



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

NPDES Permit No NM0020711

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 Tucumcari
P.O. Box 1188
Tucumcari, NM 88401

is authorized to discharge from a facility located at 1700 North Rock Island Street, Tucumcari in Quay County, New Mexico, to Breen's pond, thence into No Name Creek, thence into Pajarito Creek in Segment 20.6.4.303 of the Canadian River Basin from a point located approximately:

Outfall 001: Latitude 35° 11' 48.94" N and Longitude 103° 43' 05.02" W

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

This permit, prepared by Tung Nguyen, Environmental Engineer, Permitting Section (WDPE), supersedes and replaces NPDES Permit No. NM0020711 with an effective date of October 1, 2015.

This permit shall become effective on January 1, 2021

This permit and the authorization to discharge shall expire at midnight, December 31, 2025

Issued on November 19, 2020

Charles Maguire

Charles W. Maguire
Director
Water Division (WD)

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
FWS	United States Fish and Wildlife Service
mg/l	Milligrams per liter
ug/l	Micrograms per liter
lbs	Pounds
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
NPDES	National Pollutant Discharge Elimination System
ML	Minimum level
MQL	Minimum quantification level
O&G	Oil and grease
POTW	Publicly owned treatment works
RP	Reasonable potential
SS	Settleable solids
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
TSS	Total suspended solids
UAA	Use attainability analysis
USGS	United States Geological Service
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plan

PART I – REQUIREMENTS FOR NPDES PERMITS

A. LIMITATIONS AND MONITORING REQUIREMENTS

1. OUTFALL 001 - FINAL Effluent Limits – 1.2 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 domestic wastewater from Outfall 001 to Breen's pond. Such discharges shall be limited and monitored by the permittee and reported as specified below:

POLLUTANT	DISCHARGE LIMITATIONS MINIMUM	DISCHARGE LIMITATIONS MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	6.6 s.u.	9.0 s.u.	Daily	Instantaneous Grab

POLLUTANT	30-DAY AVG, lbs/day, unless noted	7-DAY AVG lbs/day, unless noted	30-DAY AVG mg/l, unless noted (*1)	7-DAY AVG mg/l, unless noted (*1)	DAILY MAX mg/l, unless noted (*1)	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	Report MGD	Report MGD	N/A	N/A	N/A	Daily	Totalized meter
BOD ₅	230	345	230	345	N/A	1/week	6-hr Composite
TSS	230	345	230	345	N/A	1/week	6-hr Composite
BOD ₅ % removal, minimum	≥85 (*2)	N/A	N/A	N/A	N/A	Monthly	Calculation
TSS % removal, minimum	≥85 (*2)	N/A	N/A	N/A	N/A	Monthly	Calculation
E. coli bacteria	4.39 x 10 ⁹ cfu (or MPN)/day	N/A	126 cfu (or MPN)/100 ml	N/A	410 cfu (or MPN)/100 ml	1/week	Grab
TRC	N/A	N/A	N/A	N/A	11 ug/l (*4)	Daily (*3)	Instantaneous Grab (*5)
Dissolved oxygen (DO) ^a (*8)	N/A	N/A	5 (minimum)	N/A	N/A	1/week	Instantaneous Grab
O&G	N/A	N/A	N/A	N/A	Report	1/quarter	6-hr Composite
Boron	N/A	7.50 (daily max.)	N/A	N/A	750 ug/L	1/two weeks	Grab
Total Phosphorus	7.67 ^a 0.77 ^b 0.23 ^c	N/A	1.0 ^a 0.1 ^b 0.03 ^c	N/A	N/A	1/two weeks ^a	6-hr Composite
Total Nitrogen (*6)	61.4 ^a 23.0 ^b 3.45 ^c	N/A	8.0 ^a 3.0 ^b 0.45 ^c	N/A	N/A	1/two weeks ^a	6-hr Composite

