

US EPA ARCHIVE DOCUMENT

February 2010
FACT SHEET
Authorization to Discharge under the
National Pollutant Discharge Elimination System
for the
Ramah Navajo School Board, Inc. – Pine Hill School Wastewater Treatment Lagoon
NPDES Permit No. NN0030325*

Applicant address: Ramah Navajo School Board, Inc.
Pine Hill School
P.O. Box 10
Pine Hill, New Mexico 87357

Applicant Contact: Bennie Cohoe, Executive Director
(505) 775-3256

Facility Address: Pine Hill School Wastewater Lagoon
P.O. Box 340
Pine Hill, New Mexico 87357

Facility Contact: Ward Hunter, Facility Manager
(505) 775-3285

I. Summary

Ramah Navajo School Board, Inc. (“RNSB”) was issued a National Pollutant Discharge Elimination System (“NPDES”) Permit (No. NM0030325) on November 30, 2000 for its Pine Hill School wastewater treatment lagoon facility, pursuant to the U.S. Environmental Protection Agency (“U.S. EPA”) regulations set forth in Title 40, Code of Federal Regulations (“CFR”) Part 122.21. The permit was effective January 6, 2001, through midnight, January 7, 2006. A permit application was due to U.S. EPA on July 7, 2005 which is 180 days prior to the permit expiration date of January 7, 2006.) RNSB reapplied to U.S. EPA for reissuance on March 7, 2008. This fact sheet is based on information provided by the applicant through its application(s) and discharge data submittal, along with the appropriate laws and regulations.

The facility is privately owned by RNSB. RNSB, a Navajo “tribal organization”, operated as an exclusive nonprofit corporation by members of the Ramah Navajo Chapter. Funds provided by the federal Bureau of Indian Affairs and the Navajo Nation are used to operate four divisions for the Pine Hill School and Ramah Navajo Community.

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- *The National Pollutant Discharge Elimination System (NPDES) permit number for this facility has been changed from NM0030325 to NN0030325. The discharger was notified of the change. The two-letter prefix of the permit number is being replaced with NN for its state code to provide for more efficient data management.*

Pursuant to Section 402 of the Clean Water Act (“CWA”), the U.S. EPA is proposing issuance of the NPDES permit renewal to RNSB’s Pine Hill (permittee) for the discharge of treated domestic wastewater to an unnamed wash, a tributary to Terrero Wash, a tributary to Jaralosa Draw, a tributary to Zuni River, and an eventual tributary to The Little Colorado River, a water of the United States.

II. Background

The Pine Hill School wastewater treatment facility is located in Pine Hill, Cibola County, within the southwestern portion of the Navajo Nation, approximately 35 miles southwest of Gallup, New Mexico. The facility serves a population of over 1,000, and receives only domestic sewage with an average flow of approximately 0.035 million gallons per day (MGD), which is a reported estimate provided in the discharge monitoring reports. The treatment lagoon facility is a two-cell facultative lagoon system with a depth of 12 feet, covering an area of 1.23 acre with a holding capacity of approximately 7.44 million gallons of wastewater. Wastewater from the collection system flows by gravity to a collector, which directs the flow into Cell 1, where solids are allowed to settle. Micro-organisms begin digestion of the solids while the liquid portion of the waste stream evaporates to the atmosphere. Effluent leaves Cell 1 through a transfer pipe and enters Cell 2 for final treatment and polishing, as well as additional aeration and evaporation time prior to discharge. Effluent undergoes chlorination via a stack-fed or tablet fed-chlorinator prior to being discharged from Outfall No. 001 to an unnamed wash, a tributary to Terrero Draw, a tributary to Jaralosa Draw, a tributary to Zuni River, a tributary to the Little Colorado River. Any sampling and monitoring under the proposed permit shall be performed at Outfall No. 001.

