NPDES PERMIT NO. NM0031224
FACT SHEET

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

APPLICANT

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ISSUING OFFICE

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DATE PREPARED

March 1, 2019

PERMIT ACTION

New permit issuance

RECEIVING WATER – BASIN

Rio Tesuque – Upper Rio Grande Basin

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

4Q3	Lowest four-day average flow rate expected to occur once every three-years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
DO	Dissolved oxygen
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FWS	United States Fish and Wildlife Service
mg/l	Milligrams per liter
ug/l	Micrograms per liter
lbs	Pounds
MG	Million gallons
MGD	Million gallons per day
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES Permit Implementation Procedures
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	Publically owned treatment works
RP	Reasonable potential
SS	Settleable solids
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
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
USGS	United States Geological Service
WLA	Waste Load allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

I. CHANGES FROM THE PREVIOUS PERMIT

Not applicable

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the proposed facility (Outfall 001: Latitude 35° 46' 18.4" North and Longitude 105° 56' 53.7" West) is located in Tesuque Pueblo on Tesuque Road, Tesuque Pueblo, Santa Fe County, New Mexico.

Under the SIC code 4952, the applicant (municipality) plans to operate the Tesuque Casino WWTP treating domestic wastewater, which has a design flow rate of 0.08 MGD serving Tesuque Casino. The plant is planned to perform as high as advanced level of treatment. Effluent would be ultraviolet-disinfected before discharging (via Outfall 001) to unnamed arroyo, thence to Rio Tesuque, an intermittent stream at this time (6.8 mile-stretch per USGS Map View) before reaching the Pojoaque Pueblo boundary, thence to Pojoaque River (Upper Rio Grande Basin). Part of the effluent would be disposed by land application and/or subsurface drain field; discharge to the receiving stream would be intermittently. Sewage sludge would be dewatered onsite and then hauled to a facility for further treatment or disposal. A location map of the proposed facility is attached.

III. EFFLUENT CHARACTERISTICS

Projected data submitted in Form 2A for the WWTP is as follows:

Parameter	**Max** (mg/l unless noted)	**Avg.** (mg/l unless noted)
pH, minimum, standard units (su)	6.0	NA
pH, maximum, standard units (su)	9.0	NA
Flow (MGD)		
Temperature (C), winter		
Temperature (C), summer		
Biochemical Oxygen Demand, 5-day (BOD_5)	15	5
E. coli (cfu/100 ml)	23	5
Total Suspended Solids (TSS)	45	5

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water”; more commonly known as the “swimmable, fishable” goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR §122.46(a).

V. DRAFT PERMIT RATIONALE AND CONDITIONS

A. OVERVIEW of TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

Technology-based effluent limitations are established in the draft permit for BOD/TSS and percent removal for each. Water quality-based effluent limitations are established in the draft permit for DO, *E. coli* bacteria, pH, TDS, chlorides, sulfates and TRC.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. General Comments

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants, including BOD, TSS, *E. coli* bacteria, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

2. Effluent Limitation Guidelines

The facility is a POTW/POTW-like that has technology-based limits established at 40 CFR Part 133, Secondary Treatment Regulation. Pollutants with requirements established in this Chapter are BOD, TSS and pH. BOD limits of 30 mg/l for the 30-day average and 45 mg/l for the 7-day average and 85% percent (minimum) removal are found at 40 CFR §133.102(a). TSS limits, the same numbers as for BOD, are found at 40 CFR §133.102(b). Limits for pH are between 6-9 s.u. and are found at 40 CFR §133.102(c). Since these are technology-based requirements there is no compliance schedule provided to meet these limits. Compliance is required on the permit effective date.

Regulations at 40 CFR §122.45(f)(1) require all pollutants limited in permits to have limits expressed in terms of mass such as pounds per day. When determining mass limits for POTWs or similar, the plant's design flow is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/l * 8.34 (lbs)(l)/(mg)(MG) * design flow in MGD

30-day average BOD/TSS loading = 30 mg/l * 8.34 (lbs)(l)/(mg)(MG) * 0.08 MGD = 20 lbs/day
7-day average BOD/TSS loading = 45 mg/l * 8.34 (lbs)(l)/(mg)(MG) * 0.08 MGD = 30 lbs/day

A summary of the technology-based limits for the facility is:

Parameter	**30-day Avg (lbs./day, unless noted)**	**7-day Max. (lbs./day, unless noted)**	**30-day Avg. (mg/L, unless noted)**	**7-day Max. (mg/L, unless noted)**
BOD_5	20	30	30	45
BOD_5, % removal[1]	≥ 85	---	---	---
TSS	20	30	30	45
TSS, % removal[1]	≥ 85	---	---	---
pH	N/A	N/A	6.0 to 9.0 s.u.	6.0 to 9.0 s.u.

