**REGION 6**
**1201 Elm St., Suite 500**
**DALLAS, TEXAS 75270**

**NPDES Permit No NM0020273**

## 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. 1251 et. seq; the "Act"),

City of Raton
Raton Water Works
P.O. Box 99
Raton, NM 87740

is authorized to discharge from a facility located at 1750 East Hereford Avenue, Raton, in Colfax County, New Mexico, to receiving waters named Doggett Creek in Segment No. 20.6.4.318, thence to Raton Creek, thence to Chicorica Creek, thence to Canadian River, in the Canadian River Basin.

The discharge is located on Doggett Creek at the following coordinates:

Outfall 001: Latitude 36° 52' 13.91" North, Longitude 104° 25' 39.18" West,

in accordance with this cover page and the effluent limitations, monitoring requirements, and other conditions set forth in Part I, Part II, Part III, and Part IV hereof.

This permit supersedes and replaces NPDES Permit No. NM0020273 issued May 28, 2015.

This permit prepared by Quang Nguyen, Environmental Engineer, Permitting Section (6WQ-PE) shall become effective on February 1, 2021

This permit and the authorization to discharge shall expire at midnight, January 31, 2026

Issued on December 14, 2020

Charles Maguire

Charles W. Maguire
Director
Water Division (6WQ)

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PART I – REQUIREMENTS FOR NPDES PERMITS

SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS

1. Effluent Limits – 0.9 MGD Design Flow

During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge treated municipal wastewater from Outfalls 001 to Doggett Creek in Segment No. 20.6.4.318. Such discharges shall be limited and monitored by the permittee as specified below:

| **POLLUTANT** (*8) | **MASS LOADING** | | | **CONCENTRATION** | | | **MEASUREMENT FREQUENCY** | **SAMPLE TYPE** |
|---|---|---|---|---|---|---|---|---|
| | **30-DAY AVG** | **7-DAY AVG** | **DAILY MAX** | **30-DAY AVG** | **7-DAY AVG** | **DAILY MAX** | | |
| Flow | Report MGD | Report MGD | *** | *** | *** | *** | Daily | Totalizing Meter |
| Biochemical Oxygen Demand, 5-day $BOD_5$ (influent) (*4) | *** | *** | *** | Report | Report | *** | 3/Month | 3-Hr Composite |
| Biochemical Oxygen Demand, 5-day $BOD_5$ (effluent) (*4) | 225 lbs/day | 338 lbs/day | *** | 30 mg/l | 45 mg/l | N/A | 3/Month | 3-Hr Composite |
| $BOD_5$ Percent Removal (min) | $\geq$ 85% | *** | *** | *** | *** | *** | 1/Month | Calculation (*3) |
| Total Suspended Solids, TSS (influent) (*4) | *** | *** | *** | Report | Report | *** | 3/Month | 3-Hr Composite |
| Total Suspended Solids, TSS (effluent) (*4) | 225 lbs/day | 338 lbs/day | *** | 30 mg/l | 45 mg/l | N/A | 3/Month | 3-Hr Composite |
| TSS Percent Removal (min) | $\geq$ 85% | *** | *** | *** | *** | *** | 1/Month | Calculation (*3) |
| E. Coli Bacteria (*1) | 4.3 Billion (*7) | N/A | *** | 126 cfu/100mL | N/A | 410 cfu/100mL | 3/Month | Grab |
| Total Nitrogen (TN) | 44.2 lbs/day (*11) | N/A | Report | 10 mg/L (*11) | N/A | Report | 2/Month | 3-Hr Composite |
| Total Phosphorus (TP) | 13.3 lbs/day (*11) | N/A | Report | 3 mg/L (*11) | N/A | Report | 2/Month | 3-Hr Composite |
| Total Nitrogen (TN) | 41.1 lbs/day (*9) | N/A | Report | 9.3 mg/L (*9) | N/A | Report | 2/Month | 3-Hr Composite |
| Total Phosphorus (TP) | 13.3 lbs/day (*9) | N/A | Report | 3 mg/L (*9) | N/A | Report | 2/Month | 3-Hr Composite |
| Total Nitrogen (TN) (*10) | Report | *** | Report | Report | *** | Report | 12-month | Calculation |
| Total Phosphorus (TP) (*10) | Report | *** | Report | Report | *** | Report | 12-month | Calculation |
| Total Residual Chlorine | N/A | N/A | *** | N/A | N/A | 11 ug/L (*2) | 5/Week (*2) | Instantaneous Grab (*5) |

