NPDES PERMIT NO. NM0022250

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

February 12, 2025

PERMIT ACTION

Proposed re-issuance of the current permit issued on October 10, 2019, with an effective date of December 1, 2019, and an expiration date of October 30, 2024.

RECEIVING WATER – BASIN

Rio Grande River – Middle Rio Grande Basin (Segment 20.6.4.105)

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
ML	Method minimum level
MPN	Most probable number
MQL	Minimum quantification level
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
NOEC	No observable effect concentration
NPDES	National Pollutant Discharge Elimination System
O&G	Oil and grease
PFAS	Per- and polyfluoroalkyl substances
POTW	Publicly owned treatment works
RP	Reasonable potential
SS	Settleable solids
SSM	Sufficiently sensitive method
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

The changes from the current permit issued on October 10, 2019, with an effective date of December 1, 2019, and an expiration date of November 30, 2024, include:

- Monitoring for molybdenum has been established.
- PFAS monitoring has been added.
- CD for WET testing has been increased to 100%.
- Requirement of study of methylmercury was completed and is removed now; Mercury Minimization plan is continuously implemented.
- Correction on DO limit has been made.
- Correction on Total Inorganic Nitrogen limits have been made for mass loadings.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the facility (Outfall 001: Latitude 35° 01' 04" North and Longitude 106° 40' 13" West) is located at 4201 2nd Street SW, Bernalillo County, New Mexico.

Under the SIC code 4952, the applicant (municipality) operates ABCWUA Southside WWTP, which has a total design flow of 76 MGD serving a population of 659,736 approximately. The plant performs as high as secondary level of treatment; effluent is ultraviolet-disinfected before discharging (via Outfall 001) to the Rio Grande River (20.6.4.105 NMAC). Part of the effluent is reused under DP1308, NMED-issued permit issued. Sewage sludge is processed on site and surface-disposed at Albuquerque Soils Amendment Facility. A map of the facility is attached.

III. EFFLUENT CHARACTERISTICS

Selected data in Form 2A is as follows:

Parameter	**Max**	**Avg**
	(mg/l unless noted)	
Flow (MGD)	56.20	46.78
pH, minimum, standard units (s.u.)	5.5	NA
pH, maximum, standard units (s.u.)	7.3	NA
Temperature (winter), °F	64	62
Temperature (summer), °F	82	80
C. Biochemical Oxygen Demand, 5-day ($CBOD_5$)	7.65	1.79
Total Suspended Solids (TSS)	12.8	4.98
E. coli (MPN/100 ml)	65	6.8
Ammonia (as N)	1.28	0.13
TRC	ND	ND
DO	7.03	5.79
Total Kjeldahl Nitrogen (TKN)	2.8	1.8
Nitrate + Nitrite Nitrogen	9.51	5.68
Oil & Grease	ND	ND
Phosphorus (Total)	3.33	1.92
TDS	590	535.5

DMRs data, from December 1, 2019 to October 22, 2024, shows numerical limit violations as follow:

Parameters	Date Reported	Exceedance (30-day average value, mg/L)	Exceedance (Daily max. value, mg/L)	Exceedance (pH, loading)
pH, s.u.	5/31/22			6.59
TRC	8/31/20		40 ug/L	
E. coli	3/31/20, 10/31/20, 2/28/21, 6/30/21, 10/31/21, 12/31/21, 1/31/22, 4/30/22, 6/30/22, 10/31/22, 11/30/22, 7/31/24, 8/31/24		Multiple exceedances for daily max. value	
Mercury, total	4/30/20, 5/31/20, 10/31/21	3 exceedances		
Mercury, total	3/31/20, 4/30/20, 5/31/20, 6/30/20, 8/31/20, 9/30/20, 1/31/21, 9/30/21, 10/31/21, 7/31/22, 10/31/22		Multiple exceedances for daily max. value	
Mercury, total	4/30/20, 5/31/20, 10/31/22			1 exceedance on monthly average, 3 exceedances on daily maxima

On November 1, 2022, EPA issued an Administrative Order (Docket Number: CWA-06-2023-1703) to the permittee regarding a sanitary sewer overflow (SSO) occurred on July 10, 2022 at 6100 Iliff Road NW, Albuquerque, NM. This SSO was caused by a collapsed 48-inch sewer line, which results in a discharge of 6.74 million gallons (MG) of untreated wastewater. Three MG of the spill were routed to West Bluff Pond while 3.7 MG reached the Rio Grande.

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 reissued 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 proposed draft permit for TSS and $CBOD_5$ and percent removal for each. Water quality-based effluent limitations are established in the proposed draft permit for E. coli bacteria, pH, TRC, DO, molybdenum, total inorganic nitrogen and total ammonia (as nitrogen) and mercury.