[1] Percent removal is calculated using the following equation:

$$\text{Percent removal} = \frac{\text{average monthly influent concentration } \left(\frac{\text{mg}}{\text{L}}\right) - \text{average monthly effluent concentration } \left(\frac{\text{mg}}{\text{L}}\right)}{\text{average monthly influent concentration } \left(\frac{\text{mg}}{\text{L}}\right)} \text{ x } 100$$

3. Pretreatment Regulation

The proposed facility is not required to develop a pretreatment program. However, standard permit conditions for pretreatment are included in the permit.

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4. Sewer Sludge

Part IV of the draft permit addresses general requirements for the proposed generation and/or disposal of sewer sludge pursuant to Section 405(d) of the CWA and 40 CFR 503.

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on Federal or State/Tribe WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State/Tribal WQS and applicable State/Tribe water quality management plans to assure that surface WQS of the receiving waters are protected and maintained or attained.

2. Implementation

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/Tribe narrative and numerical water quality standards are used in conjunction with EPA criterion and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

After discharging to Pueblo of Tesuque (5.5-mile waterway), the discharge possibly goes approximately 1.36 miles in State waters (from Tesuque Pueblo to Pojoaque Pueblo boundary) and travels 3.8 miles before reaching Rio Pojoaque River. In addition to the Pueblo of Tesuque (PT) WQS, permit limits developed for this POTW must be protective of the Pueblo of Pojoaque (PP) WQS and NMWQS. Since the receiving water is intermittent (critical low flow is zero), all the applicable WQS must be met at the end of the pipe (point of discharge).

3. Pueblo of Tesuque Water Quality Standards (PTWQS)

The Pueblo of Isleta has been approved to have treatment in the same manner as a state as contained in 40 CFR 131.8. The general and specific stream standards for TP are provided in PTWQS Approved, passed, and adopted November 30, 2015 by the Tribal Council of the Pueblo of Tesuque and effective on May 8, 2017. The designated uses of the Rio Tesuque, according to the PTWQS, Section IV.A.1, are fish culture, warm water fishery, irrigation, livestock watering and wildlife habitat, primary contact and groundwater recharge.

4. Pueblo of Pojoaque Water Quality Standards (PPWQS)

The Pueblo of Isleta has been approved to have treatment in the same manner as a state as contained in 40 CFR 131.8. The general and specific stream standards for PP are provided in PPWQS revised in 2015 and effective on December 15, 2015. The designated uses of the Rio Tesuque an Rio Pojoaque, according to PPWQS, Section IV.F and G, are irrigation, primary contact, marginal cold water fisheries, livestock watering and wildlife habitat use, and groundwater recharge.

5. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC approved on August 11, 2017). The receiving water is Rio Tesuque in Waterbody Segment Code No. 20.6.4.98, intermittent waters. The stream designated uses are livestock watering, wildlife habitat, marginal warmwater aquatic life and primary contact.

6. 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). Tribes/State WQS that are more stringent than effluent limitation guidelines and the most stringent limitations are chosen as follows:

a. pH

	PTWQS	**NMWQS**	**PPWQS**	**Limitation Established**
Most stringent criterion	6.6 – 8.8 s.u.	6.6 – 9.0 s.u.	6.6 – 8.8 s.u.	6.6 – 8.8 s.u.
Water Designated Use(s)	Primary contact [Section IV.H]	Primary contact [20.6.4.900.D NMAC]	Primary contact [Section IV.D]	

b. Bacteria

	PTWQS	NMWQS	PPWQS	Limitation Established
Most stringent criterion	monthly geometric mean 126 MPN/100 ml; maximum of 235 MPN/100 ml	monthly geometric mean 206 cfu/100 ml; maximum of 940 cfu/100 ml	monthly geometric mean 126 cfu/100 ml; maximum of 235 cfu/100 ml	monthly geometric mean 126 cfu (or MPN)/100 ml; maximum of 235 cfu (or MPN)/100 ml
Water Designated Use(s)	Primary contact [Section IV.H]	Site specific criterion [20.6.4.98 NMAC]	Primary contact [Section IV.D]	In compliance per projected data

c. 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 criterion, the permit must contain an effluent limit for that pollutant.

The facility is designated as a minor discharger; the toxic pollutants are not evaluated.

d. TRC

	PTWQS	State WQS	PPWQS	Limitation Established
Most stringent criterion	3 ug/L	11 ug/L	3 ug/L	3 ug/L
Water Designated Use(s)	Warm water fishery [Section IV.B.2]	Wildlife habitat [20.6.4.900.G NMAC]	Marginal cold water fisheries [Section IV.E]	

In case when chlorine is used as either backup bacteria control or when disinfection of plant treatment equipment is required, EPA establishes new limit for TRC with no compliance schedule. The limit is applicable only when chlorine is used.

e. DO

	PTWQS	State WQS	PPWQS	Limitation Established
Most stringent criterion	5 mg/L (minimum)	5 mg/L (minimum)	6 mg/L (minimum)	5 mg/L*
Water Designated Use(s)	Warm water fishery [Section IV.B.2]	marginal warmwater aquatic life [20.6.4.900.H(6) NMAC]	Marginal cold water fisheries [Section IV.E]	

*EPA established this DO limit because the design flow is less than 0.1 MGD, the receiving stream is intermittent water and distance from the outfall to Pojoaque Pueblo boundary is about 6.8 miles.

f. Nutrients (total nitrogen and total phosphorus)

The facility is a small minor and discharges to an intermittent stream that is not impaired for nutrients. EPA believes monitoring of nutrients is not needed.

g. Salinity/Mineral (TDS, Chlorides, Sulfates)

The facility is a minor discharger; the salinity/mineral are not evaluated as similar to toxics.

