REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

NPDES Permit No NM0024899

# 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"),

Town of Red River
P.O. Box 1020
HWY 38, Mile Marker 10
Red River, NM 87558

is authorized to discharge to receiving waters named Red River, in Waterbody Segment Code No. 20.6.4.122, from a facility located at mile marker 10 on Highway 38, Red River, Taos County, New Mexico.

The discharge is located on that water at the following coordinates:

Outfall 001: Latitude 36° 42' 39" North, Longitude 105° 26' 46" West

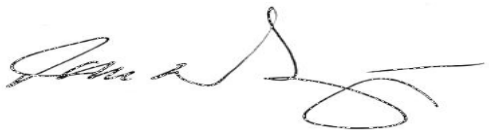
in accordance with this cover page and the effluent limitations, monitoring requirements, and other conditions set forth in Part I, Part II, Part III, and Part IV hereof.

This permit is prepared by Jim Afghani, Environmental Engineer, Permitting Section (6WQ-PE).

This is a reissuance of the current NPDES permit and shall become effective on July 1, 2022

This permit and the authorization to discharge shall expire at midnight, June 30, 2027

Issued on June 23, 2022



Charles W. Maguire
Director
Water Division (6WD)

## DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

| | |
|---|---|
| 4Q3 | Lowest four-day average flow rate expected to occur once every three-years |
| BAT | Best available technology economically achievable |
| BCT | Best conventional pollutant control technology |
| BPT | Best practicable control technology currently available |
| BMP | Best management plan |
| BOD | Biochemical oxygen demand (five-day unless noted otherwise) |
| BPJ | Best professional judgment |
| CBOD | Carbonaceous biochemical oxygen demand (five-day unless noted otherwise) |
| CD | Critical dilution |
| CFR | Code of Federal Regulations |
| cfs | Cubic feet per second |
| COD | Chemical oxygen demand |
| COE | United States Corp of Engineers |
| CWA | Clean Water Act |
| DMR | Discharge monitoring report |
| ELG | Effluent limitation guidelines |
| EPA | United States Environmental Protection Agency |
| ESA | Endangered Species Act |
| FCB | Fecal coliform bacteria |
| F&WS | United States Fish and Wildlife Service |
| mg/l | Milligrams per liter |
| ug/l | Micrograms per liter |
| MGD | Million gallons per day |
| NMAC | New Mexico Administrative Code |
| NMED | New Mexico Environment Department |
| NMIP | New Mexico NPDES Permit Implementation Procedures |
| NMWQS | New Mexico State Standards for Interstate and Intrastate Surface Waters |
| NOEC | No Observed Effect Concentration |
| NPDES | National Pollutant Discharge Elimination System |
| MQL | Minimum quantification level |
| O&G | Oil and grease |
| POTW | publicly owned treatment works |
| RP | Reasonable potential |
| SIC | Standard industrial classification |
| s.u. | Standard units (for parameter pH) |
| SWQB | Surface Water Quality Bureau |
| TDS | Total dissolved solids |
| TMDL | Total maximum daily load |
| TRC | Total residual chlorine |
| TRE | Toxicity Reduction Evaluation |
| TSS | Total suspended solids |
| UAA | Use attainability analysis |
| USFWS | United States Fish & Wildlife Service |
| USGS | United States Geological Service |
| WLA | Waste-load allocation |
| WET | Whole effluent toxicity |
| WQCC | New Mexico Water Quality Control Commission |
| WQMP | Water Quality Management Plan |
| WWTP | Wastewater treatment plant |

# PART I – REQUIREMENTS FOR NPDES PERMITS

## A. **LIMITATIONS AND MONITORING REQUIREMENTS**

1. Effluent Limits – 0.9 MGD Facility Design Flow

During the period beginning the effective date and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge treated municipal wastewater to the Red River, in Segment Number 20.6.4.122, from Outfall 001. Such discharge shall be limited and monitored by the permittee as specified below:

| POLLUTANT | MINIMUM | MAXIMUM | FREQUENCY | TYPE |
|---|---|---|---|---|
| pH | 6.6 s.u. | 8.8 s.u. | Five/Week | Grab |