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 Secondary Treatment Regulation for POTWs, on BPJ in the absence of guidelines, or on a combination of these. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures.

2. Effluent Limitation Guidelines

The facility is a POTW/POTW-like that has technology-based limits established at 40 CFR Part 133.102, Secondary Treatment Regulation. Pollutants with limits established in this Chapter are $CBOD_5$, TSS and pH. $CBOD_5$ limits of 25 mg/l for the 30-day average and 40 mg/l for the 7-day average and 85% percent (minimum) removal are found at 40 CFR §133.102(a). TSS limits; also 30 mg/l for the 30-day average and 45 mg/l for the 7-day average, average and 85% percent (minimum) removal are found at 40 CFR §133.102(b). The previous permit established $CBOD_5$ limits based on water quality concerns (including DO impairment below) and were not technology-based; existing limits for $CBOD_5$ (15 mg/l 30-day average and 22.5 mg/l 7-day average) are more stringent than the technology standard and are retained in the permit draft in compliance with the Antibacksliding per 40 CFR 122.44(l). The limit for pH is 6-9 s.u. and based on 40 CFR §133.102(c). Retaining limitation of percent removal for TSS, EPA establishes new limitation for 85 percent removal of $CBOD_5$ (minimum) pursuant to 40 CFR §133.102(a)(4) in this draft permit. Since it is technology-based limitation there is no compliance schedule provided to meet these limits. Compliance is required on the permit effective date. Loading limit for $CBOD_5$ is retained from the previous permit due to DO impairment described in the TMDL requirements below.

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 TSS loading = 30 mg/l * 8.34 (lbs)(l)/(mg)(MG) * 76 MGD = 19015 lbs/day
7-day average TSS loading = 45 mg/l * 8.34 (lbs)(l)/(mg)(MG) * 76 MGD = 28522 lbs/day

A summary of the technology-based (water quality-based for $CBOD_5$ concentration/loading) 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)
$CBOD_5$*	709	Report	15	22.5
$CBOD_5$, % removal[1]	≥ 85	---	---	---
TSS	19015	28522	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.

*Limits are retained from previous permit to comply with NMWQS and Antibacksliding regulation.

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

3. Pretreatment Regulation

The facility has 66 significant industrial users (SIUs) stated in the application. The permittee is required to develop/revise and implement a full pretreatment program pursuant to 40 CFR 403.8.

4. Capacity, Management, Operation and Maintenance (CMOM)

The permittee must continue to implement and update (if necessary) the CMOM plan required previously.

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.

The ABCWUA discharge point into the Rio Grande is in State waters approximately five-miles upstream of the boundary with the Pueblo of Isleta (POI). In addition to the NMWQS, the permit limits developed for the POTW must be protective of the Pueblo WQS.

3. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC EPA-approved on June 13, 2024). The receiving water is Rio Grande River (segment 20.6.4.105 NMAC of the Rio Grande River Basin). The stream designated uses are irrigation, marginal warmwater aquatic life, livestock watering, public water supply, wildlife habitat and primary contact. NMED provides the following flow data regarding the receiving water:

Critical Low Flow (4Q3): 125.58 cfs
Harmonic Mean Flow: 423.36 cfs

4. Pueblo of Isleta Water Quality Standards (POIWQS)

The POI 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 POI are provided in Surface Water Quality Standards (POIWQS) amended March 18, 2002, Tribal Resolution 02-064, approved by EPA on July 22, 2005. This latest WQS was used in the previous permitting renewal. The designated uses of the Rio Grande, according to POIWQS, Section V.A, are warmwater fishery use, primary contact ceremonial use, primary contact recreational use, agricultural water supply use, industrial water supply use and wildlife usage. The Pueblo of Isleta is currently in the process of reviewing the currently approved POIWQS. Any revisions that are adopted by the Pueblo and approved by EPA prior to expiration and reissuance of the new permit could result in requests for modification of the permit prior to the expiration date.

POIWQS Section I.H states: "Criteria specific to a designated use shall be protected at all times and at all flow rates." In the last two permits cycles (2005 and 2012), zero (0) was used as critical flow rate[1]. The lowest flow rate was 53 cfs (rounded to nearest number) during September 1997 to September 2017 and occurred in September 2013 at gage USGS–08330000. According to the Pueblo of Isleta, the use of 53 cfs as the low flow for assessment of discharge effects in the previous permit term was not unreasonable for protection of applicable POIWQS[2]. There was no flow (zero cfs) on July 25 – 26, 2022 at the same gage. Consistent with the same previous approach, using lowest flow over last 20 years, EPA applies no dilution (zero cfs) in term of critical flow rate in this permit renewal review. That means applicable POIWQS must be met at the end of discharge. For applicable human-health criteria, the harmonic mean flow (same as for NMWQS) is used for RP analysis.

