

May 2018
FACT SHEET
Authorization to Discharge under the
National Pollutant Discharge Elimination System
for the
Navajo Tribal Utility Authority – Chinle Wastewater Treatment Lagoon
NPDES Permit No. NN0020265

Applicant address: Navajo Tribal Utility Authority (“NTUA”)
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I. STATUS OF PERMIT

Pursuant to the U.S. Environmental Protection Agency (“U.S. EPA”) regulations set forth in Title 40, Code of Federal Regulations (“CFR”) Part 122.21, the NTUA was issued a National Pollutant Discharge Elimination System (“NPDES”) permit on April 4, 2012, for its Chinle wastewater treatment plant (“WWTP”) in Apache County, Arizona. The permit became effective on May 1, 2012, through midnight April 30, 2017. NTUA applied to U.S. EPA Region 9 for reissuance on September 6, 2016 and updated information dated March 7, 2018. This fact sheet was developed using information provided by the discharger through its permit application, effluent discharge data and compliance updates, and applicable laws and regulations.

Pursuant to Section 402 of the Clean Water Act (“CWA”), the U.S. EPA is proposing issuance of the NPDES permit renewal to NTUA for the discharge of treated domestic wastewater to receiving waters named Nazlini Wash located on the Navajo Nation, a tributary to Chinle Wash, an eventual tributary to San Juan River, all waters of the United States.

II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

1. The proposed permit includes a reduction in the design flow capacity from 0.78 million gallons per day (“MGD”) to 0.45 MGD, and corresponding reduction in mass discharge limits. This is due to NTUA’s change in plant configuration from a 4-cell system to a single cell operation.

2. The proposed permit, though similar to the previous permit issued in 2012, introduces a different calculation for determining compliance with total ammonia. In addition, measurements for temperature are required to be taken concurrently with ammonia and pH measurements.

3. The proposed permit includes a new requirement for submitting DMRs electronically through EPA's NetDMR system.

4. The proposed permit also includes a new requirement for submitting annual biosolids reports electronically using EPA's NPDES Electronic Reporting Tool ("NeT").

5. The proposed permit also includes a new requirement for developing an asset management program (AMP) to cover the treatment plant and collection system.

III. GENERAL DESCRIPTION OF FACILITY

The Chinle WWTP is located in northern Arizona's Apache County on the Navajo reservation, approximately 300 feet east of Highway 191 and 1.8 miles from NTUA's Chinle District Office. The WWTP, a Publicly Owned Treatment Works ("POTW"), serves a population of approximately 4,500 and receives only domestic sewage from homes, schools and commercial businesses. The facility has been classified as a minor discharger.

In operation since the early 1970's, the Chinle WWTP originally had a design flow capacity of 0.78 million gallons per day ("MGD") and included a one-inch bar screen, a grit chamber, four (4) facultative cells operating in series with aeration and gravity flow evaporation system, a 9-inch Parshall flume flow meter, and a chlorine contact chamber for disinfection, followed by sodium sulfite gas injection for de-chlorination. Operating problems and inadequate sludge transfer between the first two cells were first noted by Navajo Nation EPA ("NNEPA") during a compliance evaluation inspection in 2010. Continued operating problems and further plant deterioration eventually led NTUA to take 3 of its cells offline.

The facility is under Administrative Orders on Consent ("AOCs") with USEPA and NNEPA to achieve compliance with the NPDES permit, as discussed in Section V. Effluent Characteristics. Based on information from the permit application, the annual average flow rates were 0.54 MGD, 0.46 MGD and 0.36 MGD in 2015, 2016 and 2017. And maximum daily flow rates were 0.65 MGD, 1.06 MGD and 3.17 MGD for 2015, 2016 and 2017, respectively. The following information is from a report titled "Chinle Lagoon Implementation and Monitoring Scope of Work" provided by the NTUA on October 18, 2017.

2017 DMR Flow Data

Month	Flow Influent MGD (average/max)	Flow Effluent MGD
Jan	0.43/0.46	0.35
Feb	0.41/0.53	0.49
Mar	0.56/0.79	0.39
Apr	0.4/0.6	0.38
May	0.45/0.78	0.37
June	0.5/1.40	0.37

The Chinle WWTP currently consists of a headworks, an aeration system with a total of 165 horsepower (hp) aeration in one cell (3 other cells are taken offline), and an exit works station.

Headworks:

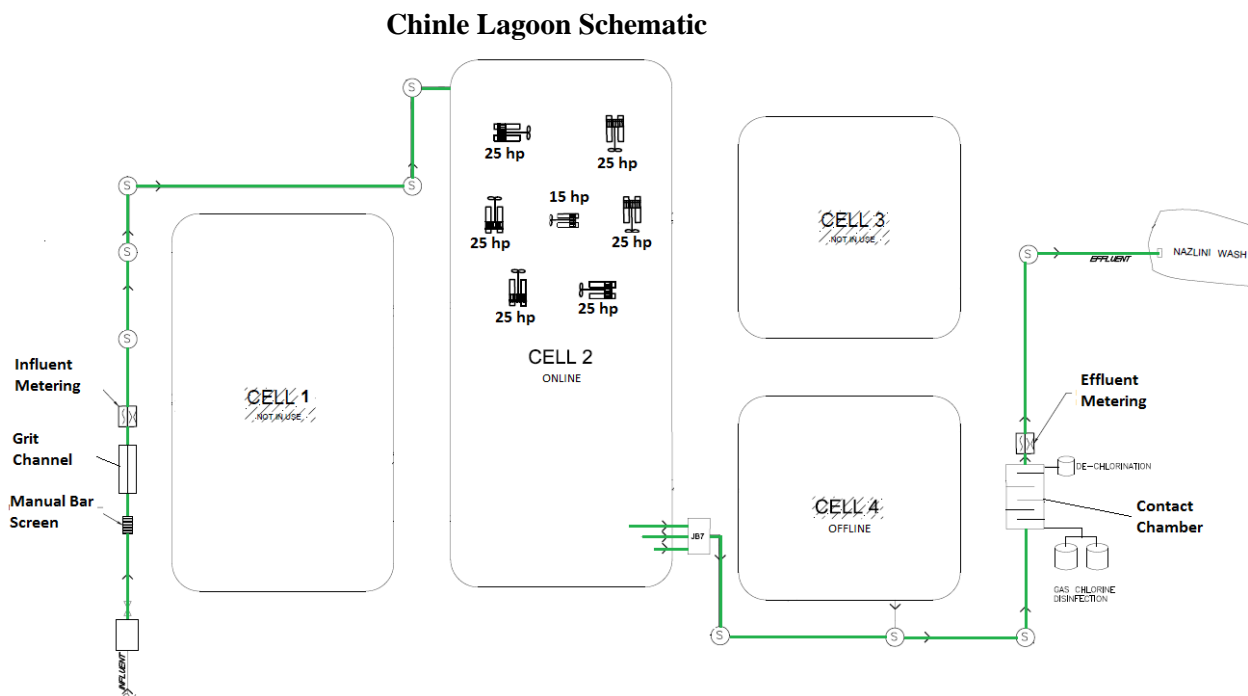
1. Manual Bar Screen- Aluminum bar screen with one inch spacing
2. Grit Channel- Horizontal grit channels
3. Influent Metering- Parshall flume/ultrasonic flow meter

Lagoons:

1. Aeration Pond (Cell 1) – not in use, Sludge Pond
2. Aeration Pond (Cell 2) – online
 - I. Six (6) 25-hp each AIRE-O2 Aerators
 - II. One (1) 15-hp AIRE-O2 Aerator
3. North Facultative Lagoon (Cell 3) – not in use, Sludge Pond
4. South Facility Lagoon (Cell 4) – Offline

Exit Works:

1. Contact Chamber-Chlorination & De-Chlorination with manually injected sodium sulfite gas injector
2. Effluent Metering--Parshall flume/ultrasonic flow meter



NTUA does not allow any septic dumping and there has been no indication of illegal septic dumping at the Chinle facility.