On November 8, 2006, USEPA sent RNSB a letter indicating that discharge monitoring reports (DMRs) were not submitted for the months of February 2001 through October 2006 and that the permit application was due on July 7, 2005 (at least 180 days prior to the permit expiration date of January 7, 2006.) In addition, USEPA (Andrew Sallach) visited the facility along with Navajo Nation EPA in September 2006 and observed that an occurring discharge that was not permitted. Accordingly, a Compliance Evaluation Inspection report was issued in October 2006 recommending RNSB to begin sampling the influent and the effluent after final treatment but prior to discharge to the unnamed wash, and submit the DMRs to USEPA as required by the permit. Navajo Nation Environmental Protection Agency (Navajo EPA) subsequently wrote a letter to RNSB dated January 16, 2008 regarding the failure to reapply and submit the DMRs. A follow-up site visit was made in March 2009 to address the non-submittal of a completed 401 certification and outstanding DMRs that have yet to be submitted. During this site visit, Navajo EPA observed white staining in the rock-lined channel downstream of Outfall No. 001 indicating past discharges. Navajo EPA offered to provide technical assistance to the facility but received minimal response from the facility.

USEPA most recently visited the facility on June 17, 2009 and prepared a draft compliance evaluation inspection dated August 17, 2009. Among the inspection findings and recommendations noted in the report include but are not limited to: need for proper vegetation removal on the pond berms and berm repairs, general operation and maintenance deficiencies, inadequate flow measurements, non-submittals of DMRs, incomplete DMRs, need for accurate analytical testing, and timely spill and seepage reporting. It is recommended that some type of flow measuring device be installed to obtain accurate flow data.

Although RNSB is a privately-owned treatment facility and not a publicly-owned treatment works (POTW), EPA will be proposing federal discharge limits as those that are applicable to POTWs. Any sampling and monitoring under the proposed permit shall be performed at Outfall No. 001.

III. Basis of Proposed Permit Requirements

Section 301 of the CWA established a required performance level, referred to as “secondary treatment,” that all POTWs were required to meet by July 1, 1977. Federal secondary treatment effluent standards for POTWs are contained in Section 301(b)(1)(B) of the CWA. Implementing regulations for Section 301(b)(1)(B) are found at 40 CFR Part 133. The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. These technology-based effluent limits apply to all municipal wastewater treatment plants, and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD₅ and TSS. The requirements contained in the draft permit are necessary to prevent violations of applicable treatment standards.

In accordance with 40 CFR 122.44(d), the need for discharge limitations for all pollutants that may impact applicable water quality criteria and water quality standards must be evaluated. As part of this evaluation, discharge limitations are based on application of the water quality standards. USEPA approved the 1999 Navajo Nation Surface Water Quality Standards (“NNSWQS”), on March 23, 2006. The NNSWQS were revised in 2007 and approved by the EPA on March 26, 2009. The approved 1999 Navajo Nation water quality standards and 2007 revisions will be used on a best professional judgment (“BPJ”) basis for purposes of developing water quality based effluent limitations. The requirements contained in the proposed permit are necessary to prevent violations of applicable water quality standards.

IV. Designated Uses of the Receiving Water

The designated uses of the receiving water (a tributary to Zuni River, a tributary to the Little Colorado River), as defined by the 2007 NNSWQS are secondary human contact, fish consumption, aquatic and wildlife habitat, and livestock watering (Table 205.1, page 23).

V. Determination of Effluent Limitations, Monitoring, and Reporting Requirements

A. Flow Rates

Under the proposed permit, there is no flow limit but the monthly and daily maximum flows of the influent and effluent must be monitored and reported in the event of a discharge. The monitoring frequency is being proposed as once per discharge. The previous permit had a requirement of once per month.

B. Five-Day Biochemical Oxygen Demand (BOD₅)

Under the proposed permit, the discharge shall not exceed a weekly average of 65 mg/l and monthly average of 45 mg/l BOD₅, and shall achieve no less than a monthly average rate of 65% removal. These limits are required under 40 CFR Section 133.105.

Under 40 CFR Section 122.45(f), mass limits are required for BOD₅. Based upon the average flow of 0.035 MGD, the mass limits for BOD₅ are based on the calculations below.