Methylmercury ^a	N/A	1.1 x 10 ⁻³	N/A	N/A	1.11 x 10 ⁻⁴ (or 0.3 mg/kg in fish tissue)	1/two weeks	Grab
PCBs (*7)	N/A	N/A	N/A	N/A	Report	Once	Grab
Acrolein	N/A	N/A	N/A	N/A	Report	1/year	Grab
Acrylonitrile	N/A	N/A	N/A	N/A	Report	1/year	Grab
Benzo(a)anthracene	N/A	N/A	N/A	N/A	Report	1/year	Grab
Benzo(a)pyrene	N/A	N/A	N/A	N/A	Report	1/year	Grab
3,4-benzofluoranthene	N/A	N/A	N/A	N/A	Report	1/year	Grab
Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	Report	1/year	Grab
Chrysene	N/A	N/A	N/A	N/A	Report	1/year	Grab
Diazinon	N/A	N/A	N/A	N/A	Report	1/year	Grab
Dibenzo(a,h)anthracene	N/A	N/A	N/A	N/A	Report	1/year	Grab

WHOLE EFFLUENT TOXICITY TESTING 7-DAY CHRONIC NOEC FRESHWATER (*10)	VALUE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Ceriodaphnia dubia	Report	Quarterly (*9)	6-hr Composite
Pimephales promelas	Report	Quarterly (*9)	6-hr Composite

Footnotes:

- *1 See **Appendix A of Part II** of the permit for minimum quantification limits.
- *2 Percent removal is calculated using the following equation:

$$\text{Percent removal} = \frac{\text{average monthly influent concentration } \left(\frac{\text{mg}}{\text{L}}\right) - \text{average monthly effluent concentration } \left(\frac{\text{mg}}{\text{L}}\right)}{\text{average monthly influent concentration } \left(\frac{\text{mg}}{\text{L}}\right)} \times 100$$
- *3 Daily when chlorine is used as either backup bacteria control or when disinfection of plant treatment equipment is required.
- *4 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- *5 Analyzed within 15 minutes of collection.
- *6 Total Nitrogen is defined as the sum of Total Kjeldahl Nitrogen (as N) and Nitrate-Nitrite (as N).
- *7 PCBs shall be tested using Method 1668A or as revised, as requested by NMED: Chlorinated Biphenyl Congeners in Water, Soil, Sediment and Tissue by High Resolution Gas Chromatography/High Resolution Mass Spectrometry (HRGC/HRMS).
- *8 Measured at effluent sampling point or at entry to Breen’s Pond location and analyzed within 15 minutes; field kit (probe) is allowed.
- *9 Quarterly shall be for the first year after the permit effective date; if all the test pass, frequencies would be once/6 months for Cd and once/year for Pp for the remaining term. If any WET test fails, frequency returns to once/3 months for the remaining term. If eligible for frequency reduction after the first year, the permittee must request EPA before proceeding.
- *10 Monitoring and reporting requirements begin on the effective date of this permit. See Part II of the permit for WET testing requirements for additional WET monitoring and reporting conditions.
 - a Phase 1-limits shall be effective and enforceable beginning first date of 4th year from the permit effective date. During the 1st, 2nd and 3rd years, measurement frequency shall be quarterly.
 - b Phase 2-limits is contingent. Compliance date will be set if permit is renewed.
 - c Phase n-limits compliance date shall be set after effective date of phase 2-limits is known.

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.

3. SAMPLE LOCATION

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. The sample point shall be clearly marked by the facility if it is not at the final outfall location. There shall be no flow from any source into the piping system after the sample point and prior to the final outfall.

B. SCHEDULES OF COMPLIANCE

The following compliance schedule is applicable to DO, methylmercury, total phosphorus and total nitrogen for phase 1-limits:

Deadline (from permit effective date)	Item(s) submitted to EPA and NMED
One year	Final design plan of total reuse of the effluent.
Two years	Construction of final plan.
Three years	Completion of the construction. Final project report.

At the end of each deadline, the permittee shall submit a report stating status of the required item(s) above to EPA and NMED. The report(s) may be attached to the next DMRs. If a deadline is not met, the permittee shall explain in writing why the compliance is not met along with corrective action(s) and a schedule to accomplish.