5. 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). Tribe or State WQS that are more stringent than effluent limitation guidelines and the most stringent limitations are chosen as follows:

a. pH

[1] Zero (0) flow was stated in the fact sheet (Section V.C.5 on page 11 of 24) for 2012 permit; but 52.9 MGD (4Q3) was shown in RP analysis for POIWQS by mistake because the 4Q3 was not applicable to the POIWQS.
[2] POI agreed with EPA on 53 cfs as a low flow per email dated January 10, 2018. POI letter dated October 23, 2018 states the use of 53 cfs "does not appear to be unreasonable"

State Water Designated Use(s)	NMWQS	Tribe Water Designated Use(s)	POIWQS	Limitation Established (same previously)
Primary contact and marginal warmwater aquatic life	6.6 – 9.0 [20.6.4.900.D and H(6)]	Primary contact recreational use	6.6 – 9.0 [Section IV.E]	6.6 – 9.0

As requested by the permittee previously, EPA continues allowing pH to be measured continuously in according with 40 CFR 401.17. EPA may adjust the requirements per 40 CFR 401.17.b or switch back to "instantaneous grab" sampling for pH if the permittee does not comply with the requirements for the continuous measurement.

b. E. coli bacteria

State Water Designated Use(s)	NMWQS	Tribe Water Designated Use(s)	POIWQS	Limitation Established (same previously)
Primary contact	126 cfu (MPN)/100 ml monthly; 410 cfu (MPN)/100 ml daily maximum, [20.6.4.900.D]	Primary contact recreational use	47 cfu/100 ml monthly; 88 cfu/100 ml daily maximum, [Section IV.E]	47 cfu/100 ml monthly; 88 cfu/100 ml daily maximum. Either MPN or cfu can be used.

E. coli bacteria limits for the permit are based on protection of the more restrictive Pueblo of Isleta WQS.

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.

NMED provides data for the 4Q3 (125.58 cfs, applicable to NMWQS only) and harmonic mean flow (423.36 cfs, applicable to POIWQS and NMWQS) at gage USGS–08330000 Rio Grande at Albuquerque, NM from 2006 to 2023 using DFlow program (Basins). Ambient data (geometric mean values) must be obtained upstream; the nearer the outfall, the more representative the data. NMED has a monitoring station at Rio Bravo Bridge located upstream and nearest to the outfall; no other ambient data located closer to the outfall were available. Available ambient data at this bridge (from 2014 to 2017) are used for this revised draft permit. Submitted data (average values) in Part D of Form 2A are scanned against the MQL and State/Tribe WQS. Pollutants with levels above the MQL or Tribal/State

WQS (and those with no established MQL) are analyzed for RP. For RP calculation purpose, ML values are used for results reported with less than the ML levels. Two separate RP analyses are performed in according to the POIWQS and NMWQS. The attached spreadsheet (excel) is RP analysis regarding NMWQS. The RP method is described in the NMIP. Parameters applicable to the POIWQS Appendix I & II and NMWQS 20.6.4.900J are not included in Form 2A. They are required in Part I.F.1 of the draft permit to be tested for the next permit renewal[3].

During the application review, additional data were submitted to demonstrate Sufficient Sensitive Method (SSM) requirement for those pollutants that were not initially met. Summary of the initial tests and demonstrations to meet the SSM requirement are as follow:

Pollutants	**Tested Result, ug/L**	**Applicable NMWQS, ug/L**	**MDL (ug/L) of Suggested Method with SSM Compliance**
Acrolein	<50 (EPA 624.1)	3	0.5 (EPA 603)
benzidine	<5.0 (EPA 625)	0.11	0.08 (EPA Method 605)
benzo(a)anthracene	<2.5 (EPA 625)	0.013	0.023 (EPA Method 610)
Benzo(a)pyrene	<2.5 (EPA 625)	0.0013	0.023 (EPA Method 610)
3,4-benzofluoranthene	<2.5 (EPA 625)	0.013	0.023 (EPA Method 610)
benzo(k)fluoranthene	<2.5 (EPA 625)	0.13	0.023 (EPA Method 610)
Chrysene	<2.5 (EPA 625)	1.3	0.023 (EPA Method 610)
Dibenzo(a,h)anthracene	<2.5 (EPA 625)	0.0013	0.03 (EPA Method 610)
Hexachlorobenzene	<2.5 (EPA 625)	0.00079	0.05 (EPA Method 612)
Hexachlorobutadiene	<2.5 (EPA 625)	0.1	0.34 (EPA Method 612)
Hexachloroethane	<2.5 (EPA 625)	1	0.03 (EPA Method 612)
Indeno(1,2,3-cd)pyrene	<2.5 (EPA 625)	0.013	0.043 (EPA Method 610)
1,2,4-Trichlorobenzene	<2.5 (EPA 625)	0.76	0.05 (EPA Method 612)
Chlorpyrifos	<0.514 (EPA 625)	0.041	0.3 (EPA Method 622)
Alpha-BHC	<0.012 (EPA 608)	0.0039	0.004 (EPA Method 617)
Diazinon	<0.514 (EPA 525)	0.17	0.13 (EPA Method 507)
heptachlor	<0.012 (EPA 608)	0.000059	0.0015 (EPA Method 508)
Guthion	<0.5 (EPA 614)	0.01	0.009 (EPA Method 1657)
Demeton	<0.5 (EPA 614)	0.1	0.25 (EPA Method 622)
Malathion	<0.5 (EPA 614)	0.1	0.011 (EPA Method 1657)
Pentachlorobenzene	<0.5 (EPA 8270E)	0.1	Not listed
1,2,4,5-Tetrachlorobenzene	<0.5 (EPA 8270E)	0.03	Not listed

