

NPDES Permit No. NN0022195

**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. Section 1251 et seq; the "Act"),

Navajo Tribal Utility Authority  
Ganado Wastewater Treatment Lagoon  
P.O. Box 170  
Fort Defiance, Arizona 86504

is authorized to discharge treated wastewater from the wastewater treatment facility located approximately one mile west of Hubbell Trading Post and 0.5 mile south of Arizona Highway 264 in Ganado, Apache County, Arizona, from a discharge point (Discharge Outfall Number 001) which is located at

Latitude: 35 ° 42' 33" N  
Longitude: 109 ° 33' 57.5" W

to receiving waters named Pueblo Colorado Wash, a tributary to Cottonwood Wash, an eventual tributary to the Little Colorado River, in accordance with the effluent limitations, monitoring requirements, and in the attached 15 pages of U.S. EPA Region 9 *Standard Federal NPDES Permit Conditions*, dated July 27, 2011.

This permit shall become effective February 1, 2016.

This permit and the authorization to discharge shall expire at midnight, January 31, 2021.

Signed this 8<sup>th</sup> day of December 2015.

For the Regional Administrator

/s/

Tomas Torres, Director  
Water Division  
U.S. EPA, Region 9

**SECTION A. EFFLUENT LIMITATIONS AND SELF-MONITORING REQUIREMENTS**

Based upon the design flow capacity of 0.4 MGD, the permittee is authorized to discharge from Outfall Number 001 treated domestic wastewater.

1. The influent shall be sampled, where required by the permit, prior to it entering the lagoons. The effluent shall be sampled after final treatment prior to discharge into the Pueblo Colorado Wash, a tributary to the Cottonwood Wash, an eventual tributary to the Little Colorado River.
2. Such discharge shall be limited and monitored by the permittee as specified below:

| Effluent Parameter                              | Units      | Monthly Average    | Weekly Average | Daily Maximum    | Monitoring Frequency <sup>1</sup>          | Sample Type       |
|-------------------------------------------------|------------|--------------------|----------------|------------------|--------------------------------------------|-------------------|
| Flow                                            | MGD        | -- <sup>1</sup>    | --             | -- <sup>1</sup>  | Monthly                                    | Instantaneous     |
| BOD <sub>5</sub> <sup>2</sup>                   | mg/l       | 45                 | 65             | --               | Monthly                                    | Composite         |
|                                                 | kg/day     | 68                 | 98             | --               |                                            |                   |
| TSS <sup>2</sup>                                | mg/l       | 90                 | 135            | --               | Monthly                                    | Composite         |
|                                                 | kg/day     | 136                | 203            | --               |                                            |                   |
| <i>E. coli</i>                                  | CFU/100 ml | 126 <sup>3</sup>   | --             | 235 <sup>4</sup> | Monthly                                    | Discrete          |
| TRC <sup>5</sup>                                | µg/l       | --                 | --             | 11.0             | Monthly                                    | Discrete          |
| TDS <sup>6</sup>                                | mg/l       | --                 | --             | --               | Quarterly                                  | Discrete          |
| Total Ammonia <sup>7</sup>                      | mg/l       | -- <sup>7</sup>    | --             | -- <sup>7</sup>  | Monthly                                    | Discrete          |
| Ammonia Impact Ratio (AIR) <sup>8</sup>         | --         | 1.0                | --             | --               | Monthly                                    | Discrete          |
| pH <sup>9,10</sup>                              | std. units | between 6.5 to 9.0 |                |                  | Monthly                                    | Discrete          |
| Temperature <sup>9</sup>                        | deg °C     | --                 | --             | --               | Monthly                                    | Discrete          |
| Whole Effluent Toxicity (chronic) <sup>11</sup> | TUc        | -- <sup>1</sup>    | --             | -- <sup>1</sup>  | Semiannual<br>January/July                 | 24-hour Composite |
| Priority Pollutant Scan <sup>12</sup>           | µg/l       | -- <sup>1</sup>    | --             | -- <sup>1</sup>  | Once/1 <sup>st</sup> Quarter during Year 5 | 24-hour Composite |

‘MGD’ indicates units of Million Gallons per Day; ‘CFU’ is Colony Forming Units.

