NPDES PERMIT NO. NM0031194
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

Sept 21, 2018

PERMIT ACTION

New Permit, First Time Issuance

RECEIVING WATER – BASIN

Blanco Wash - San Juan River 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 for first time issued permit

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the facility (Outfall 001: Latitude 36° 24' 39" North and Longitude 107° 47' 34" West) is located on County Road 7575, 3 miles east of Highway 550/County Road 7575, San Juan County, New Mexico.

Under the SIC code 4941, the applicant operates a proposed Cutter Lateral Treatment Plant (CLWTP), which potentially discharges an average flow of 0.12 MGD in July 2020. CLWTP is part of the Navajo Gallup Water Supply Project (NGWSP), a major infrastructure project that once constructed, will convey a reliable municipal water supply from the Cutter Reservoir to the eastern section of the Navajo Nation and the southwestern portion of the Jicarilla Apache Nation; and from the San Juan River to the western portion of the project to the Navajo Nation Chapters along US 491, the City of Gallup, New Mexico, Window Rock, Arizona, Crownpoint, NM and others via about 280 miles of pipeline, several pumping plants, and two water treatment plants, including the CLWTP and the San Juan Lateral Water Treatment Plant (SJLWTP).

The CLWTP treatment process includes coagulation, flocculation, and filtration processes with added granular activated carbon (GAC) absorption during startup and low flow influent flow rates. The decant flow stream to NPDES discharge is comprised of two flow streams - the backwash waste/off spec ponds and the solids drying beds decant flows. The decant from the backwash waste/off spec ponds and the sludge drying ponds is sent to the decant pump station, which then pumps to the NPDES discharge point passing through a storm water detention pond to Outfall 001. The discharge is to Blanco Wash, a tributary of Canon Largo, thence to San Juan River. Sludge is hauled to landfill. A map of the facility is attached.

Flow metering and sampling will occur prior to entering the storm detention pond. The storm water drained to the pond is not currently regulated in this permit because the facility is not required coverage under a Municipal Separate Storm Sewer System (MS4) or Multi-Sector general permit, and the storm detention pond is not part of the water treatment process. It’s expected the plant will be expanded in future (estimated year 2040). The plant has been designed with the ability to recycle the backwash waste/off spec ponds and solids drying beds decant flows to the head of the plant. This permit does not regulate or authorize the water source the permittee uses to treat and supply drinking water to others.

III. EFFLUENT CHARACTERISTICS

Data projection submitted in Form 2D for the WTP is as follows:

Parameter	**Max,** mg/l unless noted	**Avg,** mg/l unless noted
pH, standard units (su)	6.43	7.21
Flow (MGD)	0.19	0.12
Temperature (C), winter	NA	4
Temperature (C), summer	NA	20
TOC	0.02	0.01
Ammonia, as N	0.03	0.02

Total Suspended Solids (TSS)	0.74	0.28
Sulfate, as SO4	87.88	79.09
Aluminum, total	0.14	0.05
Ion, total	0.20	0.12
Manganese, total	0.41	0.20
Sodium, as Na^+	39.14	30.40
TDS	215.34	205.62
Orthophosphate	2.06	1.40

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 EPA administered 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.

The application is dated July 26, 2018. 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 PROPOSED PERMIT 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 proposed draft permit for TSS. Water quality-based effluent limitations are established in the proposed draft permit for pH 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 proposed facility is a "New Discharger" and not a "New Source" according to 40 CFR 122.2. EPA has not promulgated ELG for drinking water treatment and supply. TSS limits (20 mg/l for the 30-day average and 30 mg/l for the daily maxima) is determined by case-by-case effluent limitations using BPJ under section 402(a)(1) of CWA. The proposed limits (established for other similar water treatment facilities) have been complied in State of New Mexico. Since these are technology-based requirements there is no compliance schedule provided to meet these limits. Compliance is required on the permit effective date. The projected discharge is well below this limitation.

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. Previously it was permitted with 0.042 MGD for loading calculations. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/l * 8.345 (lbs)(l)/(mg)(MG) * design flow in MGD

30-day average TSS loading = 20 mg/l * 8.345 (lbs)(l)/(mg)(MG) * 0.12 MGD = 20 lbs/day
Daily max. TSS loading = 30 mg/l * 8.345 (lbs)(l)/(mg)(MG) * 0.12 MGD = 30 lbs/day

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.

3. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC approved on August 11, 2017). The wastewater flows from the outfall to Blanco Wash, thence to Canon Largo, thence to San Juan River. Because there is currently no water stream at Blanco Wash, EPA applies the WQS as for intermittent stream defined under 20.6.4.98 NMAC. The stream designated uses are livestock watering, wildlife habitat, marginal warmwater aquatic life and primary contact. Since the 4Q3 is zero (for intermittent and ephemeral streams), applicable & most strigent criterion must be met at point of discharge.

4. 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). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. pH

For marginal warmwater aquatic life, criterion for pH is between 6.6 and 9.0 s.u. pursuant to 20.6.4.900.H(6) NMAC.

b. Bacteria

Not applicable for this water treatment

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.