| POLLUTANT | MINIMUM | MAXIMUM | MEASUREMENT FREQUENCY | SAMPLE TYPE |
|---|---|---|---|---|
| pH | 6.6 Standard Units | 9 Standard Units | 5/Week | Instantaneous Grab (*5) |

| WHOLE EFFLUENT TOXICITY TESTING (7-Day Chronic Static Renewal/ NOEC) (*6) | VALUE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
|---|---|---|---|
| *Ceriodaphnia dubia* | Report | Once/Quarter | 24-Hr Composite |
| *Pimephales promelas* | Report | Once/Year | 24-Hr Composite |

Footnotes:

*1 Colony forming units (cfu) per 100 ml or mpn. The 30-day average for E. coli bacteria is the geometric mean of the values for all effluent samples collected during a calendar month

*2 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. Grab sample taken during periods of chlorine use (for disinfection and/or when used in any treatment process at the facility).

*3 Percent removal is calculated using the following equation: (average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration.

*4 Effluent and influent monitoring shall be conducted simultaneously.

*5 For instantaneous grab defined in the 40 CFR Part 136, sample shall be analyzed within 15 minutes of sampling.

*6 Monitoring and reporting requirements begin on the effective date of this permit. See Part II of the permit for WET testing requirements and additional WET monitoring and reporting conditions. Grab samples are allowed per method, if needed.

*7 Billion ($1.0 \times 10^9$) cfu/day. The loading limit shall be calculated as follows: [Flow in MGD x cfu/100 mL in effluent x $3.79 \times 10^7$] /$1.0 \times 10^9$.

*8 See Part II.C. Minimum Quantification Level (MQL) of permit.

*9 The interim limits apply during the period beginning 1 year from the permit effective date and lasting through the expiration date of the permit and any time during which the permit is administratively continued if not reissued prior to expiration.

*10 The requirement to report the annual average for TP and TN has been included in the permit. Annual Average is defined as the 12-month rolling average (calculated monthly). The first value will be calculated using the monthly average for the first full month ending after the effective date of the permit and the eleven previous monthly average. Each subsequent month's DMR will report the annual average for the previous 12 months. Report maximum daily value for each operating date.

*11 The interim limits begin on the effective date of this permit and lasting through 1 year from the permit effective date.

2. FLOATING SOLIDS, VISIBLE FOAM AND/OR OILS

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no discharge of visible films of oil, globules of oil, grease or solids in or on the water, or coatings on stream banks.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit prior to the receiving stream.

B. SCHEDULE OF COMPLIANCE

Under the Temporary Standard promulgated by the New Mexico Water Quality Control Commission and approved by EPA Region 6 at 20.6.4.318 NMAC, the term to achieve 30-day average limits of 8 mg/L TN and 1.6 mg/L TP is 20 years. The target completion date is January 2040. The permittee shall make diligent efforts to ensure progress is being made in achieving the temporary standard by the target completion date. These efforts shall include both operation optimization and modification of the existing treatment facility. They shall be conducted in two phases. Generally, Phase 1 consists of coagulation selection/incorporation and process upgrades, if any, for phosphorous removal and Phase 2 includes the facility aeration control upgrades for nitrogen removal. The portion of the compliance schedule applicable during this 5-year permit term is included here. The permittee shall comply with the following schedule of activities:

| I. Phase 1 Activities | Target Completion Date |
|---|---|
| Incorporation of chemical addition into facility's treatment scheme | |
| 1. Continue optimization efforts of existing system, PER for SBR upgrades to achieve nutrient removal goal, coagulation selection thru pilot testings, and conduct a zero-discharge feasibility study; | January 2023 |
| 2. Design for Phase 1 (coagulation for TP removal), Apply for funding and continue zero discharge feasibility study; | January 2025 |

a. The permittee shall submit a progress report to both EPA and NMED outlining the status of the phase activities during the months of January, April, July, and October, of each year.
b. The report of progress shall also include an explanation for delays, if applicable, and proposed remedial actions.