FOOTNOTES:

1. No effluent limits are set at this time, but monitoring and reporting is required.
2. “BOD<sub>5</sub>” = Biochemical Oxygen Demand (5-day test). “TSS” = Total Suspended Solids. For BOD<sub>5</sub> and TSS, the arithmetic means of values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 35 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same times during the same period.

3. Geometric mean of samples collected during the calendar month.
4. Single sample maximum
5. “TRC” = Total Residual Chlorine. Chlorination is required prior to discharge and the permittee shall at all times operate the plant to achieve the lowest possible residual chlorine while still complying with permit limits for E. coli.

TRC shall also be measured once/month at the outfall and reported on the Discharge Monitoring Reports, along with an estimate of the natural flow of the stream. (When the only flow in the receiving water is the effluent, the “natural flow” should be reported as zero.)

6. Both the plant effluent (Outfall Number 001), the intake water supply shall be sampled and reported. The incremental increase is the difference between the two sample analyses.

Salinity (“TDS”) is determined by the “calculation method” (sum of constituents) as described in the latest edition of constituents) as described in the latest edition of “Techniques of Water Resources Investigations of the United States Geological Survey- Methods for Collection and Analysis of Water Samples for Dissolved Minerals and Gases.”

7. For total ammonia (in mg-N/liter), the Navajo Nation Surface Water Quality Standards specify ammonia limitations for aquatic and wildlife (warm water habitat) for support and propagation of animals, plants, or other organisms. (See attached Appendix A for the monthly limit of total ammonia, consistent with the 2007 NNSWQS and the 2010 *draft* NNSWQS revisions, pages 36-37.) The criteria for ammonia are pH and temperature dependent and field measurements shall all be taken concurrently.
8. The Ammonia Impact Ratio (AIR) is calculated as the ratio of the measured ammonia and the ammonia limit as determined by the concurrent measurement of pH and temperature. See attached Appendix B for sample log to help calculate and record the AIR values.
9. Temperature and pH measurements shall be taken concurrently with measurements for ammonia.
10. Effluent pH units are based on the numeric standards for aquatic, wildlife and livestock, consistent with the 2007 NNSWQS and the *draft* 2010 NNSWQS revisions.
11. See Section F. of the permit for details of the chronic WET test requirement of the permit cycle.
12. Priority Pollutants: During the first quarter in Year 5 of the permit cycle, 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.

## **SECTION B. GENERAL DISCHARGE SPECIFICATIONS**

1. All Waters of the Navajo Nation shall be free from pollutants in amounts or combinations that, for any duration:
  - a. Cause injury to, are toxic to, or otherwise adversely affect human health, public safety, or public welfare.
  - b. Cause injury to, are toxic to, or otherwise adversely affect the habitation, growth, or propagation of indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.
  - c. Settle to form bottom deposits, including sediments, precipitates and organic materials, that cause injury to, are toxic to, or otherwise adversely affect the habitation, growth, or propagation of indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.
  - d. Cause physical, chemical, or biological conditions that promote the habitation, growth or propagation of undesirable, non-indigenous species of plant or animal life in the water body.
  - e. 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.
  - f. Cause objectionable odor in the area of the water body.
  - g. Cause objectionable taste, odor, color, or turbidity in the water body.
  - h. Cause objectionable taste in edible plant and animal life, including waterfowl that reside in, on or adjacent to the water body.
  - i. Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth, or propagation of other aquatic life or that impair recreational uses.
2. All waters of the Navajo Nation shall be free of toxic pollutants from other than natural sources in amounts, concentrations, or combinations which affect the propagation of fish or which of toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or which will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish, or other aquatic organisms to levels which will impair the health of aquatic organisms or wildlife

or result in unacceptable tastes, odors or health risks to human consumers.

3. No person shall place animal carcasses, refuse, rubbish, demolition or construction debris, trash, garbage, motor vehicles, motor vehicle parts, batteries, appliances, tires, or other solid waste into waters of the Navajo Nation or onto their banks.

#### **SECTION C. PERMIT REOPENERS**

1. At this time, there is no reasonable potential to establish any other water quality-based limits. Should any monitoring indicate that the discharge cause, has the reasonable potential to cause, or contributes to excursion above a water quality criteria, 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 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.
2. 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.

