hardness, 237 mg/l, and flow data were used to calculate RP. Based on these calculations, the discharge has no RP to cause or contribute violations of State WQS. A RP screening spread sheet is attached to the fact sheet.

d. PERMIT ACTION - WATER QUALITY-BASED LIMITS

Regulations promulgated at 40 CFR 122.44(d) require water quality-based, where appropriate, 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.

For water segment 20.6.4.403 NMAC, there is a specific WQS range for pH, so a pH range of 6.6 – 9.0 is established based on the water segment-specific criteria. The current permit has effluent limitations for fecal coliform based on a TMDL waste load allocation for the San Juan Watershed (Part One) Navajo Nation Boundary at the Hogback to Navajo Dam, June 14, 2005. The draft permit proposes to delete monitoring requirement and effluent limitation for fecal coliform because the WQS for fecal coliform was replaced with E. coli in the EPA approved NMWQS. The Animas River is no longer listed in the State 2008-2010 303(d) list for fecal coliform problem. The draft permit applies site-specific E. coli standards as a monthly average of 126 cfu/100 ml and single maximum of 410 cfu/100 ml at the point of discharge and adds a TMDL-based daily loading limitation for E. coli. This change is consistent with State WQS and also provides appropriate control for contribution of bacteria to the stream. The facility uses UV, instead of chlorine, for disinfection. NMED requires that the draft permit establishes a TRC limitation and monitoring requirement if chlorine product is used for disinfection, system clean-up or algae control. The draft permit establishes effluent limitation and monitoring requirement for TRC when chlorine product is used.

The current permit has effluent limitations for total nitrogen and total phosphorous in accordance with the approved TMDL (named Animas River- San Juan River to Estes Arroyo). The facility

is undergoing upgrade in order to meet these nutrient limitations. EPA retains the current nitrogen and phosphorous limitations for the existing facility and recalculate the effluent limitations based on the TMDL loadings. This permit does not authorize additional discharge of load of total phosphorous or total nitrogen.

The permittee reported a maximum of 690 mg/l and an average of 578 mg/l of TDS in the application, therefore, it might exceed the 400 mg/l increment limit in accordance with the salinity policy and program outlined in the report "1993 Review, Water Quality Standards for Salinity, Colorado River System." The draft permit proposes a No Net Increase effluent limitation of a 400 mg/l increment of TDS for the expanded facility. The facility shall take samples from the intake water to the water treatment plant and the discharge at the WWTP and report the difference of TDS concentrations.

5. Whole Effluent Toxicity Limitations

a. GENERAL COMMENTS

In a letter from Marcy Leavitt, NMED, to Claudia Hosch, EPA, December 16, 2005, NMED provided Narrative Toxics Implementation Guidance – Whole Effluent Toxicity, (NTIG-WET), an update to the 1995 Implementation Guidance. The critical dilution of the discharge to the receiving stream is 0.84%. Because the critical dilution is below 10%, an acute-to-chronic ratio of 10:1 is used to allow acute WET testing. In accordance with the NTIG-WET, the facility is required to conduct acute WET testing at the 8.4% critical dilution for *Pimephales promelas* and *Daphnia pulex*. EPA has completed a reasonable potential evaluation consistent with the current EPA toxicity policy document. The discharger must comply with the toxicity test and reporting requirements.

H. 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, such as BOD₅ and TSS, are proposed to be monitored twice per week. Monitoring frequencies for pH and E. coli are proposed twice per week the same as the current frequency. Frequencies for total nitrogen and total phosphorous are proposed once per month.

I. Summary of Significant Changes from the Existing Permit

There are significant changes of permit conditions from the current permit:

1. Delete monitoring requirement and effluent limitation for fecal coliform;
2. Add daily mass load limitation for E. coli; and
3. Modify mass loading limitations for the expanded facility.

XIII. 303(d) LIST

The receiving waterbody is listed on the current “2008 - 2010 State of New Mexico 303(d) List for Assessed River/Stream Reaches Requiring Total Maximum Daily Loads (TMDLs) for not supporting marginal coldwater and warmwater aquatic life due to nutrient problem. TMDL-based effluent limitations for total phosphorous and total nitrogen are established in the permit. The segment 20.6.4.403 is no longer listed for fecal coliform bacteria problem.

XIV. 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. The NMED has run an antidegradation test and found the impact is de-minimis or less than 10% of the assimilative capacity.

XV. ANTIBACKSLIDING

The proposed permit does not relax any effluent limitations. Effluent limitations for fecal coliform in the current permit are replaced with E. coli according to approved NMWQS.

XVI. 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/listspecies.cfm>, six species in San Juan County are listed as endangered: black-footed ferret, Colorado pikeminnow, Knowlton cactus, Mancos milk-vetch, razorback sucker and southwestern willow flycatcher; and two threatened species: Mesa Verde cactus and Mexican spotted owl. Both black-footed ferret and Colorado pikeminnow were extirpated in the San Juan County.

In a July 27, 1999, letter (Conc. #2-22-99-1-101) the FWS concurred with EPA’s determination that the reissuance of the NPDES permit to the City of Aztec “may affect, but is not likely to adversely affect” the Colorado pikeminnow, razorback sucker and southwestern willow flycatcher; and “will not likely destroy or adversely modify their critical habitats.” Based on the nature and quantity of the discharge, EPA determines that the reissuance of this permit will cause no change of the environmental baseline established in the 1999 consultation.

XVII. PERMIT REOPENER

The permit has contained reopener clause. Modification of the permit is subject to the provisions of 40 CFR 124.5.

XVIII. VARIANCE REQUESTS

No variance requests have been received.

XIX. 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.

XX. FINAL DETERMINATION

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

XXI. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. Application(s)

EPA Application Form 2A received January 5, 2009.

B. 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, 1995.

Narrative Toxics Implementation Guidance – Whole Effluent Toxicity, December 16, 2005.

TMDL named Animas River- San Juan River to Estes Arroyo, January 17, 2006.

Post Third Round NPDES Permit Implementation Strategy, adopted October 1, 1992.