Monthly average

$$\frac{0.035 \text{ MG}}{\text{day}} \times \frac{45 \text{ mg}}{1} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 5.9 \text{ kg per day}$$

Weekly average

$$\frac{0.035 \text{ MG}}{\text{day}} \times \frac{65 \text{ mg}}{1} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 8.5 \text{ kg per day}$$

These limits are different from the previous fact sheet. The calculations in the 2000 permit fact sheet were based on a plant design flow of 0.002 MGD provided in the both 2000 and 2008 permit applications and deemed inaccurate. Due to the intermittent nature of the discharge, the monitoring frequency is set at once per discharge, changed from the monthly frequency requirement in the previous permit. EPA is adding a clarification that should the event of a continuous discharge occur over several days or more than one discrete or separate discharge in a month, the monitoring frequency should be no more than once per month. If no discharge occurs, no monitoring is required.

C. Total Suspended Solids (TSS)

In the proposed permit, the discharge shall not exceed a weekly average of 135 mg/l and a monthly average of 90 mg/l TSS, and shall achieve no less than a monthly average rate of 65% removal. These limitations (Alternative State Requirements) are consistent with 40 CFR 133.101(f), 133.103(c), 133.105(b) and (d). Mass limit requirements in accordance with 40 CFR 122.45(f) have also been set in the proposed permit.

Monthly average

$$\frac{0.035 \text{ MG}}{\text{day}} \times \frac{90 \text{ mg}}{1} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 11.8 \text{ kg per day}$$

Weekly average

$$\frac{0.035 \text{ MG}}{\text{day}} \times \frac{135 \text{ mg}}{1} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 17.7 \text{ kg per day}$$

Similar to BOD₅, these limits are different from the previous fact sheet, which were based on inaccurate information provided in the permit application and deemed inaccurate. Due to the intermittent nature of the discharge, the monitoring frequency is set at once per discharge, changed from the monthly frequency requirement in the

previous permit. As discussed in the monitoring frequency for BOD5 above, the added clarification of no more than once per month requirement applies.

D. Escherichia coli (*E. coli*)

In the proposed permit, the monthly geometric mean of *E. coli* shall not exceed 126/100 ml and 575/100 ml as a single sample maximum. These limits are based on the proposed 2007 NNSWQS for secondary human contact (page 14.) The previous permit utilized fecal coliform bacteria (FCB) values but the amended NNSWQS replaced FCB with *E. coli*. The monitoring frequency is proposed as once per discharge. In the event of a continuous discharge lasting several days, the monitoring frequency should be no more than once per month.

E. Total Residual Chlorine (TRC)

The proposed permit requires chlorination of the effluent before discharge. For the intermittent discharge, no single sample shall exceed 11 µg/l based on the approved 2007 NNSWQS for tributaries to Zuni River, consistent with previous permit. The monitoring frequency is once per discharge, changed from the monthly frequency requirement in the previous permit. In the event of a continuous discharge lasting several days, the monitoring frequency should be no more than once per month. If no discharge occurs, no monitoring is required.

F. Total Ammonia Nitrogen (NH₃-N)

Due to the low flow volume and intermittent nature of the discharge, and because the new Navajo Nation SWQS for ammonia is variable depending on temperature and pH, making it impractical for intermittent monitoring, the ammonia monitoring requirement has been deleted.

G. pH

The proposed permit requires that effluent pH not fall below 6.5 or above 9.0 standard pH units, consistent with the 2007 NNSWQS for tributaries of the Zuni River. The monitoring frequency is once per discharge, changed from the weekly frequency in the previous permit. In the event of a continuous discharge lasting several days, the monitoring frequency should be no more than once per month.

H Temperature

The monitoring requirement for temperature has been deleted since it was a previous requirement to be performed concurrently with ammonia.

VI. Reporting

The proposed permit requires discharge data obtained during the previous three months to be summarized on monthly DMR forms and reported quarterly. If there is no discharge for the

month, report "C" in the No Discharge box on the DMR form for that month. These reports are due January 28, April 28, July 28, and October 28 of each year. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the U.S. EPA and the Navajo Nation EPA.

VII. General Standards

The proposed permit sets general standards that are narrative water quality standards contained in the Navajo Nation Water Quality Standards, Section 203. These general standards are set forth in Section B. General Discharge Specifications of the permit.