| POLLUTANT | 30-DAY AVG | DAILY MAX | 7-DAY AVG | 30-DAY AVG*1 | DAILY MAX*1 | 7-DAY AVG*1 | FREQUENCY | TYPE |
|---|---|---|---|---|---|---|---|---|
| Flow | Report MGD | Report MGD | Report MGD | *** | *** | *** | Continuous | Totalizing Meter |
| $BOD_5$ | 157.7 lbs/Day | N/A | 236.6 lbs/Day | 30 mg/L | N/A | 45 mg/L | Three/Month | 6-Hour Composite*11 |
| $BOD_5$, minimum % removal | ≥85% | N/A | N/A | N/A | N/A | N/A | One/Month | Calculation *7 |
| TSS | 157.7 lbs/Day | N/A | 236.6 lbs/Day | 30 mg/L | N/A | 45 mg/L | Three/Month | 6-Hour Composite*11 |
| TSS, minimum % removal | ≥85% | N/A | N/A | N/A | N/A | N/A | One/Month | Calculation*7 |
| E. Coli Bacteria*2 | N/A | N/A | N/A | 126 cfu/100 mL | 235 cfu/100 mL | N/A | Three/Month | Grab |
| TRC*3 | N/A | N/A | N/A | N/A | 19 ug/L | N/A | Daily | Instantaneous Grab*3 |
| Total Nitrogen | N/A | N/A | N/A | Report | Report | N/A | One/Month | Grab*12 |
| Total Phosphorus | N/A | N/A | N/A | Report | Report | N/A | One/Month | Grab |
| Copper, total recoverable*13 | 0.24 lbs/Day | 0.36 lbs/Day | N/A | 15.6 ug/L | 23.4 ug/L | N/A | One/Month | Grab |
| Zinc, total recoverable*13 | 3.88 lbs/Day | 5.12 lbs/Day | N/A | 206.9 ug/L | 273.1 ug/L | N/A | One/Month | Grab |
| Diethyl Phthalate*14 | N/A | N/A | N/A | Report | Report | N/A | One/Quarter | Grab |
| 2,4-Dinitrotoluene*14 | N/A | N/A | N/A | Report | Report | N/A | One/Quarter | Grab |
| Di-n-Butyl Phthalate*14 | N/A | N/A | N/A | Report | Report | N/A | One/Quarter | Grab |
| Phenol*14 | N/A | N/A | N/A | Report | Report | N/A | One/Quarter | Grab |

| WET TESTING (7-Day Chronic Static Renewal/ NOEC) *4 | VALUE | FREQUENCY *9,10 | TYPE |
|---|---|---|---|
| *Ceriodaphnia dubia* | Report | Once/Quarter | 24-Hr Composite |
| *Pimephales promelas* | Report | Once/Quarter | 24-Hr Composite |

| POLLUTANT | Value | FREQUENCY | TYPE |
|---|---|---|---|
| Expanded Effluent Testing *5 | Report (mg/L) *1 | 1 each in 2nd, 3rd, & 4th years of the permit *5 | 24-Hr Composite *6 |

Footnotes:

*1. See **Appendix A of Part II** of the permit for minimum quantification limits.

*2. Colony forming units (cfu) per 100 ml. Bacteria reporting units must be either cfu/l00 mL or most probable number (mpn).

*3. TRC shall be measured during periods when chlorine is used as either backup bacteria control, when disinfection of plant treatment equipment is required or when used for filamentaceous algae control. Regulations at 40 CFR Part 136 define "instantaneous grab" as analyzed within 15 minutes of collection. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.

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

*5. See NPDES Permit Application Form 2A; Tables A.12, B.6, and Part D for the list of pollutants to include in this testing. Samples are to be taken on the same day as the WET test event for that year. The permittee shall report the results as a separate attachment in tabular form sent to the Permits and Technical Assistance Section Chief of the Water Quality Protection Division within 60 days of receipt of the lab analysis.

*6. Except for bacteria, pH, TRC, DO and sulfite, which are grab samples.

*7. Percent removal is calculated using the following equation:
[average monthly influent concentration (mg/l) – average monthly effluent concentration (mg/l)] ÷ [average monthly influent concentration (mg/l)] x 100.

*9. If all 1st year (4 test) results pass, and a frequency reduction is granted the discharge shall be tested at least 6 months apart. If a test frequency is 1x/year or less, the test should occur in winter or springtime when most sensitive juvenile life forms are likely to be present in receiving water and colder ambient temperatures might adversely affect treatment processes. This will generally be defined as between November 1 and April 30.

*10. The monitoring frequency for both test species (Cer. dubia & Pim. promelas) shall revert to once per three months on the last day of the permit term.

*11. Instead of 3-hr composite, $BOD_5$ and TSS will be 6-hour composite as listed in previous permit/fact sheet to coincide with the State of New Mexico Ground Water Quality Bureau discharge permit requirements.

*12. Total Nitrogen is defined as Total Kjeldahl Nitrogen plus Nitrate and Nitrite. Analyses shall be in accordance with 40 CFR 136.

*13. A compliance schedule is allowed for the pollutants Copper and Zinc. These pollutants will be monitored and reported for the first 3 years of this permit from the date the permit is issued. Effluent Limits will become effective 3 years and one day after the effective date of the permit.

*14. Once per quarter from the first day of the effective permit through the end of the first year of the permit.

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 or the shoreline. Also, samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge after the final treatment unit and prior to the receiving stream. Any addition of pre-coagulant generated solids to the effluent shall be added upstream of the sample point.

B. **SCHEDULE OF COMPLIANCE**:

Copper and Zinc will be monitored and reported for the first 3-year of the permit from the date the permit become effective to evaluate against the NMWQS. If result of this study indicates that they have the potential to exceed the NMWQS, effluent limits will become effective 3 years and one day after the effective date of the permit.

C. **MONITORING AND REPORTING** (MAJOR DISCHARGERS)

The permittee shall effectively monitor the operation and efficiency of all treatment and control facilities and the quantity and quality of the treated discharge.

