

US EPA ARCHIVE DOCUMENT

**FACT SHEET**  
**Northern Edge Navajo Casino - Upper Fruitland**  
**NPDES Permit No. NN0030343**

Applicant Address: Navajo Tribal Utility Authority  
P.O. Box 1749  
Shiprock, NM 87420

Applicant Contact: Gary Yellowhair, Civil Engineer  
(928) 729-6233

Facility Address: Navajo Tribal Utility Authority  
P.O. Box 1749  
Shiprock, NM 87420

Facility Contact: Gary Yellowhair, Civil Engineer  
(928) 729-6233

**I. Summary**

The Navajo Tribal Utility Authority (“NTUA”) applied for a National Pollutant Discharge Elimination System (“NPDES”) permit on January 28, 2011 for the Northern Edge Navajo Casino wastewater treatment facility, pursuant to the EPA regulations set forth in Title 40, Code of Federal Regulations (“CFR”) Part 122.21. Additional information regarding the facility was received in April 2011, completing the application. This fact sheet is based on information provided by the discharger through its application, 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 this permit to NTUA for the discharge of treated domestic wastewater to receiving waters which is an unnamed wash located on Navajo Nation land, and tributary to the San Juan River, a water of the United States.

**II. Description of Facility**

The NTUA-Northern Edge Navajo Casino wastewater treatment plant is located in Upper Fruitland, San Juan County, New Mexico, which is in the Northeastern portion of the Navajo Nation. The facility will serve a population of approximately 3,000 guests, visitors and employees and receive only domestic sewage, with a average design flow of 0.03 million gallons per day (“MGD”). The wastewater generated from the casino will be conveyed by gravity through a 6-inch line to the wastewater facility. Once the wastewater enters the facility, it is designed to flow into a drum screen that is sized for a peak flow of 212 gallons per minute (“GPM”). The winterized drum screen will have 2 micron perforations. The screened material will then be transferred to a certified land fill.

The wastewater will then flow to an equalization tank with an active volume of 15,000 gallons. The tank is designed to provide instantaneous flows at peak usage from the casino. The equalization tank is designed to feed the membrane bioreactor (“MBR”) package plant at a rate not to exceed 42 GPM. The MBR package plant is designed to handle the 30,000 gallons per day low flow load. The MBR packaging plant includes an anoxic zone with a submersible mixer, aerobic zone with bubble diffusers and two partitioned membrane tanks. The two membrane tanks house the membrane modules and air scour equipment. Once the wastewater has completed the MBR process, the permeate will be pumped to the ultraviolet (“UV”) system. The UV system will be incorporated to disinfect the wastewater prior to discharge. The UV system will incorporate Low-Pressure High-Output Inline UV.

The permittee would like the option to apply the disinfected wastewater to the casino irrigation system. To prevent growth in the irrigation system, sodium hypochlorite will be injected downstream of the UV if the reuse system is allowed to operate.

All solids from the MBR system will be conveyed through a steel roll off container lined with filter cloth and filtered to dry for a minimum of 20 days before being disposed of at a certified landfill. All the liquid filtered will be drained back into the influent pump station.

For odor control, a scrubber will be positioned at the pump station/EQ tank, the screenings dumpster, and the dewatering filter roll-off container. A spare scrubber will also be on standby for use when needed.

The wastewater treatment facility will discharge effluent through a 6-inch pipe (Outfall No. 001) into an unnamed wash which is a tributary to the San Juan River. The San Juan River is approximately 0.7 miles downstream and the Navajo Nation boundary is approximately 0.3 miles downstream. Any sampling and monitoring under the proposed permit shall be performed at Outfall No. 001.

### **III. Basis of Proposed Permit Requirements**

#### **A. Applicable Technology-Based Effluent Limitations**

Section 301 of the Clean Water Act (“CWA”) established a required performance level, referred to as “Secondary treatment,” that all publicly-owned treatment works (“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 5-day Biochemical Oxygen Demand (“BOD<sub>5</sub>”) and Total Suspended Solids (“TSS”). The requirements contained in the draft permit are necessary to prevent violations of applicable treatment standards.

**B. Navajo Nation Surface Water Quality Standards**

In accordance with 40CFR 122.44(d), the feed 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 permit are necessary to prevent violations of applicable water quality standards.

