March 2011

Draft FACT SHEET
Authorization to Discharge under the
National Pollutant Discharge Elimination System
for the
Bureau of Indian Affairs – Jeehdeez'a Academy, Inc. Wastewater Treatment Lagoons
NPDES Permit No. NN0030337

Applicant address: U.S. Department of the Interior
Bureau of Indian Affairs (BIA)
Navajo Regional Office
Division of Environmental, Cultural, and Safety Management
P.O. Box 1060
Gallup, New Mexico 87305

Applicant Contact: Jean Romancito, Environmental Protection Specialist
(505) 863-8330

Facility Address: BIA Jeehdeez'a Academy, Inc.
P.O. Box 1073
Pinon, Arizona 86510

Facility Contact: Ken Peslakai, Facility Manager
(928) 725-4252

I. Summary

The BIA was issued a National Pollutant Discharge Elimination System ("NPDES") Permit (No. NN0030337) on September 2, 2005 for its Jeehdeez'a Academy, Inc. 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 September 2, 2005, through midnight, September 1, 2010. BIA applied to U.S. EPA Region 9 for reissuance on September 2, 2010. Pursuant to 40 CFR 122.6, the 2005 permit is administratively continued pending reissuance by the U.S. EPA. All the terms and conditions of the 2005 permit are in effect until the reissuance of a new permit. This fact sheet is based on information provided by the applicant through its application and discharge data submittal, along with the appropriate laws and regulations.

Pursuant to Section 402 of the Clean Water Act ("CWA"), the U.S. EPA is proposing issuance of the NPDES permit renewal to BIA Jeehdeez'a Academy, Inc. ("BIA Jeehdeez'a", permittee) for the discharge of treated domestic wastewater to Tse Chizzi Wash, a tributary to Polacca Wash, a tributary to the Little Colorado River which is a water of the United States.

II. Description of Facility

The BIA owns a wastewater treatment system located in the community of Low Mountain, Arizona, near the Jeehdeez'a Academy school in Navajo County, within the central

portion of the Navajo Nation. When the Jeehdeez'a Academy was completed in 2007, discharge from the facility was diverted to the Navajo Tribal Utility Authority (NTUA) total retention lagoon system. Based on information from the September 2010 application, the BIA system serves a population of 50 from the BIA housing and has an average daily flow of about 0.01 million gallons per day ("MGD"), or 520,000 gallons per year. The NTUA wastewater lagoon system is reaching capacity, so it is probable that wastewater from the Jeehdeez'a Academy will be redirected to the BIA system in the near future. For this reason, the average design flow is estimated to be 0.01 MGD, which is a revision from the design flow of 0.014 MGD used in the previous 2005 permit.

The Jeehdeez'a Academy treatment facility consists of a two-cell, gravity flow evaporation system. Wastewater flows by gravity to a collector, which directs flow to Cell 1, where solids are allowed to settle. Micro-organisms begin digestion of the solids while some of the liquid portion of the wastewater evaporates to the atmosphere. Effluent leaves Cell 1 through a transfer pipe and enters Cell 2 for additional treatment by evaporation. There are no aerators or pretreatment at the facility. In addition, the facility does not have a device or method to measure flow. Therefore flow is not monitored. Final treatment consists of chlorination and dechlorination by tablet feeders prior to discharge. Effluent will be intermittently discharged through a 6-inch pipe from Outfall No. 001 to Tse Chizzi Wash, a tributary to Polacca Wash, a tributary to the Little Colorado River. The system has not discharged in over 5 years.

Highlights from a December 15, 2009 NPDES Compliance Evaluation Inspection of the Jeehdeez'a Academy treatment facility conducted by Navajo Nation Environmental Protection Agency (NNEPA) staff are as follows: (1) At the time of inspection, there were only 4 staff houses using the wastewater facility; (2) The BIA Jeehdeez'a Academy is connected to the NTUA system; (3) two manholes do not have manhole covers to prevent debris and sediment from entering the manholes; and (4) the BIA inquired about funding to replace the manholes.

