NPDES PERMIT NO. NM0031143
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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DATE PREPARED

May 6, 2014

PERMIT ACTION

The first time issuance.

RECEIVING WATER – BASIN

Rio Grande – Rio Grande 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
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
mg/l	Milligrams per liter
ug/l	Micrograms per liter
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
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
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Service
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

I. BACKGROUND

The Bureau of Reclamation (BOR) plans to conduct a pilot water treatment study for the Pojoaque Basin Regional Water System (RWS). The RWS will deliver potable water to Pueblo and County residents in the Pojoaque Basin by diverting and treating water from the Rio Grande. The water will then be transmitted, stored, and prepared for delivery to local residents, as authorized by the Aamodt Litigation Settlement Act (Public Law 111-29, Title VI; 124 Stat. 3065), which was signed on December 8, 2010. The BOR is currently undertaking both engineering studies and an environmental impact statement to analyze impacts from different proposed alternatives for the project. The pilot water treatment study will inform both of these processes.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the pilot plant is located adjacent to the Rio Grande, at 1500 North of Highway 502W, San Ildefonso Pueblo, in Santa Fe County, NM. The outfall is located at Latitude 35° 52' 42" North, Longitude 106° 28' 21" West. The water required for the pilot study is approximately 45 gallons per minute for 8 hour work day, 3 days per week. The daily discharge rate is 0.0216 MGD (45 gal/min x 60 min/hour x 8 hours/day). Water from two types of diversion will be tested: water diverted directly from the Rio Grande and water pumped from alluvial deposits along the banks of the Rio Grande. Water from these sources will be pilot tested separately and the discharge into the Rio Grande will consist solely of water treated to drinking water standards. The treatment processes consist of pre-sedimentation, coagulation, flocculation, sedimentation, and membrane filtration. Process residuals, including membrane backwash, will be disposed of at a solid waste facility.

III. EFFLUENT CHARACTERISTICS

There have no discharge data available. Because the discharge rate of 45 gpm for 8 hours per day which is equivalent to 0.0216 MGD, EPA does not expect any significant impact to the receiving stream Rio Grande which has the 4Q3 low flow of 367 cfs (244.67 MGD).

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 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 BOR submitted a complete permit application received by EPA on December 3, 2013. The BOR did not specify the time period needs for the pilot study. 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 require that 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.

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, fecal coliform, 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

Technology based Effluent Limitation Guidelines for drinking water treatment plants have not been developed. Therefore, EPA proposes permit limitations based on the BPJ. The 30-day average TSS limitation of 20 mg/l and daily maximum TSS of 30 mg/l are established based on TSS limitations established for the similar treatment plants (i.e., City of Raton water treatment plant, City of Aztec water treatment plant, and Bureau of Reclamation Navajo Gallup water supply project).

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 WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State 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 narrative and numerical water quality standards are used in conjunction with EPA criteria 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 discharge is to tribal land which is beyond the jurisdiction of NMED. But, EPA has the same receiving stream data for NM state water quality segment number 20.6.4.114 to evaluate any potential impacts in order to protect downstream state waters. The NMED has designated uses of the receiving water to be public water supply, irrigation, livestock watering, wildlife habitat, primary contact, marginal coldwater aquatic life and warmwater aquatic life.

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). The WQ-based effluent limitations are listed as below:

a. pH

The NM WQS for pH, 6.6 to 9.0 su, are established in the draft permit to protect aquatic life.

b. TOXICS

i. General Comments

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

ii. Reasonable Potential – Toxics

There are no effluent data available for RP screening. Also, because the discharges will be significantly diluted, EPA does not expect that the discharges will cause or contribute to exceedance of state WQS. The stream 4Q3 low flow is 367 cfs (which equals to 244.67 MGD) and it makes the critical dilution to be 0.0088%.

iii. TRC

If chlorine products are used either for chlorination or screen process cleaning purposes, the operator must monitor TRC and effluent limitation for TRC is 0.019 mg/l in accordance with EPA recommended acute water quality criteria.