**IV. Determination of Effluent Limitations, Monitoring, and Reporting Requirements**

**A. Federal Secondary Treatment Effluent Discharge Limitations**

The proposed permit contains discharge limitations for BOD<sub>5</sub>, TSS, and priority pollutants. For BOD<sub>5</sub>, the arithmetic means of values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same times during the same period. For TSS, the arithmetic means of values, by weight, for effluent samples collected in a period of 30 consecutive calendar days cannot exceed 15 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same times during the same period.

| Discharge Limitations            |        |                 |                |                 |  |
|----------------------------------|--------|-----------------|----------------|-----------------|--|
| Discharge Parameter              | Units  | Average Monthly | Average Weekly | Maximum Daily   | Monitoring Frequency                       |
| Flow <sup>1</sup>                | MGD    | -- <sup>2</sup> | n/a            | -- <sup>2</sup> | Instantaneous                              |
| BOD <sub>5</sub> <sup>3</sup>    | mg/l   | 30              | 45             | --              | Monthly                                    |
|                                  | kg/day | 3.4             | 5.1            | --              |  |
| TSS <sup>4</sup>                 | mg/l   | 30              | 45             | --              | Monthly                                    |
|                                  | kg/day | 3.4             | 5.1            | --              |  |
| Priority Pollutants <sup>5</sup> | µg/l   | n/a             | n/a            | -- <sup>2</sup> | Once/1 <sup>st</sup> Quarter during Year 1 |

Notes:

1. No flow limit is set at this time but influent flows must be monitored and reported. The monitoring frequency is once/month.
2. Monitoring and reporting required. No limitation is set at this time.
3. The discharge limits for BOD<sub>5</sub> shall not exceed a monthly average of 30 mg/l and a weekly average of 45 mg/l. The mass limits are calculated based upon the 0.03

MGD design flow.

4. Under 40 CFR Section, 122.45(f), the discharge limits for TSS shall not exceed a monthly average of 30 mg/l and a weekly average of 45 mg/l. The mass limits are calculated based upon the 0.03 MGD design flow.
5. Priority Pollutants: During Year 1 of the permit, the permittee shall monitor for the full list of priority pollutants at 40 CFR Part 423, Appendix A. No limit is set at this time. Should the results reveal levels below the Navajo Nation Surface Water Quality Standards and EPA's National Water Quality Criteria for priority pollutants, monitoring will no longer be required for the remainder of the permit cycle.

**B. Water Quality Based Effluent Limitations (“WQBELs”)**

Water quality-based effluent limitations, or WQBELS, are in NPDES permits when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard. (40 CFR 122.44(d)(1)).

When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures which account for existing controls on point and non point sources of pollution, the variability of the pollutant or the pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water [40 CFR 122.44 (d)(1)(ii)]

EPA evaluated the reasonable potential to discharge toxic pollutants according to guidance provided in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (Office of Water Enforcement and Permits, U.S. EPA, March 1991) and the U.S. EPA NPDES Permit Writers Manual (Office of Water, U.S. EPA, December 1996). These factors include:

1. Applicable standards, designated uses and impairments of receiving water
2. Dilution in the receiving water
3. Type of industry
4. History of compliance problems and toxic impacts
5. Existing data on toxic pollutants - Reasonable Potential analysis

**1. Applicable standards, designated uses and impairments of receiving water**

The 2007 NNSWQS established water quality criteria for the following beneficial uses (non-perennial tributaries to the San Juan River) are defined by the NNSWQS as primary and secondary human contact, fish consumption, aquatic &

wildlife habitat, and livestock watering (Table 205.1)

**2. Dilution in the receiving water**

Discharge from Outfall 001 is to an unnamed wash which is a tributary to the San Juan River. This unnamed wash may have no natural flow most times of the year. Therefore, no dilution of the effluent has been considered in the development of WQBELs applicable to the discharge.

**3. Type of Industry**

Typical pollutants of concern in untreated and treated domestic wastewater include ammonia, nitrate, oxygen demand, pathogens, temperature, pH, oil and grease, and solids.

**4. History of compliance problems and toxic impacts**

The Northern Edge Navajo Casino is a new facility and therefore has no compliance history.

**5. Existing data on toxic pollutants**

No existing data is available on toxic pollutants.