Sludge Disposal

Based on information provided by NTUA on August 18, 2017, the facility has undergone modifications as result of the compliance plan. Cell 1 is used as an offline sludge storage pond.

No additional sludge would be added because the sludge needs to be air dried and stored-in place for 2 years. Thereafter and depending on the paint filter test of the sludge in Cell 1, it can be removed by hauling away or capped in-place.

Cell 3 would be used as an online Sludge Storage pond which would be further evaluated to determine its effectiveness to store sludge, such as its close vicinity to ground water and if it needs to be lined. During the construction of Cell 2, the sand and sludge from Cell 2 was moved and stored in Cell 3.

Compliance Action Plan

Under the current AOCs for this facility, NTUA continues to implement its action plan to undertake necessary plant construction and operational modifications to put cells back in use to expand plant capacity and to address the NPDES permit violations.

IV. DESCRIPTION OF RECEIVING WATER

The discharge of treated domestic wastewater is to the non-perennial Nazlini Wash, a tributary to Chinle Wash, an eventual tributary to San Juan River, all waters of the United States.

V. EFFLUENT CHARACTERISTICS

Review of DMRs from April 2014 through March 2018 showed that the facility had experienced exceedances of limits for 5-day biochemical oxygen demand (“BOD₅”), total suspended solids (“TSS”), *E. coli*, ammonia, and whole effluent toxicity (“WET”), as detailed in Section VII.B.4.

The facility is under AOCs [Docket No. CWA-309(a)-16-013] with USEPA and [Docket No. NNCWA-AOC-2014-001, dated October 28, 2014] with NNEPA to achieve compliance with the NPDES permit. Under the NNEPA’s AOC, NTUA committed to submit a Compliance Plan and develop an Operation and Maintenance Plan to ensure compliance by July 30, 2016.

On December 15, 2016, NNEPA conducted a compliance evaluation inspection at the facility and noted the facility had undergone construction from a four-cell facultative system operation to a one-cell system. New piping was installed to direct flows from the headworks to a newly-lined Cell 2, which was now a primary cell. Seven (7) new stationary aerators were also added to Cell 2. In addition, a new electrical system was installed including a backup generator. Cell 1 was found to be filled more than half full in sludge and would be taken off line and used as a sludge storage pond, or backfilled as a landfill. The piping that linked Cell 1 to Cell 2 was removed, along with the piping that connected Cell 2 to Cell 3 and Cell 4. At the time of the inspection, it was reported that some of the excavation material from Cell 2 had been placed in Cell 4. It appeared that the cell was being backfilled, in addition, the inspector observed some large pieces of concrete debris in the cell. NTUA staff reported that the headworks had overflowed in November 2017 and influent flowed along the ground north of the grit chamber but did not leave the facility boundary.

VI. BASIS OF PROPOSED PERMIT REQUIREMENTS

Section 301(a) of the Clean Water Act (“CWA”) provides that the discharge of any pollutant to waters of the United States is unlawful except in accordance with a National Pollutant Discharge Elimination System (“NPDES”) permit. Section 402 of the Act establishes the NPDES program. The program is designed to limit the discharge of pollutants into waters of the United States from point sources [40 CFR 122.1(b)(1)] through a combination of various requirements including technology-based and water quality-based effluent limitations.

Sections 402 and 301(b)(1)(C) of the CWA require that the permit contain effluent limitations to meet water quality standards. Specifically, the regulation under 40 CFR 122.44(d) states that an NPDES permit must contain:

“Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under Sections 301, 304, 306, 307, 318 and 405 of CWA necessary to:

(1) *Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.”*

Section 40 CFR 122.44(d)(i) states the following:

“Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

A. Navajo Nation Surface Water Quality Standards

In accordance with 40 CFR 122.44(d), the need for discharge limitations for all pollutants that may impact applicable water quality criteria and water quality standards must be evaluated. As part of this evaluation, discharge limitations are based on applicable water quality standards. U.S. EPA approved the 1999 Navajo Nation Surface Water Quality Standards (“NNSWQS”), on March 23, 2006. The NNSWQS were revised in 2007 and approved by U.S. EPA on March 26, 2009. A 2015 *draft* NNSWQS revision has been under review by U.S. EPA. The approved 1999 NNSWQS, the 2007 revisions and the 2015 *draft* will be used on a best professional judgment (“BPJ”) basis for purposes of developing water quality based effluent limitations. The requirements contained in the proposed permit are necessary to prevent violations of applicable water quality standards.

B. Applicable Technology-Based Effluent Limitations, Water Quality-Based Effluent Limitations (“WQBELs”) and BPJ

Technology-based effluent limitations require minimum levels of treatment based on currently available treatment technologies. Section 301 of the CWA established a required performance level, referred to as “secondary treatment”, that all POTWs were required to meet by July 1, 1977. Federal secondary treatment effluent standards for POTWs are contained in Section 301(b)(1)(B) of the CWA. Implementing regulations for Section 301(b)(1)(B) are found at 40

CFR Part 133. The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. These technology-based effluent limits apply to all municipal wastewater treatment plants, and identify the minimum level of effluent quality attainable by secondary treatment in terms of Five-Day Biochemical Oxygen Demand (“BOD₅”) and Total Suspended Solids (“TSS”). The requirements contained in the draft permit are necessary to prevent violations of applicable treatment standards.

VII. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

Typical pollutants of concern in untreated and treated domestic wastewater include ammonia nitrate, oxygen demand, pathogens, temperature, pH, oil and grease, and solids. US EPA proposes the following provisions and effluent discharge limitations for flow, BOD₅, TSS, *E. coli*, total dissolved solids (“TDS”), TRC and ammonia taken concurrent with temperature and pH measurements. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge by prior to entry into the receiving water.

A. Federal Secondary Treatment Effluent Discharge Limitations

The proposed permit contains discharge limitations for BOD₅, TSS and priority toxic pollutants. For both BOD₅ and TSS, the arithmetic means of values, by weight, for effluent samples collected in a period of 30 consecutive calendar days cannot exceed 35 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same times during the same period.