EPA has determined the permittee has demonstrated compliance with the SSM requirement per 40 CFR 122.21(e)(3) for the above parameters; no further requirement is necessary for these pollutants.

DMRs (from 3/2014 to 9/2014) for total arsenic (3 ug/L) were scanned against the POIWQS and NMWQS. Harmonic mean flow is used for the human health criteria. To determine if a pollutant has a reasonable potential to exceed a water quality criterion the following calculation is performed with a steady-state mass balance model in the NMIP. The RP is determined in term of POIWQS as follows:

Instream concentration = ((FQa × Ca) + (Qe × Ce × 2.13)) ÷ (FQa + Qe)
ug/L or mg/L (unit for concentrations must be consistent)

[3] Test frequency of Part D in Form 2A is retained from the previous permit.

Where:
Ce is the average effluent concentration, ug/L or mg/L
Ca is the geometric mean ambient concentration upstream of discharger, ug/L or mg/L
Qe is the effluent flow rate, 117.8 cfs (76 MGD)
Qa is 423.36 cfs (Harmonic Mean Flow)
F is the fraction of stream allowed for mixing, 1.0

Arsenic	**Ca, ug/L**	**Ce (dissolved), ug/L**	**Calculated instream concentration, ug/L**	**Criterion, ug/L**	**RP excursion**	**Limitation?**
NMWQS, Aquatic life HH-OO	3*	0.79	2.71	9	No (shown in attached Appendix A)	No
POIWQS; Section III, Appendix II, HH-OO	3*	0.79	2.71	4.2	No, instream conc. < criterion	No

*Five (5) data points during March to October 2014

Previous established monitoring for arsenic is retained in this permit draft due to prior request from POI.

Mercury is re-evaluated for RP (same approach as for arsenic) due to the current available data:

Instream concentration = ((FQa × Ca) + (Qe × Ce × 2.13)) ÷ (FQa + Qe) = ug/L

Where:
Ce is the average effluent concentration, 0.003 ug/L (averaged from 221 data points)
Ca is the geometric mean ambient concentration upstream of discharger, 0 ug/L
Qe is the effluent flow rate, 117.8 cfs (76 MGD)
Qa is 125.58 cfs (NMWQS), 0 cfs (POIWQS)
F is the fraction of stream allowed for mixing, 1.0

Mercury	**Ca, ug/L**	**Ce (totaled), ug/L**	**Calculated instream concentration, ug/L**	**Criterion, ug/L**	**RP excursion**	**Limitation?**
Wildlife Habitat (total), NMWQS; 20.6.4.900.J	> 0.77*	0.003	>0.77	0.77	No (shown in attached Appendix A)	Yes, at criterion
Wildlife Usage (total); POIWQS Section IV.I	> 0.77*	0.003	>0.0011	0.0011 (1.1 ng/L)	Yes, instream conc. > criterion	Yes, at criterion

*Receiving water is impaired with mercury stated under TMDL section below.

The current 2019 permit has mercury limits of 0.008 ug/L (monthly average) and 0.012 (daily maxima), which were retained from 2012 permit. Conditions of the current permit include collecting mercury data at specific locations below, study of mercury minimization plan and study of methylmercury in fish tissue:

Mercury	**Rio Bravo Bride***	**Effluent**	**Influent**	**I-25 Bridge***
Mercury, ug/L (averaged value)	0.017	0.003	0.066	0.0168

*Water segments, above (Tijeras Arroyo to Alameda Bridge) and below (Isleta Pueblo boundary to Tijeras Arroyo, respectively) the outfall, were listed with mercury impairment in 2020.