## C. MONITORING AND REPORTING (MINOR DISCHARGERS)

Discharge Monitoring Report (DMR) results shall be electronically reported to EPA per 40 CFR 127.16. To submit electronically, access the NetDMR website at https://netdmr.epa.gov. Until approved for Net DMR, the permittee shall request temporary or emergency waivers from electronic reporting. To obtain a waiver, please contact: U.S. EPA-Region 6, Water Enforcement Branch, New Mexico State Coordinator (6EN-WC), (214) 665-7179. If paper reporting is granted temporarily, the permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D. to the EPA and copies to NMED, as required (See Part III.D.IV of the permit). Monitoring results shall be submitted quarterly. Each quarterly submittal shall include separate forms for each month of the reporting period.

1. Reporting periods shall end on the last day of the months March, June, September and December.
2. The permittee is required to make regular monthly reports as described above postmarked no later than 28$^{th}$ day of the month following the end of each reporting period.
3. If any 30-day average, 7-day average, or daily maximum value exceeds the effluent limitations specified in Part I.A, the permittee shall report the excursion in accordance with the requirements of Part III.D.
4. Any 30-day average, 7-day average, or daily maximum value reported in the required DMR which is in excess of the effluent limitation specified in Part I.A shall constitute evidence of violation of such effluent limitation and of this permit.
5. Other measurements of oxygen demand (e.g., TOC and COD) may be substituted for $BOD_5$ or for $CBOD_5$, as applicable, where the permittee can demonstrate long-term correlation of the method with $BOD_5$ or $CBOD_5$ values, as applicable. Details of the correlation procedures used must be submitted and prior approval granted by the permitting authority for this procedure to be acceptable. Data reported must also include evidence to show that the proper correlation continues to exist after approval.

## D. OVERFLOW REPORTING

The permittee shall report all overflows with the Discharge Monitoring Report submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of the overflow; observed environmental impacts from the overflow; actions taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary).

Overflows that endanger health or the environment shall be orally reported to EPA at (214) 665-6595, and NMED Surface Water Quality Bureau at (505) 827-0187, within 24 hours from the time the permittee becomes aware of the circumstance. A written report of overflows that endanger health or the environment shall be provided to EPA and the NMED Surface Water Quality Bureau within 5 days of the time the permittee becomes aware of the circumstance.

## E. POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute a program within 12 months of the effective date of the permit (or continue an existing one) directed towards optimizing the efficiency and extending the useful life of the facility. The permittee shall consider the following items in the program:

a. The influent loadings, flow and design capacity;
b. The effluent quality and plant performance;
c. The age and expected life of the wastewater treatment facility's equipment;
d. Bypasses and overflows of the tributary sewerage system and treatment works;
e. New developments at the facility;
f. Operator certification and training plans and status;
g. The financial status of the facility;
h. Preventative maintenance programs and equipment conditions and;
i. An overall evaluation of conditions at the facility.

# PART II - OTHER CONDITIONS

## A. MINIMUM QUANTIFICATION LEVEL (MQL) & SUFFICIENTLY SENSITIVE METHODS

EPA-approved test procedures (methods) for the analysis and quantification of pollutants or pollutant parameters, including for the purposes of compliance monitoring/DMR reporting, permit renewal applications, or any other reporting that may be required as a condition of this permit, shall be sufficiently sensitive. A method is "sufficiently sensitive" when (1) the method minimum level (ML) of quantification is at or below the level of the applicable effluent limit for the measured pollutant or pollutant parameter; or (2) if there is no EPA-approved analytical method with a published ML at or below the effluent limit (see table below), then the method has the lowest published ML (is the most sensitive) of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapters N or O, for the measured pollutant or pollutant parameter; or (3) the method is specified in this permit or has been otherwise approved in writing by the permitting authority (EPA Region 6) for the measured pollutant or pollutant parameter. The Permittee has the option of developing and submitting a report to justify the use of matrix or sample-specific MLs rather than the published levels. Upon written approval by EPA Region 6 the matrix or sample-specific MLs may be utilized by the Permittee for all future Discharge Monitoring Report (DMR) reporting requirements.