Discharge Limitations					
Discharge Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Monitoring Frequency
Flow ¹	MGD.	-- ²	n/a	-- ²	Instantaneous
BOD ₅ ³	mg/l	45	65	--	Monthly
	kg/day	39	57	--	
TSS ⁴	mg/l	90	135	--	Monthly
	kg/day	78	118	--	
Priority Pollutants ⁵	µg/l	-- ²	n/a	-- ²	Once/1 st Quarter during Year 1

NOTES:

1. No flow limit is set at this time but influent and effluent flows must be monitored and reported. The monitoring frequency is once/month.
2. Monitoring and reporting required. No limitation is set at this time.
3. Under 40 CFR Section 133.105, the discharge limits for BOD₅ shall not exceed a monthly average of 45 mg/l and a weekly average of 65 mg/l. The mass limits are calculated based upon the new 0.45 MGD design flow capacity.
4. Under 40 CFR Section, 122.45(f), the discharge limits for TSS shall not exceed a monthly average

of 90 mg/l and a weekly average of 135 mg/l. These limitations (Alternative State Requirements) are consistent with 40 CFR 133.101(f), 133.103(c), 133.105(b) and (d). The mass limits are calculated based upon the 0.45 MGD design flow capacity.

5. Priority Pollutants: During Year 1 of the permit, the permittee shall monitor for the full list of priority pollutants in the Code of Federal Register (CFR) at 40 CFR Part 423, Appendix A. No limit is set at this time. Should the results reveal levels below the Navajo Nation Surface Water Quality Standards and EPA's National Water Quality Criteria for priority pollutants, monitoring will no longer be required for the remainder of the permit cycle.

B. Water Quality Based Effluent Limitations ("WQBELs")

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

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

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

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

The 2015 NNSWQS and 2015 established water quality criteria for the following beneficial uses (Nazlini Wash, ephemeral reaches) are defined by the NNSWQS as secondary human contact, aquatic and wildlife, and livestock watering (Table 206.1, page 42).

2. Dilution in the receiving water

Discharge from Outfall No. 001 is to Nazlini Wash that is a tributary to the Chinle Wash, a tributary to the San Juan River. The Nazlini Wash may have no natural flow most times of the year. Therefore, no dilution of the effluent has been considered in the development of WQBELs applicable to discharge.

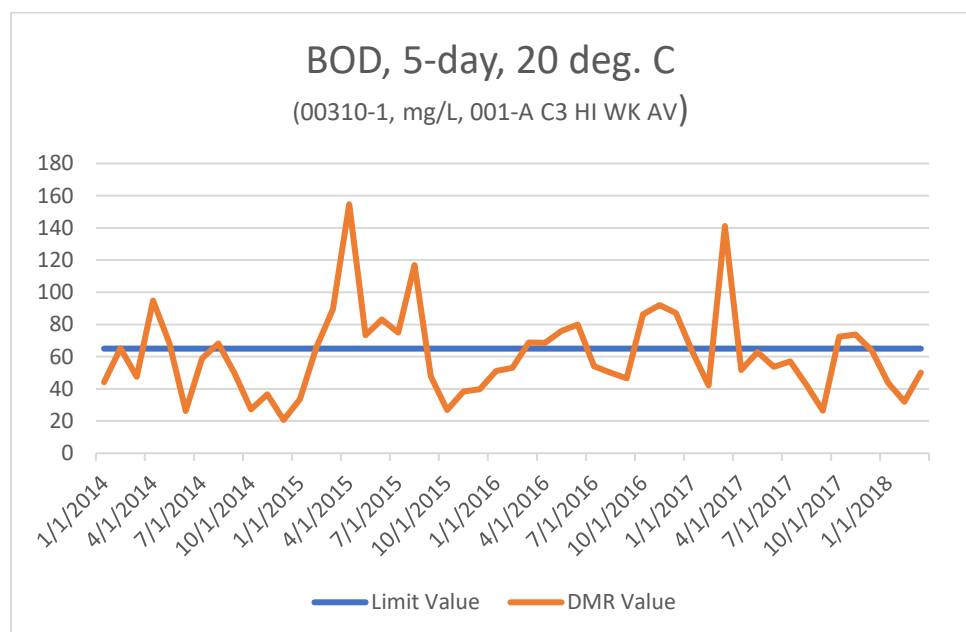
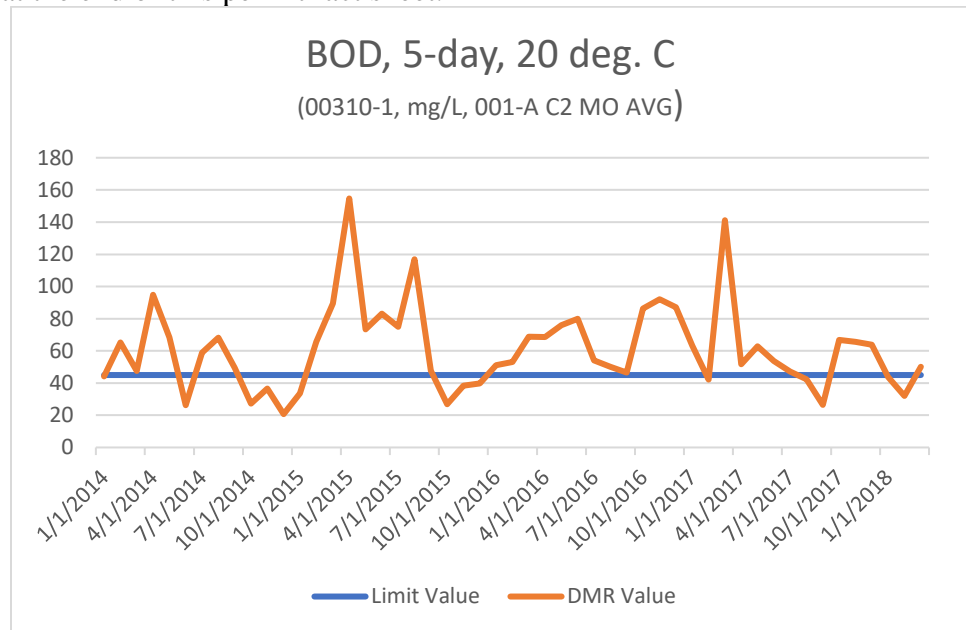
3. Type of industry