Summary of Methylmercury study in fish tissue

	Species	**Location**	**Fall 2020**	**Spring 2021**

Methylmercury, mg/kg	Channel Catfish	Downstream of the outfall in the mainstem river	0.05 (4 samples)	0.11 (2 samples)
Methylmercury, mg/kg	Largemouth Bass	Within the outfall	0.39** (2 samples)	0.17 (2 samples)

**NMWQS and POIWQS criterion of 0.3 mg/kg.

It's unclear to EPA that 0.39 mg/kg of methylmercury in the Largemouth Bass was due to the discharge or existing mercury impairment in the ambient water segment above the discharger. In 2018, POI did not oppose EPA to retain the previous limits[4]. EPA proposes to retain the prior limits and the following condition regarding mercury:

- Continuing to implement the plan to reduce mercury levels in the plant influent and effluent.

Molybdenum is evaluated regarding POIWQS (no RPs exist in term of NMWQS criterion of 1000 ug/L) with the same method as for mercury above. Ambient concentration (Ca) is not a factor where critical low flow is zero for RP analysis purpose. RP is determined with excursions molybdenum because the calculated instream concentration is greater than the criterion (shown in table below). Limit(s) for molybdenum is supposedly in place because the RP exists pursuant to 40 CFR §122.44(d). However, to be consistent with the analyses of mercury, salinity/mineral in term of critical flow regarding the POIWQS, EPA proposes monitoring of molybdenum instead.

Molybdenum	**POIWQS**	**Ce, ug/L**	**Calculated instream concentration, ug/L**	**Criterion, ug/L**	**RP excursion**	**Limitation ?**
Molybdenum, dissolved	Agricultural Water Supply Use, irrigation; Section IV.F	5 (averaged)	10.65	10	Yes, instream conc. > criterion	Yes, at criterion

d. TRC

The facility uses UV to disinfect the effluent. However, TRC limit of 11 µg/l (for wildlife habitat; 20.6.4.900.G NMAC and warmwater fishery use; POIWQS Section IV.C) is established in the draft permit **in case** chlorine based-product is used to disinfect the effluent discharging to the receiving stream with daily monitoring frequency. If all the chlorinated effluent is reused (not discharged to the receiving water), the chlorine monitoring is not required. When UV is used to disinfect the effluent, the monitoring frequency would be once per week due to sodium hypochlorite is used to chlorinate the plant reclaimed water, which then can be reused as cooling water, process clean-up water, and pump seal water. The reused water is then routed to the plant headworks for treatment. Daily monitoring is required when chlorine is used as either backup bacteria control or when disinfection of plant treatment equipment is required. Otherwise, once per week is required.

e. DO

For marginal warmwater aquatic life (20.6.4.900.H(6) NMAC) and warmwater fishery use, criterion for DO is 5 mg/L or more. EPA retains the existing limit for DO (minimum 5 mg/L) due to the water DO impairment discussed under TMDL Requirements. Limit for DO in the previous permit was incorrectly set at minimum 5 mg/L for 30-day average; it should be at the level of 5 mg/L or greater due to the DO

[4] According to the POI letter dated October 23, 2018.

impairment back then and now. Being factored to influence the DO level, previous limits for $CBOD_5$ are also retained as well.

f. Salinity/Mineral Quality (Total Dissolved Solids, Chlorides, and Sulfates)

EPA evaluates the RP for TDS, chlorides and sulfates using the same approach for mercury above:

Pollutants	**POIWQS; Section III.K**	**NMWQS; 20.6.4.105 NMAC, mg/L**	**Effluent Concentration, mg/L (per DMRs)**	**Ambient Conc., mg/L (Rio Bravo Bridge)**	**1/3 increase of ambient conc., mg/L**	**Calculated Instream Conc., mg/L**	**RP Excursion**
TDS	no more than 1/3 increase of the background concentration;	1,500	535.5 (averaged from 60 data points)	254.4 (54 samples per application)	339.2	>339.2 (with zero critical low flow)	Yes (per POIWQS)
Chlorides	no more than 1/3 increase of the background concentration;	250	103 (averaged from 60 data points)	12.4 (54 samples per application)	16.5	>16.5 (with zero critical low flow)	Yes (per POIWQS)
Sulfates	no more than 1/3 increase of the background concentration;	500	91.9 (averaged from 60 data points)	52.3 (54 samples per application)	69.7	>69.7 (with zero critical low flow)	Yes (per POIWQS)

Due to RP excursion, the 30-day average limits (at the 1/3 increase ambient levels due to no dilution) for TDS, chlorides and sulfates are supposedly required pursuant to 40 CFR §122.44(d).