Current EPA Region 6 minimum quantification levels (MQLs) for reporting and compliance are provided in Appendix A of Part II of this permit. The following pollutants may not have EPA-approved methods with a published ML at or below the effluent limit, if specified:

| POLLUTANT | CAS Number | STORET Code |
|---|---|---|
| Total Residual Chlorine | 7782-50-5 | 50060 |
| Cadmium | 7440-43-9 | 01027 |
| Silver | 7440-22-4 | 01077 |
| Thallium | 7440-28-0 | 01059 |
| Cyanide | 57-12-5 | 78248 |
| Dioxin (2,3,7,8-TCDD) | 1764-01-6 | 34675 |
| 4,6-Dinitro-O-Cresol | 534-52-1 | 34657 |
| Pentachlorophenol | 87-86-5 | 39032 |
| Benzidine | 92-87-5 | 39120 |
| Chrysene | 218-01-9 | 34320 |
| Hexachlorobenzene | 118-74-1 | 39700 |
| N-Nitrosodimethylamine | 62-75-9 | 34438 |
| Aldrin | 309-00-2 | 39330 |
| Chlordane | 57-74-9 | 39350 |
| Dieldrin | 60-57-1 | 39380 |
| Heptachlor | 76-44-8 | 39410 |
| Heptachlor epoxide | 1024-57-3 | 39420 |
| Toxaphene | 8001-35-2 | 39400 |

Unless otherwise indicated in this permit, if the EPA Region 6 MQL for a pollutant or pollutant parameter is sufficiently sensitive (as defined above) and the analytical test result is less than the MQL, then a value of zero (0) may be used for reporting purposes on DMRs. Furthermore, if the EPA Region 6 MQL for a pollutant or parameter is not sufficiently sensitive, but the analytical test result is less than the published ML from a sufficiently sensitive method, then a value of zero (0) may be used for reporting purposes on DMRs.

B. PERMIT MODIFICATION AND REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of New Mexico's Water Quality Standards for Interstate and Intrastate Streams are revised, new State water quality standards are established and/or remanded by the New Mexico Water Quality Control Commission, or site-specific Total Maximum Daily Loads (TMDL) are developed and approved.

The permit may be reopened and modified if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

C. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

1. The following pollutants may not be introduced into the treatment facility:

(a) Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21;

(b) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;

(c) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;

(d) Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;

(e) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless the Approval Authority, upon request of the POTW, approves the alternate temperature limit;

(f) Petroleum oil, non-biodegradable cutting oil, or products of mineral origin in amounts that will cause interference or pass through;

(g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and

(h) Any trucked or hauled pollutants, except at discharge points designated by the POTW.

2. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Act, including any requirements established under 40 CFR Part 403.

3. The permittee shall provide adequate notice of the following:

(a) Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Act if it were directly discharging those pollutants; and

(b) Any substantial change in the volume or character of pollutants being introduced into the treatment works.

(c) Any notice shall include information on (i) the quality and quantity of effluent to be introduced into the treatment works, and (ii) any anticipated impact of such change in the quality or quantity of effluent to be discharged from the publicly owned treatment works.

D. WHOLE EFFLUENT TOXICITY TESTING (7-DAY CHRONIC NOEC FRESHWATER)

*It is unlawful and a violation of this permit for a permittee or his designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6 or the State NPDES permitting authority.*

1. SCOPE AND METHODOLOGY

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

| APPLICABLE TO FINAL OUTFALL(S) | |
|---|---|
| REPORTED AS FINAL OUTFALL | 001 |
| CRITICAL DILUTION (%) | 98% |
| EFFLUENT DILTION SERIES (%) | 31%, 41%, 55%, 74%, 98% |
| TEST SPECIES AND METHODS | *Ceriodaphnia dubia* / Method 1002.0 (EPA-821-R-02-013 or latest version) |
| | *Pimephales promelas*/ Method 1000.0 (EPA/821/R-02-013 or latest version) |
| SAMPLE TYPE | Defined in PART I |

b. The NOEC (No Observed Lethal Effect Concentration) is herein defined as the greatest effluent dilution at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.

c. This permit may be reopened to require additional WET limits, chemical specific effluent limits, additional testing, a Toxicity Reduction Evaluation, and/or other appropriate actions to address toxicity.