According to the September 2010 application, an August 2010 visual observation by a BIA contractor noted no flow at the discharge or in the receiving waters. There were approximately 10 feet of freeboard in Cell 1 and at least 12 feet of freeboard in Cell 2.

Although BIA is a federal facility and not a publicly-owned treatment works ("POTW"), U.S. 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. <u>Basis of Proposed Permit Requirements</u>

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 BOD_5 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 (Polacca Wash, a tributary to the Little Colorado River), are defined by the NNSWQS as secondary human contact, fish consumption, aquatic and wildlife habitat, and livestock watering (Table 205.1, page 22).

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 (BOD_5)

Under the proposed permit, the discharge shall not exceed a weekly average of 65 mg/l and monthly average of 45 mg/l BOD_5, 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 BOD_5. Based upon the 0.01 MGD design flow, the mass limits for BOD_5 are based on the following calculations:

Monthly average

$$\frac{0.01\ \text{MG}}{\text{day}} \times \frac{45\ \text{mg}}{\text{l}} \times \frac{8.345\ \text{lb/MG}}{1\ \text{mg/l}} \times \frac{0.45\ \text{kg}}{\text{lb}} = 1.69\ \text{kg per day}$$

Weekly average

$$\frac{0.01\ \text{MG}}{\text{day}} \times \frac{65\ \text{mg}}{\text{l}} \times \frac{8.345\ \text{lb/MG}}{1\ \text{mg/l}} \times \frac{0.45\ \text{kg}}{\text{lb}} = 2.44\ \text{kg per day}$$

These are more stringent than the previous permit limitwhich were calculated based on a design flow of 0.014 MGD. Due to the intermittent nature of the discharge,

the monitoring frequency is set at once per discharge. The previous permit had a monthly frequency requirement. 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

$$\frac{0.01\ \text{MG}}{\text{day}} \times \frac{90\ \text{mg}}{\text{l}} \times \frac{8.345\ \text{lb/MG}}{1\ \text{mg/l}} \times \frac{0.45\ \text{kg}}{\text{lb}} = 3.38\ \text{kg per day}$$

Weekly average

$$\frac{0.01\ \text{MG}}{\text{day}} \times \frac{135\ \text{mg}}{\text{l}} \times \frac{8.345\ \text{lb/MG}}{1\ \text{mg/l}} \times \frac{0.45\ \text{kg}}{\text{lb}} = 5.07\ \text{kg per day}$$

Again, these are more stringent than the previous permit limit which were calculated based on a design flow of 0.014 MGD. Due to the intermittent nature of the discharge, the monitoring frequency is set at once per discharge. The previous permit had a monthly frequency requirement. 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.

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) and are consistent with the previous permit. 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. If no discharge occurs, no monitoring is required.

E. Total Residual Chlorine (TRC)

The proposed permit requires chlorination and dechlorination of the effluent before discharge. For the intermittent discharge, no single sample shall exceed 11 μg/l based on the approved 2007 NNSWQS for aquatic & wildlife habitat and livestock

watering (page 32) consistent with the previous permit. The monitoring frequency is once per discharge, changed from the monthly 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. If no discharge occurs, no monitoring is required.

F. Total Ammonia (as N)

Due to the low flow volume and intermittent nature of the discharge and since the facility had not experienced any discharge in many years, 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. Total Dissolved Solids (TDS)

Due to the low flow and intermittent nature of the discharge, the TDS monitoring requirement has been deleted.

H. 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 secondary human contact and protection of aquatic & wildlife habitat and livestock watering (page 14.) The monitoring frequency is once per discharge, changed from the monthly 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.

I. 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 Tse Chizzi Wash, a tributary to Polacca Wash, a tributary to the Little Colorado River, a water of the United States.

EPA has sent a request on December 1, 2010, for updated information on federally listed and candidate threatened or endangered species to the Navajo Nation's Department of Fish & Wildlife Natural Heritage Program (NHP). The FWS has deferred all of its survey and information collection in the Navajo Nation to the Navajo Nation NHP. EPA received a response from NHP dated February 17, 2011, in which NHP has identified no known federally-listed species or candidate threatened or endangered species to occur within the proximity to the facility.

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.