Parameter	**POIWQS; Section III.K**	**30-day average limit, mg/L**	**Ambient Conc., mg/L (Rio Bravo Bridge, averaged value)**	**Ambient Conc., mg/L (I-25 Bridge per application, aveg. value)**
TDS	no more than 1/3 increase of the background concentration;	339.2	254.4	278.9
Chlorides	no more than 1/3 increase of the background concentration;	16.5	12.4	22.3
Sulfates	no more than 1/3 increase of the background concentration;	69.7	52.3	56.5

However, the POIWQS has not been updated since the last permit renewal process, EPA continues allowing ABCWUA to collect more ambient data in this permit term instead of establishing the new above limits for TDS, chlorides, sulfates and other parameters specified in the permit Part I.F.2. Effluent monitoring for these parameters will be monthly. The permittee must also take samples at the Rio Bravo Bridge and above the POI northern boundary[5] monthly during the permit term. EPA will use these collected data along with NMED data (if available then) to make decisions in the next permit renewal, taking into account any updates to the POIWQS.

g. Total Inorganic Nitrogen (TIN)

[5] Consistent with the NMED monitoring stations.

TIN is re-evaluated with the same method as for mercury above, RP is determined with excursion for TIN because the calculated instream concentration is greater than the criterion (shown in table below). EPA proposes to retain limits for TIN from the previous permit because the RP exists pursuant to 40 CFR §122.44(d) and the permittee previously requested so. Due to typographical error made in the previous permit, mass loadings have been corrected corresponding to the concentration limits.

TIN	Ca, ug/L	Ce, ug/L	Calculated instream concentration, ug/L	Criterion, ug/L	RP excursion	Limitation ?
NMWQS				NA		NA
Primary contact ceremonial use; POIWQS Section IV.D		5,100 (monthly average)	>10,000	10,000	Yes, instream conc. > criterion	Yes, at criterion

h. Total Ammonia (as N)

Total ammonia (as N) is re-evaluated against the POIWQS and NMWQS (20.6.4.900.L) with the same method as for mercury above using the low flow of zero cfs. Ambient data for temperature and pH, measured at the same location, were 21°C on average and 8.5 s.u. at 95th percentile during a period of 2014 - 2017. Ambient data for the ammonia is considered zero because no quantitative data is available. The criteria for total ammonia are as below pursuant POIWQS Appendix IIIA&C:

Ammonia, total	Acute	Chronic
Criterion, mg/L	3.2 (warmwater) POIWQS. 1.4 NMWQS, fish present	0.717 POIWQS, fish present. 0.3 NMWQS
Effluent, mg/L	0.13	0.13
Calculated Instream Concentration, mg/L	N/A because criterion must be met at end of pipe. RP level = effluent x 2.13 < 1.4	<0.3 (even with no dilution; same calculation as for acute)
RP excursion	No	No

RP does not exist for either acute or chronic criterion because the calculated instream concentrations are less than the chronic and acute criteria. Limits for the ammonia are retained from the previous permit (1.0 mg/L 30-day average and 1.5 mg/L daily max.) because the permittee previously requested so.

i. Nutrients (total nitrogen and total phosphorus)

EPA has started to monitor nutrients (total nitrogen and total phosphorus) discharged from major POTWs and others. Data would be used to determine applicable limits to protect local and downstream water quality. The proposed monitoring frequency for the nutrients is continued at once/quarter.

j. PFAS

As explained at https://www.epa.gov/pfas, PFAS are a group of synthetic chemicals that have been in use since the 1940s. PFAS are found in a wide array of consumer and industrial products. PFAS manufacturing and processing facilities, facilities using PFAS in production of other products, airports, and military installations can be contributors of PFAS releases into the air, soil, and water. Due to their widespread use and persistence in the environment, most people in the United States have been exposed

to PFAS. Exposure to some PFAS above certain levels may increase risk of adverse health effects.[6] EPA is collecting information to evaluate the potential impacts that discharges of PFAS from wastewater treatment plants may have on downstream drinking water, recreational and aquatic life uses.
Although not including numeric criteria for PFAS, the 2024 (current) NMQWS narrative criterion for toxic substances at 20.6.4.13(F)(1) NMAC states:

> *"Except as provided in 20.6.4.16 NMAC, surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, duration, concentrations, or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or that will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms."*

The NMQWS includes a narrative criteria for monitoring of emerging contaminants at 20.6.4.14(F) NMAC that states: "Emerging Contaminants Monitoring: The department may require monitoring, analysis and reporting of emerging contaminants as a condition of a federal permit under Section 401 of the federal Clean Water Act." Since PFAS chemicals are persistent in the environment and may lead to adverse human health and environmental effects, the draft permit requires that the facilities conduct influent, effluent, and sludge sampling for PFAS according to the frequency outlined in the permit. The purpose of this monitoring and reporting requirement is to better understand potential discharges of PFAS from this facility and to inform future permitting decisions, including the potential development of water quality-based effluent limits on a facility-specific basis. EPA is authorized to require this monitoring and reporting by CWA § 308(a), which states:

> *"SEC. 308. (a) Whenever required to carry out the objective of this Act, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this Act; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out sections 305, 311, 402, 404 (relating to State permit programs), 405, and 504 of this Act— the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require;".*

EPA notes that there is currently not an analytical method approved in 40 CFR Part 136 for PFAS. As stated in 40 CFR § 122.44(i)(1)(iv)(B), in the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR Part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters. Therefore, the draft permit specifies that until there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted

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[6] EPA, *EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan,* EPA 823R18004, February 2019. Available at: https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf

using Method 1633. The Adsorbable Organic Fluorine CWA wastewater method 1621 can be used in conjunction with Method 1633, if appropriate.

EPA has included PFAS monitoring in the draft permit using analytical Method 1633. In January 2024, the EPA released final EPA Method 1633, a method to test for 40 PFAS in wastewater, surface water, groundwater, soil, biosolids, sediment, landfill leachate, and fish tissue and final EPA Method 1621, which can broadly screen for the presence of chemical substances that contain carbon-fluorine bonds, including PFAS, in wastewater. More information on Method 1633 and status for approval under Part 136, is available at https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas.

There are currently no applicable Federal and/or State/Tribe surface water quality standards for PFAS. EPA proposes to monitor the PFAS pollutants in the influent, effluent and sewage sludge at once per quarter based on the plant design flowrate in order to gather information on the presence or absence of PFAS in the discharge.

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). Sample frequency is based on Table 9 (page 34 of the NMIP) for design flow > 10 MGD.

Parameter	Frequency	Sample Type
Flow	Daily	Totalized
pH	Daily	Continuous (allowed for this permit)
$CBOD_5$/TSS	Daily	24-hr Composite
% Removal	Monthly	Calculation
TRC	Applicable daily or 1/week*	Instantaneous Grab
E. coli Bacteria	Daily	Grab
DO	Daily	Instantaneous Grab
TDS	Monthly	24-hr Composite
Chlorides	Monthly	24-hr Composite
Sulfates	Monthly	24-hr Composite
Molybdenum	Monthly	24-hr Composite
Mercury	Once/week	Grab (allowed due to high potential for atmospheric contamination)
TIN	Daily	24-hr Composite
Total ammonia (as N)	Daily	24-hr Composite
Arsenic	Once/quarter	24-hr Composite
PFAS	Once/quarter	24-hr Composite
Nutrients (total nitrogen and total phosphorus)	Once/quarter	24-hr Composite
PCBs	Once/year	24-hr Composite

* Daily when chlorine is used as either backup bacteria control or when disinfection of plant treatment equipment is required. Otherwise, once per week is required.

D. 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. The

CD is calculated and established based on the more stringent between the 4Q3 and critical flow of zero cfs (POIWQS) as follows:

	POIWQS	NMWQS, 4Q3	Newly Established CD	Previously Required CD
Critical flow	0 cfs	125.58 cfs		
Effluent flow	117.8 cfs (76 MGD)	117.8 cfs (76 MGD)		
Calculated CD with mixing factor 1	100%	48.4%	100%	69%

Submitted WET data show no RPs exist for both vertebrate and invertebrate species at the established CD (see attached Reasonable Potential Analyzer). In this permit draft, EPA proposes WET monitoring using the same species, *Ceriodaphnia dubia* (Cd) and *Pimephales promelas* (Pp). The Reasonable Potential (RP) spreadsheet indicates there is RP for chronic effects at 100%, however note the error messages when calculating the RP determination. Due to all of the data points being exactly the same at 92%, the calculations cannot calculate a coefficient of variance which affects the statistical determination. EPA acknowledges that all of the tests for ABCWUA during the previous permit cycle passed at the critical dilution established in the previous permit, which is slightly lower than the new critical dilution. EPA is therefore not including a limit in this permit.

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:

WHOLE EFFLUENT TOXICITY TESTING (7-Day Chronic Static Renewal/ NOEC) *	VALUE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Ceriodaphnia dubia	Report	Once/Quarter	24-Hr Composite
Pimephales promelas	Report	Once/Quarter	24-Hr Composite

*Compliance with the Whole Effluent Toxicity limitation is required on the effective date of the permit. See Part II of the permit for WET testing requirements and limitation conditions. Grab samples are allowed per method, if needed.