Monitoring results must be reported to EPA electronically. To submit electronically, access the NetDMR website at https://usepa.servicenowservices.com/oeca_icis?id=netdmr_homepage, and click at the Contact List for further assistance.

1. Reporting periods shall end on the last day of the month.

2. The permittee is required to submit regular monthly reports as described above no later than the 15th day of the month following each reporting period.

3. The annual sludge report required in part IV of the permit is due on February 19 of each year and covers the previous calendar year from January 1 through December 31.

4. NO DISCHARGE REPORTING: If there are no discharges at outfall 001 during the sampling month, place an "X" in the NO DISCHARGE box located in the upper right corner of the Discharge Monitoring Report.

5. If any 30-day average 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.

6. Any 30-day average value reported in the required Discharge Monitoring Report 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.

7. Other measurements of oxygen demand (e.g., TOC and COD) may be substituted for the five-day Biochemical Oxygen Demand ($BOD_5$), or for the five-day Carbonaceous

   Biochemical Oxygen Demand ($CBOD_5$), 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. CONTRIBUTING INDUSTRIES

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

1. Pollutants which create a fire or explosion hazard in the 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;

2. 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;
3. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;

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

5. 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 alternate temperature limits;

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

7. 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

8. Any trucked or hauled pollutants, except at discharge points designated by the POTW.

## E. OVERFLOW REPORTING

The permittee shall report all overflows with the DMR submittal. However, once available, the permittee may be required to use the Net-Sewer Overflow electronic reporting system to replace the paper reporting requirements. These reports shall be summarized and reported in tabular format. The summaries shall include: date, time, duration, location, estimated volume, and cause of the overflow. They shall also include observed environmental impacts from the overflow; actions taken to address the overflow; and the ultimate discharge location if not contained (e.g., storm sewer system, ditch, and tributary).

Overflows that endanger health or the environment shall be orally reported to EPA at (214) 665-7179, 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 NMED Surface Water Quality Bureau within 5 days of the time the permittee becomes aware of the circumstance.

## F. 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 maintain a written report on site summarizing such activities per Part III of the permit. The following items shall be considered in the program:

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

## G. APPLICATION, DMR, AND COMPLIANCE STATUS REPORT

A duplicate copy of application for permit renewal, monthly DMR, and compliance status report, if there are any, shall be sent to NMED at the mailing address listed in Part III of this permit.

PART II - OTHER CONDITIONS

## A. MINIMUM QUANTIFICATION LEVEL (MQL)

The permittee shall use sufficiently sensitive EPA-approved analytical methods (under 40 CFR part 136 or required under 40 CFR chapter I, subchapters N or O) when quantifying the presence of pollutants in a discharge for analyses of pollutants or pollutant parameters under the permit. In case the approved methods are not sufficiently sensitive to the limits, the most sufficiently sensitive methods (lowest minimum levels) must be used as defined under 40 CFR 122.44(i)(1)(iv)(A). 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-0-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 |

For pollutants listed on Appendix A of Part II with MQL's, analyses *may* be performed at the listed MQL. If any individual analytical test result is less than the MQL listed, a value of zero (0) may be used for that pollutant result for the DMR reporting requirements.

In addition, any additional pollutant sampling for purposes of this permit, including renewal applications or any other reporting, may be tested to the MQL, permit limit(s) or the state WQS. Results of analyses that are less than the listed MQL, permit limit(s) or the state WQS may be reported as "non-detect."

Upon written approval by the EPA Region 6 NPDES Permits Branch (6WQ-P), the effluent specific MQL may be utilized by the permittee for all future DMR reporting requirements until/or unless changes are required for adoption of a lower MQL.

## B. 24-HOUR ORAL REPORTING: DAILY MAXIMUM LIMITATION VIOLATIONS

Under the provisions of Part III.D.7.b. (3) of this permit, violations of daily maximum limitations for the following pollutants shall be reported orally to EPA Region 6, Compliance and Assurance Division, Water Enforcement Branch (6EN-W), Dallas, Texas, and concurrently to NMED within 24 hours from the time the permittee becomes aware of the violation followed by a written report in five days.

*E. coli* Bacteria, TRC

## C. **PERMIT MODIFICATION AND REOPENER**

In accordance with 40 CFR Part 122.44(d), the permit may be reopened and modified during the life of the permit if relevant portions of the New Mexico's Water Quality Standards for Interstate and Intrastate Streams are revised, or new State of New Mexico water quality standards are established and/or remanded.

In accordance with 40 CFR Part 122.62(s)(2), 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. Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR Part 124.5.

## D. **WET 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 001** | |
|---|---|
| REPORTED AS FINAL OUTFALL | 001 |
| CRITICAL DILUTION (%) | 17% |
| EFFLUENT DILTION SERIES (%) | 7%, 10%, 13%, 17%, 23% |
| 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 WET limits, chemical specific effluent limits, additional testing, 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 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.

b. 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 hours is allowed upon notification to EPA and NMED 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 a test species, 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 not less than once per year for the less sensitive species (usually the vertebrate species) and not less than twice per year for the more sensitive test species (usually the invertebrate species).

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.

d. This monitoring frequency reduction applies only until the expiration date of this permit, at which time the monitoring frequency for both 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 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 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 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).