5. Stream Impairment Requirements

Because the source of the water is either from the receiving stream or from the groundwater along the bank, EPA does not anticipate the discharge will contribute additional pollutants to the receiving stream. Moreover, because the sediment separated from the source water will be disposed on land, it will likely reduce pollutants returned back to the receiving water.

6. 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).

Flow is proposed to be estimated daily. pH is monitored daily using grab sample. Because the volume of discharge, monitoring frequency of 1/month is proposed for TSS. Grab samples shall be used for TSS. Monitoring frequency of 1/week is proposed for TRC when chlorine products are used. Grab samples shall be used for TRC.

D. WHOLE EFFLUENT TOXICITY MONITORING

EPA has required WET monitoring or limit for most discharges. The critical dilution as calculated above is determined to be very low, 0.0088%. The BOR water project is rated as a minor industrial facility discharging to a perennial waterbody with a CD ≤ 10%. Because the CD is less than 10%, EPA uses a 10:1 acute to chronic ratio to allow the less expensive acute test. Using the 10:1 ratio will allow an acute test of 0.088% CD. Since the CD is too low, EPA determines to round it up to 0.1% and proposes an upward 50% dilution series, 0.1%, 0.2%, 0.4%, 0.8%, and 1.6%, to extrapolate how the future production plant discharge may affect aquatic life. The draft permit will require a WET testing using *Daphnia pulex* and *Pimephales promelas*. It is proposed to be an one-time test. Because the pilot plant operates 8 hours a day,

an 8-hour composite sample type is proposed. Discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE MONITORING 30-DAY AVG MINIMUM	48-Hr. MINIMUM
Whole Effluent Toxicity Testing (48 Hr. Static Renewal) (*1)		
Daphnia pulex	REPORT	REPORT
Pimephales promelas	REPORT	REPORT

EFFLUENT CHARACTERISTIC	MONITORING REQUIREMENTS FREQUENCY	TYPE
Whole Effluent Toxicity Testing (48 Hr. Static Renewal) (*1)		
Daphnia pulex	Once/Term	8-Hr. Composite
Pimephales promelas	Once/Term	8-Hr. Composite

FOOTNOTES:

1/ Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

VI. ANTIDEGRADATION

The limitations and monitoring requirements set forth in the proposed permit are protective of designated uses for the stream and of downstream NM WQS. The operation is designed to either treat receiving stream water then return cleaner water back to the stream or treat uncontaminated groundwater from a well along the river bank then discharge the treated groundwater to the stream. Either operation will only contribute less than 0.01% of stream low flow rate water to the stream. Therefore, any additional contribution of pollutants, if there is any, will be de minimis.

VII. ENDANGERED SPECIES CONSIDERATIONS

EPA has determined that the issuance of this permit will have "*no effect*" on any listed threatened and endangered species nor will adversely modify designated critical habitat based on the nature of operation, the nature of discharges and the quantity and quality of discharges. Because the BOR is also a federal agency, the project is also subject to the ESA section 7 consultation or BOR's determination of effect analysis, EPA will also consult BOR with their findings and determinations prior to finalization of the permit.

IX. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The issuance of the permit have no impact on historical and/or archeological sites.

X. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit pursuant to the provisions of 40 CFR §124.5.

XI. VARIANCE REQUESTS

No variance requests have been received.

XII. CERTIFICATION

The permit is in the process of consultation and/or certification by San Ildefonso Pueblo. A draft permit and draft public notice will be sent to NMED because NMED is the downstream State Agency. A draft permit and draft public notice will also be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service.

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 Application Forms 1 and 2E received December 5, 2013.

B. 40 CFR CITATIONS

Citations to 40 CFR are as of March 1, 2014.

C. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as amended through June 5, 2013.

D. MISCELLANEOUS COMMUNICATIONS

E-mails from Lam Ho, BOR, to Isaac Chen, EPA, April 4, 2014, providing additional information to EPA inquiries.