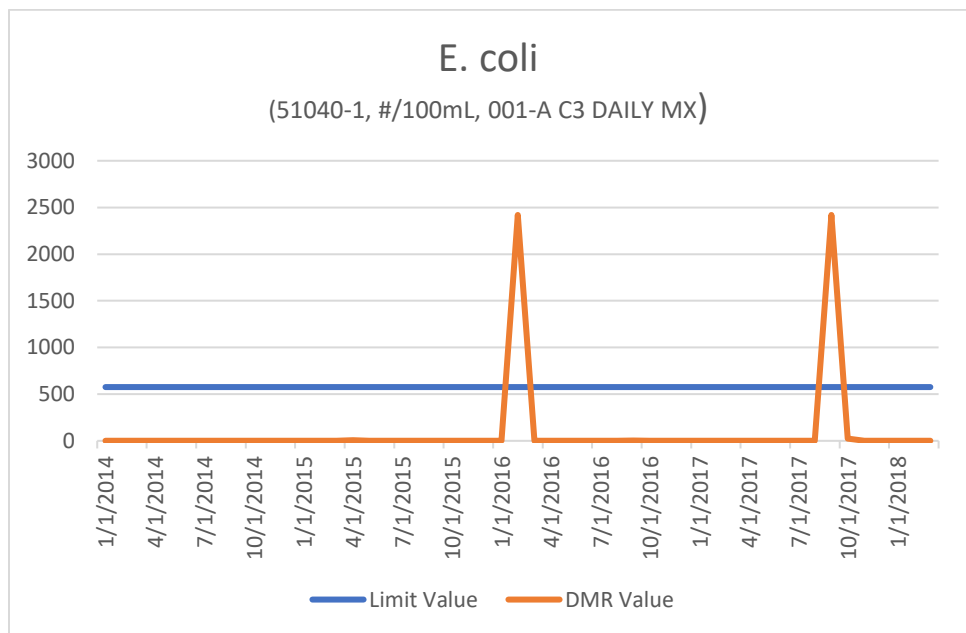
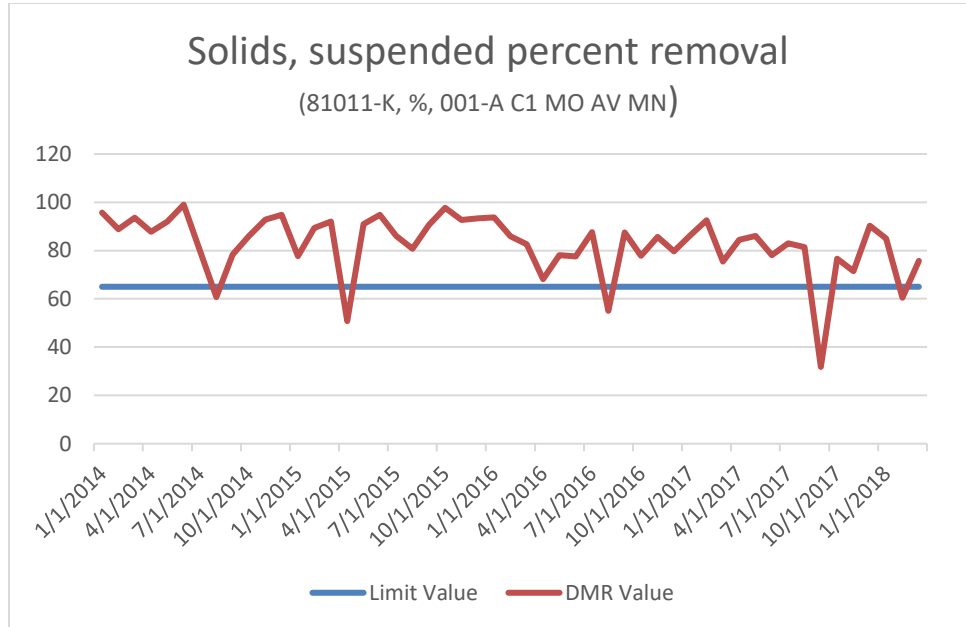
Typical pollutants of concern in untreated and treated domestic wastewater include ammonia nitrate, oxygen demand, pathogens, temperature, pH, oil and grease, and solids.

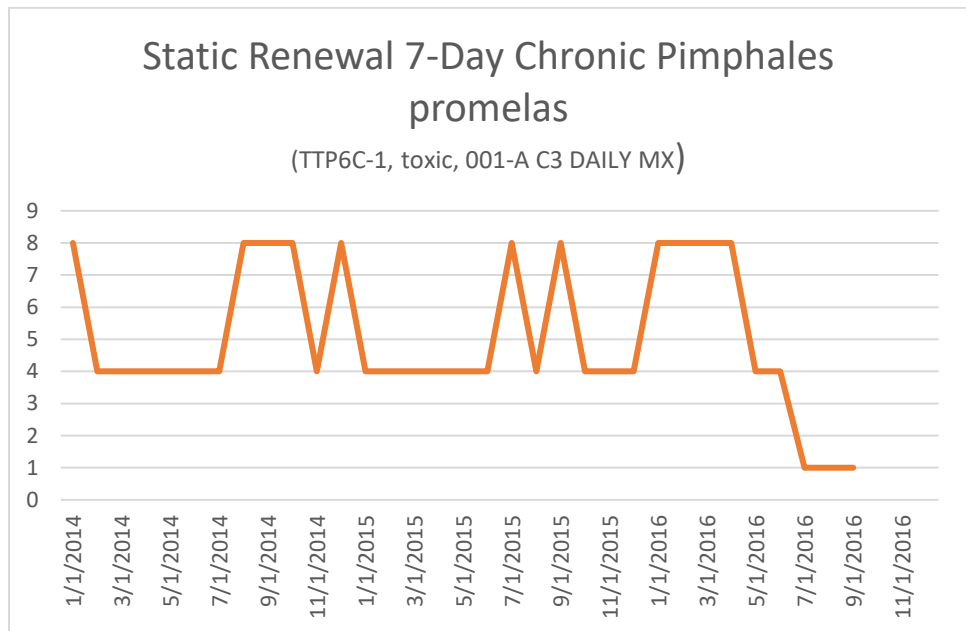
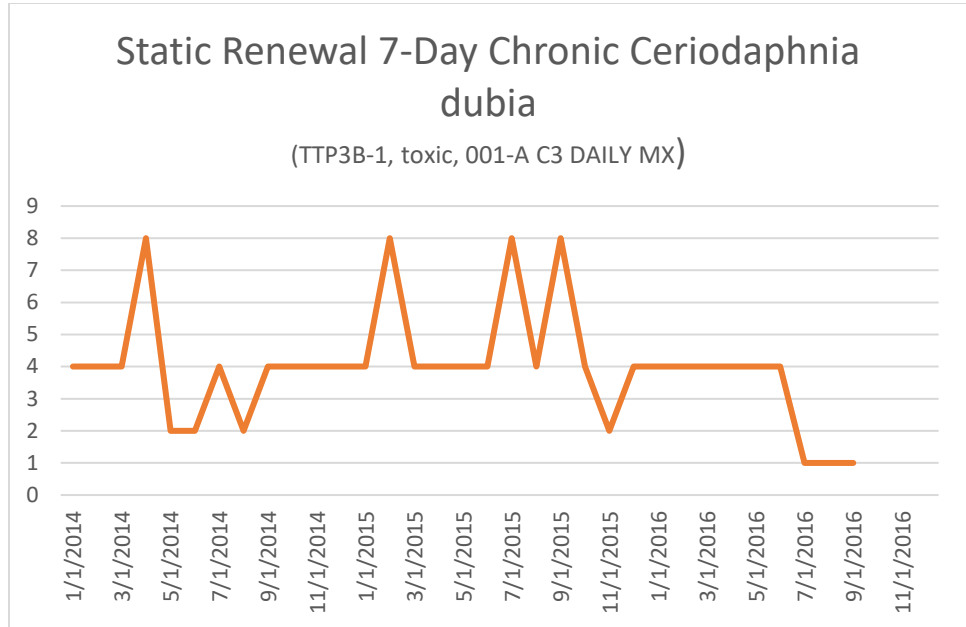
Chlorine is of concern when using for disinfection, and therefore dechlorination is necessary to minimize impact on WQBELs.