2. REQUIRED TEST ACCEPTABILITY CRITERIA AND TEST CONDITIONS

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

| **Condition/Criteria** | ***Ceriodaphnia dubia*** | ***Pimephales promelas*** |
|---|---|---|
| **Test Duration** | Until 60% or more of surviving control females have 3 broods (max 8 days) | 7 days |
| **# of replicates per concentration** | 10 | 5 |
| **# of organisms per replicate** | 1 | 8 |
| **# or organisms per concentration** | 10 | 40 (minimum) |
| **# of test concentrations per effluent** | 5 and a control | 5 and a control |
| **Holding time *** | 36 hours for first use | 36 hours for first use |
| **Sampling Requirement *** | Minimum of 3 samples | Minimum of 3 samples |
| **Test Acceptability Criteria** | ≥80% survival of all control organisms. | ≥80% survival of all control organisms. |
| | Average of 15 or more neonates per surviving control female. | Average dry weight per surviving organism in control must be ≥0.25mg. |
| | 60% of surviving control females must produce 3 broods. | |
| **Coefficient of Variation **** | 40% or less, unless significant effects are exhibited. | 40% or less unless significant effects are exhibited. |
| **Percent Minimum Significant Difference (PMSD range) for Sublethal Endpoint **** | 13 – 47 | 12 - 30 |

* If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples and the minimum number of effluent portions are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent and must meet the holding time between collection and first use of the sample. When possible, the effluent samples used for the toxicity tests shall be collected on separate days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 3 of this section.

**Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%, or a PMSD value greater than the higher value on the range provided.

a. Statistical Interpretation
The statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in the appropriate method manual listed in Part II or the most recent update thereof.

b. Dilution Water
1) Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;
i. toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
ii. toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

2) If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
i. a synthetic dilution water control which fulfills the test acceptance requirements was run concurrently with the receiving water control;
ii. the test indicating receiving water toxicity has been carried out to completion,
iii. the permittee includes all test results indicating receiving water toxicity with the full report and information required; and
iv. the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

c. Samples and Composites
1) The permittee shall collect a minimum of three samples (flow-weighted composite if possible) from the outfall(s).

2) The permittee shall collect a second and third sample (composite samples if possible) for use during the 24-hour renewal of each dilution concentration for each test. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours for first use of the sample. The permittee must have initiated the toxicity test within 36 hours after

the collection of the last portion of the first composite sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage. A holding time up to 72 hrs is allowed upon notification to EPA of the need for additional holding time.

3) The permittee must collect the composite samples such that the effluent samples are representative of the discharge duration, and of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

3. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this part in accordance with the Report Preparation Section of the most current publication of the method manual, for every valid or invalid toxicity test initiated, whether carried to completion or not. The permittee shall retain each full report and submit them upon the specific request of the Agency. For any test which fails, is considered invalid, or which is terminated early for any reason, the full report must be submitted for agency review.

b. A valid test for each species must be reported during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. One set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. Additional results are reported under the retest codes below.

c. The permittee shall submit the results of each valid toxicity test on the subsequent monthly DMR for that reporting period as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

| **Reporting Requirement** | **Parameter STORET CODE** | |
|---|---|---|
| | *Ceriodaphnia dubia* | *Pimephales promelas* |
| Enter a “1” if the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, otherwise enter a "0". | TLP3B | TLP6C |
| Report the NOEC value for survival | TOP3B | TOP6C |
| Report the LOEC value for survival | TXP3B | TXP6C |
| Enter a “1” if the NOEC for growth or reproduction is less than the critical dilution, otherwise enter a “0”. | TGP3B | TGP6C |