#### **SECTION D. SEWAGE SLUDGE REQUIREMENTS**

1. The permittee shall submit a report to USEPA and NNEPA within 90 days of permit issuance prior with an estimate of the quantity of sewage sludge currently on-site (in dry metric tons), and a projection of when sewage sludge shall next be removed.
2. At least 120 days prior to removing sewage sludge for use or disposal, the permittee shall submit a plan describing the quantity of sewage sludge (in dry metric tons) to be removed, mechanisms for removing, and a proposed sampling plan for pollutants regulated under the use or disposal option being selected. Upon approval of this plan by USEPA and NNEPA, the permittee shall have the sewage sludge removed as described.
3. The permittee shall comply with all applicable requirements of Section 405(d) of the Clean Water Act, and 40 CFR Part 258 (for sewage sludge sent to a municipal landfill) and 40 CFR Part 503 (for sewage sludge placed in a sludge-only surface disposal site, land applied as fertilizer, used in land reclamation, or incinerated.) The permittee shall be responsible for assuring that all sewage sludge produced at the facility is used or disposed of in accordance with these rules, whether the permittee uses or disposes of the sewage sludge directly, or transfers it to another party for further treatment, use, or disposal. The permittee shall be responsible for informing contractors of the requirements that they must meet under these rules, and providing any required monitoring results to the contractor.

4. No sewage sludge shall be allowed to enter wetlands or other waters of the United States, or to contaminate groundwater. Any sewage sludge treatment, disposal, or storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect the site boundaries from erosion, and to prevent any conditions that would cause drainage from the materials in the site to escape from the site. Adequate protection is defined as protection from at least a 100-year storm and from the highest tidal stage that may occur.
5. Sewage sludge handling operations shall be performed in a manner as to minimize nuisances such as objectionable odors or flies.
6. The permittee shall assure that haulers transporting sewage sludge off site for further treatment, use, or disposal take all necessary measures to keep the sewage sludge contained within the hauling vehicle.
7. Sewage sludge reports shall be submitted to:

Regional Biosolids Coordinator (WTR 2-3)  
U.S. Environmental Protection Agency  
Water Division  
NPDES Permits Section  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Patrick Antonio  
Navajo Nation EPA  
WQ/NPDES Program  
P.O. Box 339  
Window Rock, AZ 86515

## **SECTION E. MONITORING AND REPORTING**

### **1. Reporting of Monitoring Results**

#### **a. Submittal of DMRs and the Use of NetDMR**

The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with effluent limitations and permit requirements. Monitoring results shall be reported during the previous three (3) months on monthly Discharge Monitoring Report (“DMR”) forms (EPA No. 3320-1) supplied by the U.S. EPA Director, to the extent that the results reported may be entered on the forms. The DMR forms shall be submitted quarterly no later than the 28th day of the month following the previous quarterly reporting period. For example, the three (3) monthly DMR forms for the reporting period January through March shall be submitted by April 28th. In the case of no discharge, the permittee shall submit a DMR indicating no discharge as required. Duplicate, signed copies of these, and all other reports required herein, shall be submitted to the U.S. EPA Director and the Navajo Nation EPA at the following addresses:

NPDES Data Team (ENF 4-1)  
Information Management Section  
Enforcement Division  
U.S. Environmental Protection Agency  
75 Hawthorne Street

Navajo Nation EPA  
WQ/NPDES Program  
P.O. Box 339  
Window Rock, AZ 86515

San Francisco, CA 94105

For a period of six (6) months from the effective date of the permit, the permittee may submit monitoring results in DMRs to U.S. EPA in hard copy form or in DMRs electronically submitted using NetDMR. NetDMR is a web-based tool that allows permittees to electronically submit DMRs and other required reports via a secure internet connection. NetDMR is accessed from: <http://www.epa.gov/netdmr>.

Beginning no later than six (6) months after the effective date of the permit, the permittee shall begin reporting monthly, quarterly, yearly, etc. monitoring data using NetDMR, unless the facility is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs. The permittee shall continue to use the NetDMR tool for reporting all discharge monitoring data. By submitting reports using NetDMR, the permittee will no longer be required to submit hard copies of DMRs to U.S. EPA under 40 CFR 122.41 and 403.12.

b. Submittal of Reports as NetDMR Attachments

After the permittee begins submitting DMR reports to U.S. EPA electronically using NetDMR, the permittee shall electronically submit all reports to U.S. EPA as NetDMR attachments rather than as hard copies, unless otherwise specified in this permit. A report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to U.S. EPA using NetDMR with the next DMR due following the particular report due date specified in this permit.