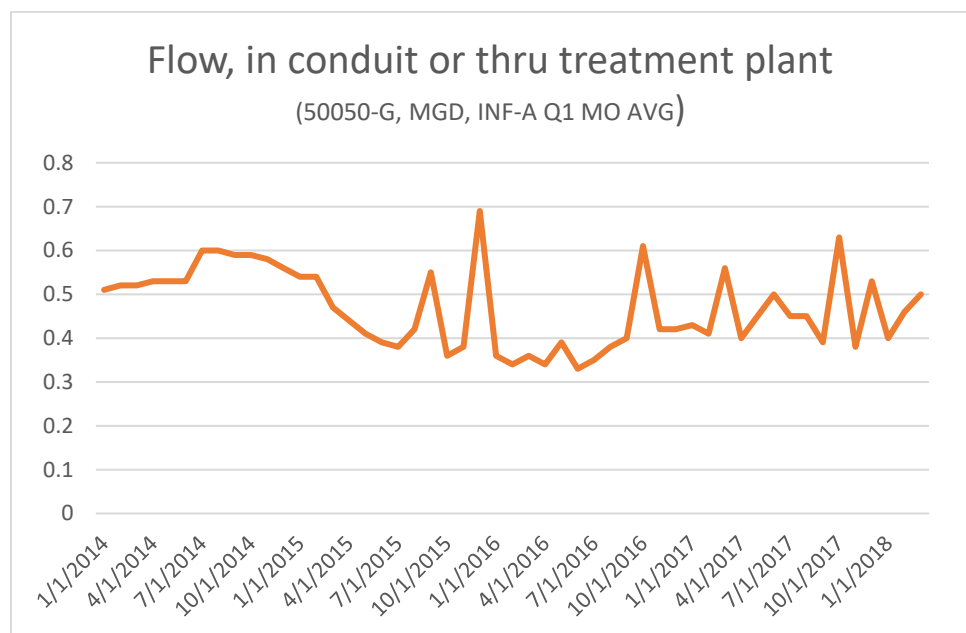
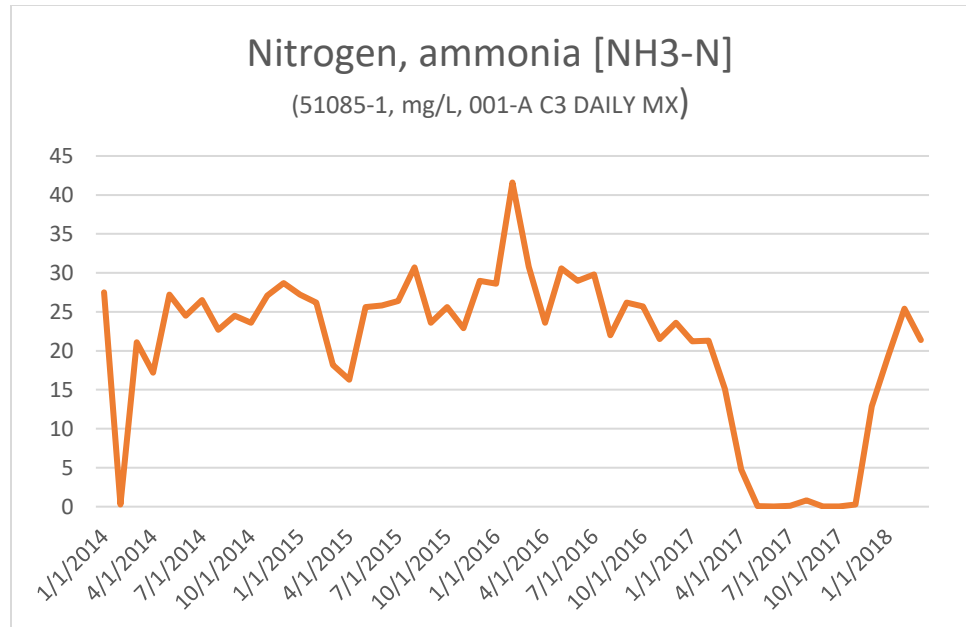
4. History of compliance problems and toxic impacts

Review of April 2014 to March 2018 DMR data showed numerous exceedances of effluent limits for BOD₅ and Whole Effluent Toxicity, and occasional exceedances of limits for TSS and *E. coli* and TSS percent (%) removal efficiencies. Total ammonia (as nitrogen) and monthly average flow monitoring data were also reviewed during this permit cycle. Moreover, reports were often submitted late, 20 to 56 days or more. A tabulation of DMR violations is attached at the end of this permit fact sheet.









5. Existing data on toxic pollutants - Reasonable Potential analysis

The permittee did not provide expanded effluent testing data for the facility's treated wastewater discharge as part of the application for permit renewal. But a priority pollutant scan was performed during the last quarter of 2016 calendar year. The permit will continue requirements for monitoring, including WET testing, and EPA will continue to evaluate monitoring results to determine if additional effluent limitations are required in the future.

C. Rationale for WOBELs

Pursuant to the narrative surface water quality standards (Section 202 of 2007 NNSWQS and Section 203 of 2015 NNSWQS *draft* revisions), the discharge shall be free from pollutants in amounts or combinations that cause solids, oil, grease, foam, scum, or any other form of objectionable floating debris on the surface of the water body; may cause a film or iridescent appearance on the surface of the water body; or that may cause a deposit on a shoreline, on a bank, or on aquatic vegetation.

1. Determination of Effluent Limitation for *E. coli*

Presence of pathogens in untreated and treated domestic wastewater indicates that there is a reasonable potential for *E. coli* bacteria levels in the effluent to cause or contribute to an excursion above the water quality standards. In the proposed permit, the monthly geometric mean shall not exceed 126/100 ml as a monthly average and 575/100 ml as a single sample maximum. These limits are based on the NNSWQS for secondary human contact (p. 20). The monitoring frequency is once per month, consistent with the previous permit.

2. Total Dissolved Solids (TDS)

Presence of solids in untreated and treated domestic wastewater indicates that there is a reasonable potential for TDS levels in the effluent to cause or contribute to an excursion above the WQS. The regulations at 40 CFR 122.44(i) allow requirements for monitoring as determined to be necessary. The monitoring frequency is once per quarter, consistent with the previous permit.

3. Total Residual Chlorine (TRC)

Chlorination for disinfection purposes indicates that there is reasonable potential for TRC levels in the effluent to cause or contribute to an excursion above the WQS. Therefore, a TRC limit of 11 µg/l has been established in the proposed permit to protect the beneficial uses of the receiving waters. The monitoring frequency is once per month, consistent with the previous permit.

4. Ammonia (as N) and Ammonia Impact Ratio (“AIR”)

Presence of ammonia in untreated and treated domestic wastewater indicates that there is a reasonable potential for levels in the effluent to cause or contribute to an excursion above the water quality standards. In accordance with the NNSWQS for protection of aquatic and wildlife habitat, the proposed permit contains effluent limitations for total ammonia. The ammonia limits are temperature and pH dependent and are listed in Table 207.20 and Table 207.21 (pages 67-68) of the *draft* 2015 NNSWQS revisions. They are also provided as Attachments B and C of the permit. The monitoring frequency is once per month, consistent with the previous permit.