C. MONITORING AND REPORTING (MAJOR 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 the 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 (under Part III.D.4 of the permit). Reports shall be submitted monthly.

1. Reporting periods shall end on the last day of the month.
2. The permittee is required to submit regular reports as described above postmarked 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 is no discharge 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 7-day average or 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 7-day average or 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 days Biochemical Oxygen Demand (BOD₅), or for the five-day Carbonaceous Biochemical Oxygen Demand (CBOD₅), as applicable, where the permittee can demonstrate long term correlation of the method with BOD₅ or CBOD₅ 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 reported via email to EPA (Part III.D.7) within 24 hours, and to 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.

F. POLLUTANTS SCAN

The permittee shall submit at least 3 scans for each parameter below if the permit is not terminated and continue to discharge. This submittal is additional pollutants requirement to Table C, Form 2A for the next permit renewal.

The following pollutants, per 20.6.4.900.J(2) NMAC, are not listed in Table C of Form 2A:

Pollutants	CAS Number	Pollutant	CAS Number	Pollutant	CAS Number
Aluminum, dissolved	7429-90-5	Uranium, dissolved	7440-61-1	Dioxin	
Aluminum, total recoverable*	7429-90-5	Vanadium, dissolved	7440-62-2	alpha-Endosulfan	959-98-8
		Adjusted gross alpha		beta-Endosulfan	33213-65-9
		Radium 226 + Radium		Endosulfan sulfate	1031-07-8
Boron, dissolved	7440-42-8	Strontium 90		Endrin	72-20-8
Chromium III, dissolved	16065-83-1	Tritium		Endrin aldehyde	7421-93-4
Chromium VI, dissolved	18540-29-9	Aldrin	309-00-2	Heptachlor	76-44-8
Cobalt, dissolved	7440-48-4	alpha-BHC	319-84-6	Heptachlor epoxide	1024-57-3
Manganese, dissolved	7439-96-5	beta-BHC	319-85-7	Nonylphenol	84852-15-3
Methylmercury	22967-92-6	Gamma-BHC (Lindane)	58-89-9	Polychlorinated Biphenyls (PCBs)**	1336-36-3
Molybdenum, dissolved	7439-98-7	Chlordane	57-74-9	Toxaphene	8001-35-2
Molybdenum, total	7439-98-7	Diazinon	333-41-5	Dieldrin	60-57-1
		4,4'-DDT and derivatives		Fluoranthene	

G. OTHER REQUIREMENTS

N/A

PART II - OTHER CONDITIONS

A. MINIMUM QUANTIFICATION LEVEL (MQL)

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	POLLUTANT	CAS Number
Total Residual Chlorine	7782-50-5	Benzo(a)pyrene	50-32-8
Cadmium	7440-43-9	3,4-Benzofluoranthene	205-99-2
Silver	7440-22-4	Benzo(k)fluoranthene (207-08-9)	207-08-9
Thallium	7440-28-0	Indeno(1,2,3-cd)pyrene (193-39-5)	193-39-5
Cyanide	57-12-5	Dibenzo(a,h)anthracene (53-70-3)	53-70-3
Acrolein	107-02-8	Aldrin	309-00-2
Acrylonitrile	107-13-0	Chlordane	57-74-9
4, 6-Dinitro-0-Cresol	534-52-1	Dieldrin	60-57-1
Pentachlorophenol	87-86-5	Heptachlor	76-44-8
Benzidine	92-87-5	Heptachlor epoxide	1024-57-3
Chrysene	218-01-9	Toxaphene	8001-35-2
Hexachlorobenzene	118-74-1	Toxaphene (8001-35-2)	8001-35-2
N-Nitrosodimethylamine	62-75-9	Dioxin (2,3,7,8-TCDD)	1764-01-6
Benzo(a)anthracene	56-55-3		

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. 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 (email accepted), 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.

Boron, methylmercury, and 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 New Mexico's Water Quality Standards for Interstate and Intrastate Streams are revised, or new State water quality standards are established and/or remanded by New Mexico Water Quality Control Commission, respectively.