The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with effluent limitations and permit requirements. Monitoring results shall be reported during the previous three (3) months on monthly DMR forms (EPA No. 3320-1) supplied by the U.S. EPA, to the extent that the results reported may be entered on the forms. The DMR forms shall be submitted quarterly no later than the 28th day of the month following the previous quarterly reporting period. For example, the three (3) monthly DMR forms for the reporting period January through March shall be submitted by April 28th. In the case of no discharge, the permittee shall submit a DMR indicating no discharge as required. Duplicate, signed copies of these, and all other reports required herein, shall be submitted to the U.S. EPA Director and the Navajo Nation EPA at the following addresses:

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Information Management Section  
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75 Hawthorne Street  
San Francisco, CA 94105

Navajo Nation EPA  
WQ/NPDES Program  
P.O. Box 339  
Window Rock, AZ 86515

c. For effluent analyses, the permittee shall utilize an analytical method with a

published Method Detection Limit (“MDL”; as defined in Section G of this permit) that is lower than the effluent limitations (or lower than applicable numeric water quality criteria). If all published MDLs are higher than the effluent limitations or water quality criteria, then the permittee shall utilize the analytical method with the lowest published MDL. The permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is equal to or less than the minimum level (“ML”), as defined in Section G (Definitions) of this permit.

- d. For samples collected during the monthly reporting period, report on the DMR form:
- (1) The maximum value, if the maximum value is greater than the ML; or NODI (Q)<sup>a</sup>, if the maximum value is greater than or equal to the laboratory’s MDL, but less than the ML; or NODI (B)<sup>a</sup>, if the maximum value is less than the laboratory’s MDL; and
  - (2) The average value of all analytical results where 0 (zero) is substituted for NODI (B) and the laboratory’s MDL is substituted for NODI (Q), if more than one sample is collected during the monthly reporting period.

As an attachment to each DMR form submitted during this permit term, the permittee shall report for all parameters with monitoring requirements specified under Section A.3. of this permit: the analytical method number or title, preparation and analytical procedure utilized by the laboratory, and published MDL or ML; the laboratory’s MDL, the standard deviation (S) from the laboratory’s MDL study, and the number of replicate analyses (n) used to compute the laboratory’s MDL; and the ML.

## 2. **Monitoring and Records**

In addition to the information requirements specified under 40 CFR 122.41(j)(3), records of monitoring information shall include: Laboratory(ies) which performed the analyses and any comments, case narrative or summary of results produced by the laboratory. These should identify and discuss QA/QC analyses performed concurrently during sample analyses and whether project and 40 CFR Part 136 requirements were met. The summary of results must include information on initial and continuing calibration, surrogate analyses, blanks, duplicates, laboratory control samples, matrix spike and matrix spike duplicate results, sample receipt condition, holding times, and preservation.

## 3. **Twenty Four-Hour Reporting of Noncompliance**

- a. In accordance with 40 CFR 122.41(l)(6)(i), (ii) and (iii), the following condition is expressly incorporated into this permit. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware

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<sup>a</sup> *NODI(Q)* means “No discharge/No data” (not quantifiable); *NODI(B)* means “No discharge/No data” (not detected).



of the circumstances to the following persons or their offices:

|                                         |                   |
|-----------------------------------------|-------------------|
| Manager                                 | Patrick Antonio   |
| Wastewater Enforcement Office (ENF 3-1) | Navajo Nation EPA |
| U.S. EPA Region 9                       | (928) 871-7185    |
| (415) 972-3577                          |                   |

If the permittee is unsuccessful in contacting the person above, the permittee shall report by 9 a.m. on the first business day following the noncompliance. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including dates and times, and, if the noncompliance has not been corrected, the date and/or time it is expected to be corrected; and, steps and/or plans to reduce, eliminate, and prevent reoccurrence of the noncompliance.

- b. The following information shall be included as information which must be reported within 24 hours under this paragraph.
- (1) Any unanticipated bypass which exceeds any effluent limit in the permit (see 40 CFR 122.44(g)).
  - (2) Any upset which exceeds any effluent limit in the permit.
  - (3) Violation of a maximum daily discharge limit for any of the pollutants listed by the Director in the permit to be reported within 24 hours [see 40 CFR 122.44(g).]