D. MONITORING FREQUENCY FOR LIMITED PARAMETERS

EPA recommends the monitoring frequency as follows:

Parameter	Frequency	Sample Type
Flow	Daily	Instantaneous Grab
pH	5/week	Instantaneous Grab
BOD_5/TSS	Monthly	Grab
% Removal	Monthly	Calculation
TRC	Daily*	Instantaneous Grab
E. coli Bacteria	Monthly	Grab
DO	Monthly	Instantaneous Grab

* Daily when chlorine is used as either backup bacteria control or when disinfection of plant treatment equipment is required.

E. WHOLE EFFLUENT TOXICITY

Because of the immediate receiving water, an intermittent stream (critical flow is zero), the CD is 100%. EPA proposes WET testing for this discharger as follow:

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

WET Testing (7-day Static Renewal)[1]	NOEC	Frequency[2]	Type
Ceriodaphnia dubia	Report	Once/permit term	Grab
Pimephales promelas	Report	Once/permit term	Grab

[1] Monitoring and reporting requirements begin on the effective date of this permit. See Part II of the permit, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.
[2] The test shall take place between November 1 and April 30; during the 1st to 4th year of the permit term or as soon as possible. EPA may reopen the permit if the test fails.

VI. TMDL REQUIREMENTS

The receiving water segment, Rio Tesuque (Pojoaque Pueblo to Tesuque Pueblo boundary, 1.36 mile-stretch) has not been assessed since 2004 with no impairment in 303(d) List; no additional requirement is added in the permit. The permit has a standard reopener clause that would allow the permit to be changed if at a later date additional requirements on new or revised TMDLs are completed.

VII. 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 draft permit are developed from the Tribe/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 water, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2.

VIII. ENDANGERED SPECIES CONSIDERATIONS

According to the list updated on February 15, 2019 for Santa Fe County, NM obtained from http://ecos.fws.gov, there are 3 endangered (E)/threatened (T) birds: Yellow-billed Cuckoo, Mexican spotted owl and Southwestern willow flycatcher. These species were determined by EPA on April 24, 2017 with "no effect" regarding to the triennial revision of Pueblo of Tesuque Water Quality Standards.

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, EPA has no information determining that the issuance of this permit will have "effect" on the listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

1. EPA has received no additional information since April 24, 2017 which would lead to revision of its determinations.

2. The draft permit is consistent with the Tribe/States WQS.

3. There is currently no information determining the issuance of this permit will have an "effect" beyond the environmental baseline on the additional listed threatened and endangered species.

IX. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The proposed facility is located in Pueblo of Tesuque. Tesuque Tribal Historic Preservation Office has concluded that there are no adverse effects to the site of the proposed WWTP.

X. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if PTWQS, PPWQS, or NMWQS are promulgated or revised. In addition, if the Tribes/State develops a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

XI. VARIANCE REQUESTS

None

XII. CERTIFICATION

The permit is in the process of certification by the Pueblo of Tesuque following regulations promulgated at 40 CFR §124.53. A draft permit and draft public notice will be sent to Pueblo of Pojoaque, NMED, the District Engineer of COE, to the Regional Director of FWS and to the National Marine Fisheries Service prior to the publication of that notice.

XIII. FINAL DETERMINATION

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

XIV. ADMINISTRATIVE RECORD

The following information was used to develop the draft permit:

A. APPLICATION(s)

EPA Application Form 2A dated December 21, 2018 and 2S dated February 21, 2019.

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; WQCC effective March 2, 2017; EPA approved on August 11, 2017.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2016-2018.

D. MISCELLANEOUS

Pueblo of Tesuque Water Quality Standards, approved, passed, and adopted November 30, 2015 by the Tribal Council of the Pueblo of Tesuque; effective May 8, 2017.

Pueblo of Pojoaque Water Quality Standards, revised 2015; effective December 15, 2015.

Memorandum from Tribal Historic Preservation Office, Pueblo of Tesuque dated March 3, 2018

State of New Mexico Historic Preservation Division letter dated December 6, 2018.

EPA Memorandum, “Determination of no effect on federally listed species under the Endangered Species Act for triennial revision of Pueblo of Tesuque Water Quality Standards”, April 24, 2017