**C. Rationale for WQBELs**

| Discharge Parameter             | Units     | Discharge Limitations |                |               | Monitoring Frequency |
|---------------------------------|-----------|-----------------------|----------------|---------------|----------------------|
|                                 |           | Average Monthly       | Average Weekly | Maximum Daily |                      |
| Total Residual Chlorine         | µg/l      | --                    | --             | 11            | Once/month           |
| <i>E. Coli</i>                  | CFU/100ml | 126                   | --             | 235           | Once/month           |
| Total Ammonia (as N)            | mg/l      | --                    | --             | --            | Once/month           |
| TDS                             | mg/l      | --                    | --             | --            | Once/month           |
| pH                              | std unit  | between 6.5 to 9.0    |                |               | Once/month           |
| Temperature                     | deg C     | --                    | --             | --            | Once/month           |
| Whole Effluent Toxicity Testing | --        | --                    | --             | --            | Once/month           |

**Total Residual Chlorine.** If chlorination is used, the discharge shall not exceed 11.0 µg/l as a single sample maximum, based on the NNSWQS for the protection of chronic aquatic habitat and livestock watering. (page 32 of 2007 NNSWQS).

***E. Coli.*** The amended NNSWQS replaced fecal coliform bacteria (FCB) with *E. Coli*. The limits reflect the more stringent standards for protection of primary human contact (page 14 of 2007 NNSWQS).

**Total Ammonia.** In accordance with the 2007 NNSWQS for chronic ammonia, for the protection of aquatic and wildlife habitat, the proposed permit establishes a monitoring and reporting requirement for total ammonia nitrogen, which includes the ammonia ion ( $\text{NH}_4^+$ ) and free ammonia ( $\text{NH}_3$ ). If analytical results for the first four quarters reveal ammonia levels are below EPA's National Water Quality Criteria for ammonia, the monitoring frequency will decrease to once per year. The regulations at 40 CFR Part 122.44(i) allow requirements for monitoring as determined to be necessary. The ammonia criteria are temperature and pH dependent and are listed in Table 206.2 and Table 206.3, pages 36-37 of 2007 NNSWQS.

**Total Dissolved Solids.** No limit is proposed but the regulations at 40 CFR 122.44(i) set forth requirements for monitoring as determined to be necessary.

**pH.** To ensure adherence to the minimum and maximum pH levels designated by the Navajo Nation for the receiving water, monthly pH monitoring is required in the permit for protection of primary and secondary human contact and livestock watering (page 14 of 2007 NNSWQS). In order to support the Navajo Nation's established ammonia standards, which vary with the pH of the effluent, pH monitoring is to be performed concurrently with ammonia monitoring.

**Temperature.** To support the Navajo Nation's established ammonia standards and their dependence on temperature, monthly temperature monitoring is to be performed concurrently with ammonia monitoring.

**Whole Effluent Toxicity ("WET").** It is U.S. EPA Region 9's policy that all continuous discharges be required to perform WET testing. WET testing is intended to demonstrate that there are no unexpected toxic components of the discharge escaping to the receiving water undetected, and to prompt a response if they are present. The proposed permit therefore requires chronic toxicity testing to be conducted monthly using a 24-hour composite sample of the treated effluent for fathead minnow (*Pimephales peomela*), daphnid (*Ceriodaphnia dubia*) and an alga species (*Selenastrum capricornutum*). This is a new requirement for this permit. If no toxicity is found in the test results during the first 12 monthly test results, the testing frequency is reduced to a quarterly basis thereafter.

## V. Reporting

The proposed permit requires discharge data obtained during the previous three months to be summarized on monthly discharge monitoring report ("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.

## **VI. General Standards**

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

## **VII. Permit Reopeners**

- A. At this time, there is no reasonable potential to establish any other water quality-based limits. Should any monitoring indicate that the discharge cause, has the reasonable potential to cause, or contributes to excursion above a water quality criterion, 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 40 CFR 122 and 124, to include appropriate conditions of effluent limits, monitoring, or other conditions to implement new regulations, including U.S. EPA-approved new tribal water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedences of water quality standards.
- B. In accordance with 40CFR 122.44 (c), EPA may promptly modify or revoke and reissue any limit to a treatment works treating domestic sewage (including “sludge only facilities”) to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA, if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

## **VII. 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, analysis 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 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 federally-listed species is appropriate. The proposed NPDES permit authorizes the discharge of treated domestic wastewater to an unnamed wash which is a tributary to the San Juan 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 6, 2010, NHP identified no federally-listed threatened or endangered species in the 7.5 quadrangle of Window Rock, AZ containing the project boundary.

**B. EPA’s Findings:**

This permit authorizes the discharge of treated wastewater in conformance with the federal secondary treatment regulations and the NNSWQS. 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 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: Gary Sheth  
75 Hawthorne Street  
San Francisco, CA 94105  
Telephone: (415) 972-3516

Interested persons may obtain further information, including copies of the draft permit, fact sheet/ statement of basis, and the permit application, by contacting Gary Sheth (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 am and 4:30 pm, 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.