## SECTION F. CHRONIC WHOLE EFFLUENT TOXICITY (WET) REQUIREMENTS

### 1. Monitoring Frequency

The permittee shall conduct *semiannual*, in January and July, chronic toxicity tests on 24-hour composite effluent samples. Once each calendar year, at a different time of year from the previous years, the permittee shall split a 24-hour composite effluent sample and concurrently conduct a toxicity test using a fish; the permittee shall continue to conduct routine *semiannual* toxicity testing using the single, most sensitive species.

Chronic toxicity test samples shall be collected for each point of discharge at the designated NPDES sampling station for the effluent (i.e., downstream from the last treatment process and any in-plant return flows where a representative effluent sample can be obtained). During years *1, 2, 3, 4, and 5* of the permit, a split of each sample shall be analyzed for all other monitored parameters at the minimum frequency of analysis specified by the effluent monitoring program.

## 2. Freshwater Species and EPA WET Test Methods

Species and short-term EPA WET test methods for estimating the chronic toxicity of NPDES effluents are in the fourth edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002; Table IA, 40 CFR Part 136). The permittee shall conduct static renewal toxicity tests with Fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0).

## 3. Chronic WET Permit Triggers

There are no chronic toxicity effluent limits for this discharge. The chronic WET permit trigger is any one WET test (either biological endpoint of survival or sublethal) where a test result is *Fail* (during the monthly reporting period) at the chronic in-stream waste concentration (IWC). For this discharge, the IWC is **100** percent effluent. To calculate either a Pass or Fail of the multiple-effluent concentration chronic toxicity test at the IWC, follow the instructions in Appendix A in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA/833-R-10-003). A Pass result indicates no toxicity at the IWC, and a Fail result indicates toxicity at the IWC.

The permittee shall report either a Pass or a Fail on the DMR form. If a result is reported as Fail, the permittee shall follow Section 7 (Reporting of Chronic Toxicity Monitoring Results) of this permit.

## 4. Quality Assurance – EPA WET Test Methods

- a. Quality assurance measures, instructions, and other recommendations and requirements are in the EPA WET test methods manual previously referenced in this permit.
- b. This permit is subject to a determination of Pass or Fail from a multiple-effluent concentration chronic toxicity test at the IWC (for statistical flowchart and procedures, see *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*, Appendix A, Figure A-1). The chronic in-stream waste concentration (IWC) for this discharge is **100** percent effluent.
- c. Effluent dilution water and control water should be standard synthetic dilution water as described in the EPA WET test methods manual, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002). If the dilution water is different from test organism culture water, then a second control using culture water shall also be used.
- d. If organisms are not cultured in-house, then concurrent testing with a reference toxicant shall be conducted. If organisms are cultured in-house, then monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration).

- e. If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the EPA WET test methods manual, then the permittee shall resample and retest within 14 days.
- f. Following Paragraph 10.2.6.2 of the freshwater EPA WET test methods manual, all chronic toxicity test results from the multi-concentration tests required by this permit shall be reviewed and reported according to EPA guidance on the evaluation of concentration-response relationships in *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)* (EPA/821/B-00-004, 2000).
- g. If the discharged effluent is chlorinated, then chlorine shall not be removed from the effluent sample before toxicity testing without written approval by the permitting authority.

## **5. Initial Investigation TRE Work Plan**

Within 90 days of the permit effective date, the permittee shall prepare and submit to the U.S. EPA Director a copy of its Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan (1–2 pages) for review. This plan shall contain steps the permittee intends to follow if toxicity is measured above a chronic WET permit limit or trigger and should include the following, at minimum:

- a. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
- b. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.
- c. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor).

## **6. Accelerated Toxicity Testing and TRE/TIE Process**

- a. If a chronic WET permit limit or trigger is exceeded and the source of toxicity is known (e.g., a temporary plant upset), then the permittee shall conduct one additional toxicity test using the same species and EPA WET test method. This WET test shall begin within 14 days of receipt of WET test results exceeding a chronic WET permit limit or trigger. If the additional toxicity test does not exceed a chronic WET permit limit or trigger, then the permittee may return to their regular testing frequency.
- b. If a chronic WET permit limit or trigger is exceeded and the source of toxicity is not known, then the permittee shall conduct six additional toxicity tests using the same species and EPA WET test method, approximately every two weeks, over a

12 week period. This testing shall begin within 14 days of receipt of WET test results exceeding a chronic WET permit limit or trigger. If none of the additional toxicity tests exceed a chronic WET permit limit or trigger, then the permittee may return to their regular testing frequency.