Because ammonia criteria are pH and temperature-dependent, the permittee is required to calculate an AIR. The AIR is calculated as the ratio of the ammonia value in the

effluent and the applicable ammonia standards as determined by using pH data to derive an appropriate value from the ammonia criteria table in Attachment D of the permit. The AIR limitation has been established as a monthly average of 1.0, equivalent to the standard. The permittee is required to report maximum daily and average monthly ammonia (as N) concentrations in addition to an average monthly AIR.

5. pH

Untreated and treated domestic wastewater could be contaminated with substance that affects the pH. Therefore, there is a reasonable potential for pH levels in the effluent to cause or contribute to an excursion above the water quality standards. In order to ensure adequate protection of beneficial uses of the receiving water, a maximum pH limit of 9.0 and a minimum limit of 6.5 S.U. are established in Section 206.C. of 2007 NNSWQS and Section 207 of the *draft* 2015 NNSWQS revisions. The monitoring frequency is once per month, consistent with the previous permit. In order to support the Navajo Nation's established Ammonia standards, which vary with the pH of the effluent, pH monitoring is to be performed concurrently with ammonia and temperature measurements.

6. Temperature

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

7. Whole Effluent Toxicity (WET)

It is U.S. EPA Region 9's policy that all continuous dischargers be required to perform WET testing. WET testing is intended to demonstrate that the discharge to the receiving water is not toxic, and to prompt a response if toxicity is detected. The proposed permit therefore requires chronic toxicity testing to be conducted **monthly** using a 24-hour composite sample of the treated effluent for Fathead minnow (*Pimephales promela*), Daphnid (*Ceriodaphnia dubia*) and an alga species (*Selenastrum capricornutum*). This requirement is consistent with the previous permit. Additionally, the DMR data indicates that chronic toxicity may be present in the effluent. If no toxicity is found in the test results during the first 12 monthly test results, the testing frequency may be reduced to a quarterly basis thereafter.

VIII. REPORTING

The proposed permit requires discharge data obtained during the previous three months to be summarized on monthly DMR forms and reported quarterly. If there is no discharge for the month, report "C" in the No Discharge box on the DMR form for that month. The proposed permit includes a new requirement for electronically submitting compliance monitoring data by July 28, 2016, using the electronic reporting tools (NetDMR) provided by EPA Region 9. These reports are due January 28, April 28, July 28, and October 28 of each year. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the U.S. EPA and the Navajo Nation EPA.

IX. GENERAL STANDARDS

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

X. PERMIT REOPENERS

A. At this time, there is no reasonable potential to establish any other water quality-based limits. Should any monitoring indicate that the discharge causes, has the reasonable potential to cause, or contributes to excursion above a water quality criterion, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. The proposed permit may be modified, in accordance with 40 CFR 122 and 124, to include appropriate conditions or effluent limits, monitoring, or other conditions to implement new regulations, including U.S. EPA-approved new Tribal water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedences of water quality standards.

B. In accordance with 40 CFR 122.44(c), EPA may promptly modify or revoke and reissue any permit issued to a treatment works treating domestic sewage (including “sludge only facilities”) to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA, if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

XI. SEWAGE SLUDGE REQUIREMENTS

Standard requirements for the monitoring, reporting, recordkeeping, and handling of sewage sludge are incorporated into the proposed permit, in accordance with 40 CFR 258 (for sewage sludge sent to a municipal landfill) and 40 CFR Part 503 (for sewage sludge placed in a sewage sludge-only surface disposal site, land applied as fertilizer, used in land reclamation, or incinerated). The permittee is required to submit annual sludge reports using EPA’s NPDES Electronic Reporting Tool (“NeT”) by February 19th of the following year. The permit also includes a requirement for submitting a report 120 days prior to disposal of sewage sludge.

XII. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Anti-Degradation

USEPA’s antidegradation policy at 40 CFR Section 131.12 and the NNSWQS require that existing water uses and level of water quality necessary to protect the existing uses be maintained. As described in this fact sheet, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone; therefore, these limits will apply at the end of the pipe without consideration of dilution in the receiving water. Therefore, due to the low levels of toxic pollutants present in the effluent, the high level of treatment being obtained, and water quality-based effluent limitations, it is not expected that the discharge will adversely affect receiving water bodies.

B. Anti-Backsliding

Section 402(o) of the CWA prohibits the renewal or reissuance of an NPDES permit that contains effluent limits less stringent than those established in the previous permit, except as provided in the statute. The proposed permit is a renewal and therefore does not allow backsliding.

C. Threatened and Endangered Species and Critical Habitat

1. Background:

Section 7 of the Endangered Species Act (ESA) of 1973 requires Federal agencies such as EPA to ensure, in consultation with the U.S. Fish and Wildlife Service (FWS), that any actions authorized, funded or carried out by the Agency are not likely to jeopardize the continued existence of any Federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species.

Since the issuance of NPDES permits by U.S. EPA is a Federal action, consideration of a permitted discharge and its effect on any listed species is appropriate. The proposed NPDES permit authorizes the discharge of treated domestic wastewater into the Nazlini Wash, a tributary to Chinle Wash, an eventual tributary of the San Juan River, a water of the United States. The information below is listed in the Navajo Nation's Department of Fish & Wildlife Natural Heritage Program ("NHP") database, <http://www.nndfw.org>. The FWS has deferred all of its survey and information collection on the Navajo reservation to the Navajo Nation NHP.

Based on information provided by the Navajo NHP on February 24, 2017 in response to NNEPA's request for species listing, NHP identified no federally-listed endangered or threatened species that are known to occur on or near the project site. For species of concern with potential to occur on the 7.5-minute Chinle, Arizona quadrangle containing the project boundary, NHP identified Northern Leopard Frog (*Lithobates Pippiens* or LIPI) to be a Navajo endangered species.

2. EPA's Finding:

This permit authorizes the discharge of treated wastewater in conformance with the federal secondary treatment regulations and the NNSWQS. These standards are applied in the permit both as numeric and narrative limits. The standards are designed to protect aquatic species, including threatened and endangered species, and any discharge in compliance with these standards should not adversely impact any threatened and endangered species.

U.S. EPA believes that effluent released in compliance with this permit will have no effect on any federally-listed threatened or endangered species or its critical habitat that may be present in the vicinity of the discharge. The treatment facility has been in existence for some time, and no new construction or modifications will be made to it due to the proposed NPDES permit. Therefore, no requirements specific to the protection of endangered species are proposed in the permit.

D. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to activity authorized by this NPDES permit no new construction or disturbance of land is anticipated. Therefore, pursuant to the NHPA and 36 CFR §800.3(a)(1), U.S. EPA is making a determination that issuing this proposed NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require U.S. EPA to undertake additional consulting on this permit issuance.

E. Consideration of Environmental Justice (EJ) Impact

EPA conducted a screening level evaluation of vulnerabilities in the community posed to local residents near the vicinity of the permitted Chinle wastewater treatment facility using EPA’s EJSCREEN tool. The purpose of the screening is to identify areas disproportionately burdened by pollutant loadings and to consider demographic characteristics of the population living in the vicinity of the discharge when drafting permit conditions.

