

**Revised National Pollutant Discharge Elimination System (NPDES) Permit for:**  
**NTUA Window Rock WWTP (No. NN0021555)**

Permit Conditions A and F.1 of the NPDES Permit No. NN0021555, issued by the EPA for NTUA Window Rock wastewater treatment lagoon facility on January 21, 2016, to become effective on February 1, 2016 and to expire on January 31, 2021, is being revised as follows:

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

Based upon the maximum flow rate of 1.20 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 Black Creek, a tributary to Puerco River, a tributary to the Little Colorado River.
2. Such discharge shall be limited and monitored by the permittee as specified below:

| <b>Effluent Parameter</b>                       | <b>Units</b> | <b>Monthly Average</b> | <b>Weekly Average</b> | <b>Daily Maximum</b> | <b>Monitoring Frequency</b>                | <b>Sample Type</b> |
|---|--------------|------------------------|-----------------------|----------------------|--|--------------------|
| Flow  | MGD          | -- <sup>1</sup>        | --                    | -- <sup>1</sup>      | Monthly                                    | Instantaneous      |
| BOD <sub>5</sub> <sup>2</sup>                   | mg/l         | 30                     | 45                    | --                   | Monthly                                    | Composite          |
|   | kg/day       | 135                    | 203                   | --                   |  |                    |
| TSS <sup>2</sup>                                | mg/l         | 30                     | 45                    | --                   | Monthly                                    | Composite          |
|   | kg/day       | 135                    | 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 <sup>5</sup>                       | 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>      | Monthly                                    | 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 15 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. No TRC monitoring is required with UV disinfection. If chlorination is used for disinfection, dechlorination is also necessary 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 F. CHRONIC WHOLE EFFLUENT TOXICITY (WET) REQUIREMENTS**

### **1. Monitoring Frequency**

The permittee shall conduct *monthly* 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 three toxicity tests using a fish, an invertebrate, and an alga species; the permittee shall continue to conduct routine *monthly* toxicity testing using the single, most sensitive species. If no toxicity is found in the test results during the first 12 monthly test results, the permittee shall conduct the tests in a *quarterly* basis thereafter.

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.

All other conditions shall remain unchanged.