- c. If one of the additional toxicity tests (in paragraphs 6.a or 6.b) exceeds a chronic WET permit limit or trigger, then, within 14 days of receipt of this WET test result, the permittee shall initiate a TRE using as guidance, according to the type of treatment facility, the EPA TRE manual, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/ 833/B-99/002, 1999) or EPA TRE manual, *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989). In conjunction, the permittee shall develop and implement a Detailed TRE Work Plan which shall contain the following: further actions undertaken by the permittee to investigate, identify, and correct the causes of toxicity; actions the permittee will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and a schedule for such actions.
- d. The permittee may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and EPA WET test method and, as guidance, EPA WET TIE/TRE method manuals: *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F, 1992); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993).

## 7. **Reporting of Chronic Toxicity Monitoring Results**

- a. The permittee shall submit a full laboratory report as an attachment to the DMR for all toxicity testing for the month in which the toxicity test was conducted; the laboratory report shall contain the following: the toxicity test results, the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TIE/TRE investigations.
- b. The permittee shall provide the actual test endpoint responses for the control (i.e., control mean) and IWC concentration (i.e., IWC mean) for each WET test conducted to make it easier for permit writers to find the necessary WET test results when determining WET RP.
- c. The permittee shall notify the U.S. EPA Director in writing within 14 days of exceedance of a chronic WET permit limit or trigger. The notification shall describe actions the permittee has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

## **8. Permit Reopener for Chronic Toxicity**

In accordance with 40 CFR Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions to address chronic toxicity in the effluent or receiving waterbody, as a result of the discharge; or to implement new, revised, or newly interpreted water quality standards applicable to chronic toxicity.

### **SECTION G. INSPECTION AND ENTRY**

The permittee shall allow the U.S. EPA Director, or an authorized representative, upon the presentation of credentials and such other documents as may be required by law, to perform inspections under authority of Section 10: Inspection and Entry of the EPA Region 9 “*Standard Federal NPDES Permit Conditions*”, dated June 3, 2002, as attached.

### **SECTION H. DEFINITIONS**

The following definitions shall apply unless otherwise specified in this permit:

1. A “composite sample” means a time-proportional mixture of not less than eight discrete aliquots obtained at equal time intervals (e.g., 24-hour composite means a minimum of eight samples collected every three hours.) The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling, but not less than 100 ml. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling procedures are not outlined in 40 CFR 136.3, procedures outlined in the 18<sup>th</sup> edition of “*Standard Methods for the Examination of Water and Wastewater*” shall be used.
2. A “daily discharge” means the “discharge of a pollutant” measured during a calendar day or any 24-hour period that reasonably represents the calendar for purposes of sampling. For pollutants with limitations expressed in terms of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the sampling day.
3. A “daily discharge determination of concentration” made using a composite sample shall be the concentration of the composite sample. When the grab sample technique is used, the “daily discharge” determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that sampling day.
4. A “daily maximum discharge effluent limitation” means the highest allowable “daily discharge” during the calendar month.
5. A “daily average discharge limitation” means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.
6. A “discrete sample” means any individual sample collected in less than 15 minutes.

7. The “EPA” means the United States Environmental Protection Agency.
8. A “grab” sample, for monitoring requirements, is defined as a single “dip and take” sample collected at a representative point in the discharge stream.
9. An “instantaneous” measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
10. The “method detection limit” or “MDL” is the minimum concentration of an analyte that can be detected with 99% confidence that the analyte concentration is greater than zero, as defined by the specific laboratory method listed in 40 CFR Part 136. The procedure for determination of a laboratory MDL is in 40 CFR Part 136, Appendix B.
11. The “minimum level” or “ML” is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all of the method-specified sample weights, volumes, and processing steps have been followed (as defined in EPA’s draft National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels, March 22, 1994). Published method-specific MLs are contained in 40 CFR Part 136, Appendix A, and must be utilized if available. If a published method-specific ML is not available, then an interim ML shall be calculated. The interim ML is equal to 3.18 times the published method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc. (When neither an ML nor an MDL are available under 40 CFR Part 136, an interim ML should be calculated by multiplying the best estimate of detection by a factor of 3.18; when a range of detection is given, the lower end value of the range of detection should be used to calculate the ML.) At this point in the calculation, a different procedure is used for metals, than for non-metals:
  - a. For metals, due to laboratory calibration practices, calculated MLs may be rounded to the nearest whole number.
  - b. For non-metals, because analytical instruments are generally calibrated using the ML as the lowest calibration standard, the calculated ML is then rounded to the nearest multiple of (1, 2, or 5) x 10<sup>n</sup>, where n is zero or an integer. (For example, if an MDL is 2.5 µg/l, then the calculated ML is: 2.5 µg/l x 3.18 = 7.95 µg/l. The multiple of (1, 2, or 5) x 10<sup>n</sup> nearest to 7.95 is 1 x 10<sup>1</sup> = 10 µg/l, so the calculated ML, rounded to the nearest whole number, is 10 µg/l.)
12. A “monthly average” concentration for *E. coli* means the geometric mean of measurements made during a month. The geometric mean is the nth root of the product of n numbers.
13. A “monthly average” limitation means the highest allowable discharge of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measure