VIII. Permit Reopener

At this time, we have no reason to establish any other water quality-based limits. Should any monitoring indicate that the discharge causes, has the reasonable potential to cause, or contributes to excursion above a water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. The proposed permit may be modified, in accordance with the requirements set forth at 40 CFR 122.44 and 124.14, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any U.S. EPA-approved new Tribal water quality standards.

IX. Biosolids Requirements

The permittee shall submit a report 60 days prior to disposal of biosolids. The report shall discuss the quantity of biosolids produced, the treatment applied to biosolids including process parameters, disposal methods, and, if land applied, analyses for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Zinc, and Selenium, and organic-N, ammonium-N, and nitrate-N, all expressed in mg/kg biosolids on a 100% dry weight basis. The permittee shall comply with all standards for biosolids use and disposal at Section 405(d) of the CWA, and 40 CFR Parts 257, 258 and 503.

X. Threatened and Endangered Species and Critical Habitat

A. Background:

Section 7 of the Endangered Species Act (ESA) of 1973 requires Federal agencies such as EPA to ensure, in consultation with the U.S. Fish and Wildlife Service (FWS), that any actions authorized, funded or carried out by the Agency are not likely to jeopardize the continued existence of any Federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species.

Since the issuance of NPDES permits by EPA is a Federal action, consideration of a permitted discharge and its effect on any listed species is appropriate. The proposed NPDES permit authorizes the discharge of treated domestic wastewater into an unnamed wash which eventually reaches the Little Colorado River, a water of the United States.

The information below is listed in the Navajo Nation's Department of Fish & Wildlife Natural Heritage Program (NHP) database. The FWS has deferred all of its survey and information collection in the Navajo Nation to the Navajo Nation NHP.

Based on information provided by the Navajo Nation NHP on July 23, 2009, NHP identified no federally listed species of concern known to occur within one to 3 mile of the facility boundary.

B. EPA's Finding:

This permit authorizes the discharge of treated wastewater in conformance with the federal secondary treatment regulations and the Navajo Nation Surface Water Quality Standards. These standards are applied in the permit both as numeric and narrative limits. The standards are designed to protect aquatic species, including threatened and endangered species, and any discharge in compliance with these standards should not adversely impact any threatened and endangered species.

EPA believes that effluent released in compliance with this permit will have no effect on any federally-listed threatened or endangered species or its critical habitat that may be present in the vicinity of the discharge. The treatment facility has been in existence for some time, and no new construction or modifications will be made to it due to the proposed NPDES permit. Therefore, no requirements specific to the protection of endangered species are proposed in the permit. EPA may decide that changes to the permit may be warranted based on receipt of new information. A re-opener clause has been included should new information become available to indicate that the requirements of the permit need to be changed.

XI. Administrative Information -- Public Notice, Public Comments, and Requests for Public Hearings

In accordance with 40 CFR 124.10, public notice shall be given by the U.S. EPA Director that a draft NPDES permit has been prepared by mailing a copy of the notice to the permit applicant and other Federal and State agencies, and through publication of a notice in a daily or weekly newspaper within the area affected by the facility. The public notice shall allow at least 30 days for public comment on the draft permit.

In accordance with 40 CFR 124.11 and 12, during the public comment period, any interested person may submit written comments on the draft permit, and may request a public hearing if no hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. In accordance with 40 CFR 124.13, all persons must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position within thirty (30) days from the date of the public notice. Comments may be received either in person or mailed to:

U.S. Environmental Protection Agency, Region 9
NPDES Permits Office (WTR-5)
Attn: Linh Tran
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 972-3511

Interested persons may obtain further information, including copies of the draft permit, fact sheet/statement of basis, and the permit application, by contacting Linh Tran (WTR-5) at the U.S. EPA address, above. Copies of the administrative record (other than those which U.S. EPA maintains as confidential) are available for public inspection between 8:00 a.m. and 4:30 p.m., Monday through Friday (excluding federal holidays).

In accordance with 40 CFR 124.12, the U.S. EPA Director shall hold a public hearing when, on the basis of requests, a significant degree of public interest in the draft permit exists. The Director may also hold a public hearing when, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of such hearing shall be given as specified in 40 CFR 124.10.