| | | |
|---|---|---|
| Report the NOEC value for growth or reproduction | TPP3B | TPP6C |
| Report the LOEC value for growth | TYP3B | TYP6C |
| Report the highest (critical dilution or control) Coefficient of Variation | TQP3B | TQP6C |
| (If required) Retest 1 – Enter a "1" if the NOEC for survival, growth or reproduction is less than the critical dilution, otherwise enter "0". | 22418 | 22415 |
| (If required) Retest 2- Enter a "1" if the NOEC for survival, growth or reproduction is less than the critical dilution, otherwise enter "0". | 22419 | 22416 |
| (If required) Retest 3- Enter a "1" if the NOEC for survival, growth or reproduction is less than the critical dilution, otherwise enter "0". | 51444 | 51443 |

4. MONITORING FREQUENCY REDUCTION

a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing for Ceriodaphnia dubia, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to once per year.

b. Certification - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria above. In addition, the permittee must provide a list with each test performed including test initiation date, species, and NOECs. Upon review and acceptance of this information, the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's compliance section to update the permit reporting requirements.

c. Failures - If any test demonstrates lethal or sub-lethal effects at or below the critical dilution at any time during the life of this permit, three monthly retests are required. If a frequency reduction had been granted, the monitoring frequency for the affected test species reverts to once per quarter until the permit is re-issued.

5. PERSISTENT TOXICITY

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal and/or sub-lethal effects at or below the critical dilution. Significant toxic effects, are herein defined as a statistically significant difference at the 95% confidence level between the survival, growth or

reproduction of the appropriate test organism in a specified effluent dilution and the control (0% effluent). If the initial WET test conducted fails, the permittee will conduct three retests. The purpose of retests is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result. If any valid test demonstrates significant lethal and/or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for this species is automatically increased to once per quarter with no option for frequency reduction.

a. Retest
The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant effects at or below the critical dilution. The three additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with the reporting requirements previously outlined and available upon request from the Agency.

b. Requirement to Initiate a Toxicity Reduction Evaluation
If persistent lethality is demonstrated by failure of one or more retests, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Part 6 of this section. If persistent sub-lethality is demonstrated by failure of two or more retests, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements. The permittee shall notify EPA in writing within 5 days of notification of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest for lethal TREs or second failed retest for sub-lethal TREs. A TRE may also be required due to a demonstration of intermittent effects at or below the critical dilution, or for failure to perform the required retests.

6. TOXICITY REDUCTION EVALUATION (TRE)

EPA Region 6 is currently addressing TREs as follows: A TRE is triggered following three sub-lethal test failures (a failure followed by two retest failures) or two test failures with lethal effects (a failure followed by one retest failure).

a. Within ninety (90) days of confirming lethality and/or sub-lethality in the retests, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE to the EPA WET Coordinator at 6WQ-PO. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A TRE is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable

level. A TRE is defined as a step wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include the following:

1) Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, a Toxicity Identification Evaluation (TIE) and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Identification Evaluations to characterize the nature of the constituents causing toxicity, the permittee shall perform multiple characterizations and follow the procedures specified in the documents "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA 600/6-91/003) or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081), as appropriate.

2) Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified; Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where toxicity was demonstrated within 24 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

3) Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and

4) Project Organization (e.g., project staff, project manager, consulting services, etc.).

b. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal.

c. The permittee shall submit a quarterly TRE Activities Report to the EPA WET Coordinator (6WQ-PO) in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:

1) Any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
2) Any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
3) Any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution. A copy of the TRE Activities Report shall also be submitted to the state agency.
4) Any results and interpretation of any chemical specific analysis, and for any characterization, identification, and confirmation tests performed during the quarter.
5) Any changes to the initial TRE plan and schedule that are believed necessary.

d. Finalizing a TRE
The permittee shall submit (to EPA 6WQ-PO) a final report on TRE activities no later than twenty-eight (28) months from confirming toxicity in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant toxicity at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism. A copy of the final report on TRE Activities shall also be submitted to the state agency.

A TRE may be stopped if there is no toxicity at the critical dilution for a period of 12 consecutive months (with at least monthly testing) following confirmation of toxicity in the retests. The permittee would submit a final report to EPA at that time.

e. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical

compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).