during that month.

14. The “Regional Administrator” means EPA Region 9’s Regional Administrator.
15. A “weekly average” (or 7-day average) is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains month that contains the Saturday.

#### **SECTION H. EPA REGION IX STANDARD CONDITIONS**

See the attached 15 pages of EPA Region 9 “Standard Federal NPDES Permit Conditions,” dated July 27, 2011.

**APPENDIX A**

**Total Ammonia Limit  
 Chronic Standard for Aquatic and Wildlife Habitat**

*(From 2007 Navajo Nation Surface Water Quality Standards  
 and Draft 2010 NNSWQS  
 Table 206.3 Maximum Total Ammonia Concentration)*

| pH  | Temperature in Degrees Celsius |       |       |       |       |       |       |       |       |       | pH  |
|-----|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
|     | 0                              | 14    | 16    | 18    | 20    | 22    | 24    | 26    | 28    | 30    |     |
| 6.5 | 6.67                           | 6.67  | 6.06  | 5.33  | 4.68  | 4.12  | 3.62  | 3.18  | 2.80  | 2.46  | 6.5 |
| 6.6 | 6.57                           | 6.57  | 5.97  | 5.25  | 4.61  | 4.05  | 3.56  | 3.13  | 2.75  | 2.42  | 6.6 |
| 6.7 | 6.44                           | 6.44  | 5.86  | 5.15  | 4.52  | 3.98  | 3.50  | 3.07  | 2.70  | 2.37  | 6.7 |
| 6.8 | 6.29                           | 6.29  | 5.72  | 5.03  | 4.42  | 3.89  | 3.42  | 3.00  | 2.64  | 2.32  | 6.8 |
| 6.9 | 6.12                           | 6.12  | 5.56  | 4.89  | 4.30  | 3.78  | 3.32  | 2.92  | 2.57  | 2.25  | 6.9 |
| 7.0 | 5.91                           | 5.91  | 5.37  | 4.72  | 4.15  | 3.65  | 3.21  | 2.82  | 2.48  | 2.18  | 7.0 |
| 7.1 | 5.67                           | 5.67  | 5.15  | 4.53  | 3.98  | 3.50  | 3.08  | 2.70  | 2.38  | 2.09  | 7.1 |
| 7.2 | 5.39                           | 5.39  | 4.90  | 4.31  | 3.78  | 3.33  | 2.92  | 2.57  | 2.26  | 1.99  | 7.2 |
| 7.3 | 5.08                           | 5.08  | 4.61  | 4.06  | 3.57  | 3.13  | 2.76  | 2.42  | 2.13  | 1.87  | 7.3 |
| 7.4 | 4.73                           | 4.73  | 4.30  | 3.78  | 3.32  | 2.92  | 2.57  | 2.26  | 1.98  | 1.74  | 7.4 |
| 7.5 | 4.36                           | 4.36  | 3.97  | 3.49  | 3.06  | 2.69  | 2.37  | 2.08  | 1.83  | 1.61  | 7.5 |
| 7.6 | 3.98                           | 3.98  | 3.61  | 3.18  | 2.79  | 2.45  | 2.16  | 1.90  | 1.67  | 1.47  | 7.6 |
| 7.7 | 3.58                           | 3.58  | 3.25  | 2.86  | 2.51  | 2.21  | 1.94  | 1.71  | 1.50  | 1.32  | 7.7 |
| 7.8 | 3.18                           | 3.18  | 2.89  | 2.54  | 2.23  | 1.96  | 1.73  | 1.52  | 1.33  | 1.17  | 7.8 |
| 7.9 | 2.80                           | 2.80  | 2.54  | 2.24  | 1.96  | 1.73  | 1.52  | 1.33  | 1.17  | 1.03  | 7.9 |
| 8.0 | 2.43                           | 2.43  | 2.21  | 1.94  | 1.71  | 1.50  | 1.32  | 1.16  | 1.02  | 0.897 | 8.0 |
| 8.1 | 2.10                           | 2.10  | 1.91  | 1.68  | 1.47  | 1.29  | 1.14  | 1.00  | 0.879 | 0.773 | 8.1 |
| 8.2 | 1.79                           | 1.79  | 1.63  | 1.43  | 1.26  | 1.11  | 0.973 | 0.855 | 0.752 | 0.661 | 8.2 |
| 8.3 | 1.52                           | 1.52  | 1.39  | 1.22  | 1.07  | 0.941 | 0.827 | 0.727 | 0.639 | 0.562 | 8.3 |
| 8.4 | 1.29                           | 1.29  | 1.17  | 1.03  | 0.906 | 0.796 | 0.700 | 0.615 | 0.541 | 0.475 | 8.4 |
| 8.5 | 1.09                           | 1.09  | 0.990 | 0.870 | 0.765 | 0.672 | 0.591 | 0.520 | 0.457 | 0.401 | 8.5 |
| 8.6 | 0.920                          | 0.920 | 0.836 | 0.735 | 0.646 | 0.568 | 0.499 | 0.439 | 0.386 | 0.339 | 8.6 |
| 8.7 | 0.778                          | 0.778 | 0.707 | 0.622 | 0.547 | 0.480 | 0.422 | 0.371 | 0.326 | 0.287 | 8.7 |
| 8.8 | 0.661                          | 0.661 | 0.601 | 0.528 | 0.464 | 0.408 | 0.359 | 0.315 | 0.277 | 0.244 | 8.8 |
| 8.9 | 0.565                          | 0.565 | 0.513 | 0.451 | 0.397 | 0.349 | 0.306 | 0.269 | 0.237 | 0.208 | 8.9 |
| 9.0 | 0.486                          | 0.486 | 0.442 | 0.389 | 0.342 | 0.300 | 0.264 | 0.232 | 0.204 | 0.179 | 9.0 |