All applicable facilities are required to fill out appropriate sections of the Form 2A and 2S, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to POTWs, but also to facilities that are similar to POTWs, but which do not meet the regulatory definition of “publicly owned treatment works” (like private domestics, or similar facilities on Federal property). The forms were designed and promulgated to “make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities,” per the summary statement in the preamble to the Rule. These forms became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

Aluminum and manganese are not used in the treatment process, but are present in the source water. The projected data is used to analyze the RPs for applicable aluminum and manganese against NMWQS; other information is shown in the RP Analyzer (excel attached). No RPs exist for these parameters because the Instream Waste Concentrations are less the most stringent criteria; therefore, no limits are necessary. When permit renewal is applied, these discharge pollutants and other relevant ones must be tested in Form 2C. EPA proposes aluminum to be monitored at quarterly for next evaluation.

d. TRC

For wildlife habitat, criteria for TRC is 11 ug/l pursuant to 20.6.4.900.G NMAC. The chlorinated product (drinking water) maybe utilized during startup and low flow influent flow rates, or in case drinking water is used in the treatment process. TRC may exist in the waste decant discharging to the receiving water; therefore, EPA establishes this limit.

a. TDS

NMWQS has adopted “Water Quality Standards for Salinity Colorado River System” according to 20.6.4.54 NMAC. Current version of the document is “2017 Review”. San Juan River is a tributary of the Colorado River; discharge of TDS must be controlled based on this document. EPA proposes TDS be monitored at quarterly for next evaluation.

D. 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). Suggested sample frequency is based on Table 10 (page 35 of the NMIP) due to the discharging pollutants and projected data.

Parameter	Frequency	Sample Type
Flow	Daily	Totalized meter
pH	Daily	Instantaneous Grab
TSS	Weekly	Grab
TRC	Daily*	Instantaneous Grab
Aluminum and manganese	Quarterly	Grab
TDS	Quarterly	Grab

*When drinking water (product) is introduced to the treatment process

E. WHOLE EFFLUENT TOXICITY

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP. Table 11 (page 42) of the NMIP outlines the type of WET testing for different types of discharges. Because of the immediate receiving water, an intermittent stream (4Q3 = 0), the CD is 100%. EPA proposes WET testing for this discharger as follow:

The proposed 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

There has not been water quality assessment for the receiving stream because the receiving stream is intermittent according to the state's water quality standard designation of 20.6.98 NMAC. No additional requirement is necessary now.

The permit has a standard reopener clause that would allow the permit to be changed if at a later date additional requirements on new/revised TMDLs or temporary standards 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 proposed permit are developed from the 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, NMAC Section 20.6.4.8.A.1.

Additional sampling and reporting requirements are incorporated in this permit to provide effluent quality data from the discharge of this facility that will not be available until the facility is operational. The State requires that within the one year of operation, the effluent data from the actual discharge of this facility be submitted for the final Antidegradation review.

VIII. ENDANGERED SPECIES CONSIDERATIONS

According to the list updated on August 2, 2018 for San Juan County, NM obtained from http://ecos.fws.gov, there are 9 endangered (E)/threatened (T) species: 2 birds, Yellow-billed Cuckoo (T) and Southwestern willow flycatcher (E); 3 fishes, Colorado pikeminnow (E), Razorback sucker (E) and Zuni bluehead sucker (E); 3 plants, Mancos milkvetch (E), Knowlton's cactus (E) and Mesa Verde Cactus (T); 1 mammal, Canada Lynx (T). These species were determined with "will not significantly affect the quality of the human environment" according to the Decision Record and Environment Assessment provided by the Bureau of Reclamation & Bureau of Land Management (U.S. Department of the Interior).

IX. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

New Mexico State Historic Preservation Division has "no concerns about the potential for the undertaking to adversely affect historic properties." regarding to the proposed WTP.

The permittee has been working with Navajo Nation to obtain a decision regarding to this project. Until concerns (if any) are adequately addressed, the permit cannot be issued.

X. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if NMWQS are promulgated or revised. In addition, if the 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.

EPA may reopen the permit once the facility discharges and effluent data is available.

XI. VARIANCE REQUESTS

None

XII. 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 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 proposed permit:

A. APPLICATION(s)

EPA Applications Form 2D and Form 1 dated July 26, 2018

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 August 11, 2017

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

D. MISCELLANEOUS

NMIP, March 2012
Permittee: email dated 8/21/18
NMED: Email dated 8/13/18
2017 Review, Water Quality Standards for Salinity Colorado River System, October 2017

Decision Record for the Reach 22 and 21 of the Navajo-Gallup Water Supply Project, Bureau of Land Management (U.S. Dept. of the Interior), July 20, 2018
Environmental Assessment for the Reach 22 and 21 of the Navajo-Gallup Water Supply Project, Bureau of Reclamation & Bureau of Land Management (U.S. Dept. of the Interior), October 2014
Letter dated July 19, 2018 from Bob Estes, Ph.D., New Mexico State Historic Preservation Division