On May 10, 2018, EPA conducted an EJSCREEN analysis of the community near the vicinity of the outfall. Of the 11 environmental indicators screened through EJSCREEN, the evaluation determined elevated risk for the following factors:

Selected Variables	Percentile in State	Percentile in EPA Region	Percentile in USA
EJ Indexes			
EJ Index for Particulate Matter (PM 2.5)	79	61	80
EJ Index for Ozone	89	86	95
EJ Index for NATA* Diesel PM	55	40	61
EJ Index for NATA* Air Toxics Cancer Risk	73	61	79
EJ Index for NATA* Respiratory Hazard Index	64	47	68
EJ Index for Traffic Proximity and Volume	73	50	71
EJ Index for Lead Paint Indicator	83	65	78
EJ Index for Superfund Proximity	63	48	69
EJ Index for RMP Proximity	56	38	61
EJ Index for Hazardous Waste Proximity	67	47	69
EJ Index for Wastewater Discharge Indicator	N/A	73	76

The results showed that, at the time of this analysis conducted, the area in which the Chinle facility is located were 73rd percentile nationally for wastewater discharge indicator. The EJSCREEN analysis of demographic characteristics of the community living near the facility indicates the local population may be at relatively higher risk if exposed to environmental contaminants than the national population. Demographic characteristics that showed potentially sensitive scores were a high proportion of minority and low-income population.

EPA also considers the characteristics of the wastewater treatment facility operation and discharges, and whether those discharges pose exposure risks that the NPDES permit needs to further address. EPA found no evidence to indicate the treatment facility discharge poses

a significant risk to local residents. EPA concludes that the facility is unlikely to contribute to any EJ issues. Furthermore, EPA believes that by implementing and requiring compliance with the provisions of the Clean Water Act, which are designed to ensure full protection of human health, the permit is sufficient to ensure the effluent discharges do not cause or contribute to human health risk in the vicinity of the facility.

F. Asset Management

40 CFR 122.41(e) requires permittees to properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Asset management planning provides a framework for setting and operating quality assurance procedures and ensuring the permittee has sufficient financial and technical resources to continually maintain a targeted level of service. The proposed NPDES permit establishes asset management requirements to ensure compliance with the provisions of 40 CFR 122.41(e).

G. Impact to Coastal Zones

The Coastal Zone Management Act (“CZMA”) requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

The proposed permit does not affect land or water use in the coastal zone.

H. Impact to Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (“MSA”) set forth a number of new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat (“EFH”).

The proposed permit contains technology-based effluent limits and numerical and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses. The proposed permit does not allow direct discharge to areas of essential fish habitat. Therefore, EPA has determined that the proposed permit will not adversely affect essential fish habitat.

XI. STANDARD CONDITIONS

A. Reopener Provision

At this time, there is no reasonable potential to establish any other water quality based limits. Should any monitoring indicate that the discharge causes, has the reasonable potential to cause, or contributes to excursion above a water quality criterion, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

B. Standard Provisions

The permit requires the permittee to comply with EPA Region 9 “Standard Federal NPDES Permit Conditions”, included in the permit as Attachment A.

XII. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR 124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application.

B. Public Comment Period (40 CFR 124.10)

Notice of the draft permit was placed on EPA Region 9 website at: <https://www.epa.gov/aboutepa/public-notice-meetings-and-events-pacific-southwest>, with a minimum of 30 days provided for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the final permit issuance.

C. Public Hearing (40 CFR 124.12(c))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

D. Water Quality Certification Requirements (40 CFR 124.53 and 124.54)

For States, Territories, or Tribes with EPA approved water quality standards, EPA is requesting certification from the affected State, Territory, or Tribe that the proposed permit will

meet all applicable water quality standards. Certification under section 401 of the CWA shall be in writing and shall include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Territory law.

XIII. CONTACT INFORMATION

Comments, submittals, and additional information relating to this proposal may be directed to:

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XIV. REFERENCES

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water, EPA. EPA/505/2-90-001.

EPA. 1996. *Regions IX & X Guidance for Implementing Whole Effluent Toxicity Testing Programs*, Interim Final, May 31, 1996.

EPA. 2015. *National Recommended Water Quality Criteria*. Office of Water, EPA. Human Health Criteria Table. <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>

EPA. 2010. *U.S. EPA NPDES Permit Writers' Manual*. Office of Water, EPA. EPA-833-K-10-001.

Navajo Nation Surface Water Quality Standards 1999 ("NNSWQS"), approved by U.S. EPA on March 23, 2006.

NNSWQS revisions 2007, approved by U.S. EPA on March 26, 2009.

Draft NNSWQS revisions 2015, under review by U.S. EPA.

NTUA's "Chinle Lagoon Implementation and Monitoring Scope of Work" submitted to EPA on October 18, 2017

Compliance Review of April 2014 to March 2018 DMR

DATE	PARAMETER	LIMIT	RESULT	UNIT
April 2014	BOD ₅ , monthly average, loading	132	151.9	kg/l
April 2014	BOD ₅ , monthly average, concentration	45	94.8	mg/l
April 2014	BOD ₅ , weekly average, concentration	65	94.8	mg/l
April 2014	TSS, monthly average, concentration	90	115.0	mg/l
April 2014	WET, ceriodaphnia dubia	1.0	8.0 (Fail)	TUC
April 2014	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
May 2014	BOD ₅ , monthly average, concentration	45	68.4	mg/l
May 2014	BOD ₅ , weekly average, concentration	65	68.4	mg/l
May 2014	WET, ceriodaphnia dubia	1.0	2.0 (Fail)	TUC
May 2014	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
June 2014	WET, ceriodaphnia dubia	1.0	2.0 (Fail)	TUC
June 2014	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
July 2014	BOD ₅ , monthly average, concentration	45	58.8	mg/l
July 2014	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
July 2014	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
August 2014	BOD ₅ , monthly average, loading	132	190.3	kg/l
August 2014	BOD ₅ , monthly average, concentration	45	68.2	mg/l
August 2014	BOD ₅ , weekly average, concentration	65	68.2	mg/l
August 2014	TSS, monthly average, concentration	90	110.0	mg/l
August 2014	TSS, percent removal	65	60.7	%
August 2014	WET, ceriodaphnia dubia	1.0	2.0 (Fail)	TUC
August 2014	WET, pimphales promelas	1.0	8.0 (Fail)	TUC
September 2014	BOD ₅ , monthly average, concentration	45	49.5	mg/l
September 2014	TSS, monthly average, concentration	90	125.0	mg/l
September 2014	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
September 2014	WET, pimphales promelas	1.0	8.0 (Fail)	#/100 ml
October 2014	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
October 2014	WET, pimphales promelas	1.0	8.0 (Fail)	TUC
November 2014	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
November 2014	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
December 2014	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
December 2014	WET, pimphales promelas	1.0	8.0 (Fail)	TUC
January 2015	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
January 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC

February 2015	BOD ₅ , monthly average, concentration.	45	65.6	mg/l
February 2015	BOD ₅ , weekly average, concentration	65	65.6	mg/l
February 2015	WET, ceriodaphnia dubia	1.0	8.0 (Fail)	TUC
February 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
March 2015	BOD ₅ , monthly average, loading	132	172.5	kg/l
March 2015	BOD ₅ , monthly average, concentration	45	89.5	mg/l
March 2015	BOD ₅ , weekly average, concentration.	65	89.5	mg/l
March 2015	BOD ₅ , monthly average, loading	132	172.5	kg/day
March 2015	TSS, monthly average, concentration	90	124.0	mg/l
March 2015	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
March 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
April 2015	BOD ₅ , monthly average, loading	132	204.7	kg/l
April 2015	BOD ₅ , monthly average, concentration	45	154.7	mg/l
April 2015	BOD ₅ , weekly average, loading	191	207.6	kg/l
April 2015	BOD ₅ , percent removal	65	63.4	%
April 2015	TSS, weekly average, concentration	135	180	mg/l
April 2015	TSS, percent removal	65	50.8	%
April 2015	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
April 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
May 2015	BOD ₅ , monthly average, concentration	45	73.3	mg/l
May 2015	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
May 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
June 2015	BOD ₅ , monthly average, concentration	45	83.2	mg/l
June 2015	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
June 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
July 2015	BOD ₅ , monthly average, concentration	45	75.0	mg/l
July 2015	BOD ₅ , weekly average, concentration	65	75.0	mg/l
July 2015	WET, ceriodaphnia dubia	1.0	8.0 (Fail)	TUC
July 2015	WET, pimphales promelas	1.0	8.0 (Fail)	TUC
August 2015	BOD ₅ , monthly average, loading	132	150.4	kg/day
August 2015	BOD ₅ , monthly average, concentration	45	117.0	mg/l
August 2015	BOD ₅ , weekly average, concentration	65	117	mg/l
August 2015	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
August 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
September 2015	BOD ₅ , monthly average, concentration	45	47.7	mg/l
September 2015	WET, ceriodaphnia dubia	1.0	8.0 (Fail)	TUC

September 2015	WET, pimphales promelas	1.0	8.0 (Fail)	TUC
October 2015	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
October 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
November 2015	WET, ceriodaphnia dubia	1.0	2.0 (Fail)	TUC
November 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
December 2015	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
December 2015	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
January 2016	BOD ₅ , monthly average, concentration	45	51.2	mg/l
January 2016	Ammonia, acute	12.1	28.6	mg/l
January 2016	Ammonia, chronic	3.18	28.6	mg/l
January 2016	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
January 2016	WET, pimphales promelas	1.0	8.0 (Fail)	TUC
February 2016	BOD ₅ , monthly average, concentration	45	53.1	mg/l
February 2016	<i>E. coli</i> , geometric mean	126	>2419.6	#/100ml
February 2016	<i>E. coli</i> , daily maximum	576	>2419.6	#/100ml
February 2016	Ammonia, acute	17.0	41.6	mg/l
February 2016	Ammonia, chronic	3.98	41.6	mg/l
February 2016	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
February 2016	WET, pimphales promelas	1.0	8.0 (Fail)	TUC
March 2016	BOD ₅ , monthly average, concentration	45	68.8	mg/l
March 2016	BOD ₅ , high weekly avg., concentration	65	68.8	mg/l
March 2016	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
March 2016	WET, pimphales promelas	1.0	8.0 (Fail)	TUC
April 2016	BOD ₅ , monthly average, concentration	45	68.6	mg/l
April 2016	BOD ₅ , high weekly avg., concentration	65	68.6	mg/l
April 2016	TSS, monthly average, concentration	90	101.0	mg/l
April 2016	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
April 2016	WET, pimphales promelas	1.0	8.0 (Fail)	TUC
May 2016	BOD ₅ , monthly average, concentration	45	75.9	mg/l
May 2016	BOD ₅ , high weekly avg., concentration	65	75.9	mg/l
May 2016	TSS, monthly average, concentration	90	93.3	mg/l
May 2016	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC
May 2016	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
June 2016	BOD ₅ , monthly average, concentration	45	80.0	mg/l
June 2016	BOD ₅ , high weekly avg., concentration	65	80.0	mg/l
June 2016	WET, ceriodaphnia dubia	1.0	4.0 (Fail)	TUC

June 2016	WET, pimphales promelas	1.0	4.0 (Fail)	TUC
July 2016	BOD ₅ , monthly average, concentration	45	54.0	mg/l
August 2016	BOD ₅ , monthly average, concentration	45	50.1	mg/l
August 2016	TSS, monthly average, concentration	90	92.8	mg/l
August 2016	TSS, percent removal	>65	55	%
September 2016	BOD ₅ , monthly average, concentration	45	46.5	mg/l
October 2016	BOD ₅ , monthly average, concentration	45	86.3	mg/l
October 2016	BOD ₅ , high weekly avg., concentration	65	86.6	mg/l
October 2016	TSS, monthly average, concentration	90	127	mg/l
October 2016	Ammonia, acute	12.1	25.7	mg/l
October 2016	Ammonia, chronic	3.18	25.7	mg/l
November 2016	BOD ₅ , monthly average, concentration	45	92	mg/l
November 2016	BOD ₅ , high weekly avg., concentration	65	92	mg/l
November 2016	TSS, monthly average, concentration	90	109	mg/l
November 2016	Ammonia, acute	10.1	21.5	mg/l
November 2016	Ammonia, chronic	2.80	21.5	mg/l
December 2016	BOD ₅ , monthly average, concentration	45	87	mg/l
December 2016	BOD ₅ , high weekly avg., concentration	65	87	mg/l
December 2016	Ammonia, acute	12.1	23.6	mg/l
December 2016	Ammonia, chronic	3.18	23.6	mg/l
January 2017	BOD ₅ , monthly average, concentration	45	63.3	mg/l
January 2017	Ammonia, acute	14.4	21.2	mg/l
January 2017	Ammonia, chronic	3.58	21.2	mg/l
February 2017	Ammonia, acute	12.1	21.3	mg/l
February 2017	Ammonia, chronic	3.18	21.3	mg/l
March 2017	BOD ₅ , monthly average, loading	132	176.1	mg/l
March 2017	BOD ₅ , high weekly avg., loading	191	206.2	mg/l
March 2017	BOD ₅ , monthly average, concentration	45	141.2	mg/l
March 2017	BOD ₅ , high weekly avg., concentration	65	141.2	mg/l
March 2017	TSS, monthly average, concentration	90	110	mg/l
March 2017	Ammonia, chronic	4.36	15.1	mg/l
April 2017	BOD ₅ , monthly average, concentration	45	51.8	mg/l
April 2017	Ammonia, chronic	3.58	4.75	mg/l
May 2017	BOD ₅ , monthly average, concentration	45	62.9	mg/l
May 2017	TSS, monthly average, concentration	90	98.6	mg/l
June 2017	BOD ₅ , monthly average, concentration	45	53.7	mg/l

July 2017	BOD ₅ , monthly average, concentration	45	47.1	mg/l
September 2017	TSS, percent removal	>65	31.8	%
October 2017	BOD ₅ , monthly average, concentration	45	66.9	mg/l
October 2017	BOD ₅ , high weekly avg., concentration	65	72.3	mg/l
November 2017	BOD ₅ , monthly average, concentration	45	65.6	mg/l
November 2017	BOD ₅ , high weekly avg., concentration	65	73.8	mg/l
December 2017	BOD ₅ , monthly average, concentration	45	63.9	mg/l
February 2018	TSS, percent removal	>65	60.4	%
March 2018	BOD ₅ , monthly average, concentration	45	50.1	mg/l