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
2. If the field measured pH value falls between the tabular values, round the field measured value according to standard scientific rounding procedures to the nearest tabular value, and then determine the ammonia standard using linear interpolation when the temperature value is between the values provided in the table.



**APPENDIX B**

**Ammonia Impact Ratio (AIR)  
 Sample AIR Data Log**

AIR = Ratio of Measured Ammonia Value over Ammonia Limit  
 $\text{Effluent Ammonia} \div \text{Ammonia Limit}$

| <b>A</b>              | <b>B</b>                                  | <b>C</b>           | <b>D</b>                              | <b>E</b>                                           | <b>F</b>                             |
|-----------------------|-------------------------------------------|--------------------|---------------------------------------|----------------------------------------------------|--------------------------------------|
| <b>Date of Sample</b> | <b>Ammonia Value In Effluent (mg/L N)</b> | <b>Effluent pH</b> | <b>Effluent Temperature (Celsius)</b> | <b>Ammonia Limit as Determined from Appendix A</b> | <b>AIR Value (Column B/Column E)</b> |
|                       |                                           |                    |                                       |                                                    |                                      |
|                       |                                           |                    |                                       |                                                    |                                      |
|                       |                                           |                    |                                       |                                                    |                                      |
|                       |                                           |                    |                                       |                                                    |                                      |
|                       |                                           |                    |                                       |                                                    |                                      |
|                       |                                           |                    |                                       |                                                    |                                      |
|                       |                                           |                    |                                       |                                                    |                                      |
|                       |                                           |                    |                                       |                                                    |                                      |
|                       |                                           |                    |                                       |                                                    |                                      |
|                       |                                           |                    |                                       |                                                    |                                      |

Please copy and complete for each month of each year for permit term. Attach any additional pages as necessary.

**Signature of Authorized Representative:** \_\_\_\_\_