VI. TMDL REQUIREMENTS

The receiving water segment 20.6.4.105 NMAC Rio Grande (Isleta Pueblo boundary to Tijeras Arroyo) has been listed in 303(d) List (2024 – 2026). The receiving water is not supporting the uses of marginal warmwater aquatic life and primary contact. Causes are PCB (fish consumption), DO and E. coli bacteria; mercury (fish consumption) was added in 2020. Latest TMDL for E. coli bacteria was issued in 2010. The E. coli loading limit in the previous permit was established based on this TMDL. EPA retains the same limit requirement for E. coli in this permit draft. TMDLs for other causes are not issued yet. Monitoring/limit for PCB and DO are retained for future TMDLs development. Current limits for mercury are more stringent than NMWQS criterion; so, they are retained in this permit draft to address the mercury impairment. 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

State/Tribe 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 receiving water, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2. There is no increase in permitted design flow for this permit issuance.

VIII. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet Antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR 122.44(l)(2)(i)(B), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless information is available which was not available at the time of permit issuance.

IX. ENDANGERED SPECIES CONSIDERATIONS

According to a report updated on September 9, 2024 for discharge flowpath, downstream thru Isleta Pueblo in NM, obtained from http://ecos.fws.gov/ipac, there are endangered (E)/threatened (T) species that were listed in the previous permit: New Mexico meadow jumping mouse (E), Mexican spotted owl (T), Southwestern willow flycatcher (E), Yellow-billed Cuckoo (T) and Rio Grande Silvery Minnow (E). These species were determined with "no effect" in the previous permit renewal review. There have been an addition threatened species, Pecos Sunflower and potential critical habitats downstream from the facility for the minnow, flycatcher and cuckoo.

According to Federal Register/Vol. 78, No. 2/Thursday, January 3, 2013 (Page 346), The flycatcher currently breeds in areas from near sea level to over 2,600 meters (m) (8,500 feet (ft)) in vegetation alongside rivers, streams, or other wetlands (riparian habitat). It establishes nesting territories, builds nests, and forages where mosaics of relatively dense and expansive growths of trees and shrubs are established, near or adjacent to surface water or underlain by saturated soil. No riparian habitat alterations are expected to be associated with reissuance of this permit. The discharge from the facility is required to protect applicable water quality standards, and the discharge itself ensures water will be available to wildlife in the area. EPA has determined reissuance of the permit will not affect the Southwestern Willow Flycatcher.

According to the FWS, Pecos sunflower maybe found in Isleta Pueblo, "Pecos sunflowers are usually found growing in desert wetland areas that contain permanently saturated soils in the root zone. These are most commonly desert springs and seeps that form wet meadows known as ciénegas. They can also occur around the margins of lakes that are usually associated with natural ciénega habitats. The soils of these desert wetlands and riparian areas are typically silty clay or fine sand with high organic content, and are saline or alkaline where waters that are high in dissolved solids and elevated evaporation rates leave depositions of salts. They need sites with low proportions of woody shrubs that provide enough space and light for individual and population growth including germination, pollination, reproduction, and seed banks." EPA does not have any indication the discharge would make negative impact on the plant.

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 reissuance 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 the previous permit issuance which would lead to revision of its determinations.

2. The draft permit is consistent with the State/Tribes WQS and does not increase pollutant loadings.

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

4. The previous permit initiated Formal Consultation with the FWS for the discharge from the facility. EPA provided a Biological Evaluation (BE) to FWS July 30, 2012. The FWS responded to EPA's BE, July 31, 2012, Consultation #02ENNM00-2012-I-0092, concurring with EPA's "may affect, but is not likely to adversely affect" Rio Grande silvery minnow and its critical habitat, or flycatcher because the effects are discountable and insignificant. The current "no effect" determination is based on this environmental baseline.

X. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites since no new construction activities are planned in the reissuance.

XI. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if POIWQS or 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.

XII. VARIANCE REQUESTS

None

XIII. 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.

XIV. FINAL DETERMINATION

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

XV. ADMINISTRATIVE RECORD

The following information was used to develop the draft permit:

A. APPLICATION(s)

EPA Application Forms 2A and 2S were revised and dated July 11, 2024. Additional data were received on August 15, 2024; September 20 & 29, 2024; October 29-30, 2024; November 13, 2024.

B. 40 CFR CITATIONS

Sections 122, 124, 125, 133, 136, 434

C. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, effective June 13, 2024

Total Maximum Daily Load (TMDL) Report for the Middle Rio Grande Watershed, approved by EPA, June 30, 2010

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2024-2026

D. MISCELLANEOUS

“Pueblo of Isleta Water Quality Standards”, Amended March 18,2002, Tribal Resolution 02-064, and approved by EPA July 22, 2005

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico – NMIP, March 15, 2012

NMED emails dated June 26, 2024, September 27, 2024, February 11, 2025

Permittee email dated November 14, 2024