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. CONTRIBUTING INDUSTRIES

1. The following pollutants may not be introduced into the treatment facility:
 - Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams 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;
 - 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;
 - Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;
 - 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;
 - 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;
 - Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - 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
 - 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:
 - 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
 - Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

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 the change on the quality or quantity of effluent to be discharged from the POTW.

4. The POTW shall implement and enforce specific effluent limits for Industrial User(s), and all other users, as appropriate, which, together with appropriate changes in the POTW Treatment Plant's facilities or operation, are necessary to ensure renewed and continued compliance with the POTW's NPDES permit or sludge use or disposal practices.

E. 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):	001
REPORTED ON DMR AS FINAL OUTFALL:	001
EFFLUENT DILUTION SERIES (%):	32, 42, 56, 75 and 100
CRITICAL DILUTION (%):	100
COMPOSITE SAMPLE TYPE:	Defined at PART I
TEST SPECIES/METHODS:	40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA 821 R 02 013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA 821 R 02 013 or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

- b. The NOEC (No Observed Lethal Effect Concentration) is herein defined as the greatest effluent dilution at and below which lethality or sublethality 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 whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

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:

- The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- 60% of the surviving control females must produce three broods.
- The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
- The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.
- The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal effects are exhibited for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.
- A PMSD range of 13 - 47 for Ceriodaphnia dubia reproduction;
- A PMSD range of 12 - 30 for Fathead minnow growth.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

b. Statistical Interpretation

- For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/821/R-02-013 or the most recent update thereof.
- For the Ceriodaphnia dubia reproduction test and the Fathead minnow larval survival and growth test, 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 EPA/821/R-02-013 or the most recent update thereof.
- If the conditions of Test Acceptability are met in Item 2.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and

the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 3 below.

c. Dilution Water

- 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;
 - toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
 - toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.
- If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 2.a), 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:
 - a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;
 - the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);
 - the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 3 below; and
 - 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.

d. Samples and Composites

- The permittee shall collect **a minimum of three** flow-weighted composite samples from the outfall(s) listed at Item 1.a above.
- The permittee shall collect a second and third composite samples for use during the 24-hour renewal of each dilution concentration for the tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed **72 hours**. 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.

- The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.
- 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, the minimum number of effluent portions and the sample holding time 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. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple 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.

3. REPORTING

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/821/R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.3 of this permit. The permittee shall submit full reports 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.
- c. The permittee shall submit the results of each valid toxicity test as follows below. Submit retest information, if required, clearly marked as such. Only results of valid tests are to be reported.
 - Pimephales promelas (Fathead Minnow)
 - If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP6C
 - Report the NOEC value for survival, Parameter No. TOP6C
 - Report the LOEC value for survival, Parameter No. TXP6C
 - Report the NOEC value for growth, Parameter No. TPP6C
 - Report the LOEC value for growth, Parameter No. TYP6C
 - If the No Observed Effect Concentration (NOEC) for growth is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP6C

- Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP6C
- Ceriodaphnia dubia
 - If the NOEC for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP3B
 - Report the NOEC value for survival, Parameter No. TOP3B
 - Report the LOEC value for survival, Parameter No. TXP3B
 - Report the NOEC value for reproduction, Parameter No. TPP3B
 - Report the LOEC value for reproduction, Parameter No. TYP3B
 - If the No Observed Effect Concentration (NOEC) for reproduction is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP3B
 - Report the higher (critical dilution or control) Coefficient of Variation, Parameter No. TQP3B

d. If retests are required by NMED, enter the following codes:

- For retest number 1, Parameter 22415, enter a '1' if the NOEC for the lethal or sublethal endpoint is less than the critical dilution; otherwise, enter a '0'
- For retest number 2, Parameter 22416, enter a '1' if the NOEC for the lethal or sublethal endpoint is less than the critical dilution; otherwise, enter a '0'
- For retest number 3, Parameter 51443, enter a '1' if the NOEC for the lethal or sublethal endpoint is less than the critical dilution; otherwise, enter a '0'

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 Fathead minnow) and not less than twice per year for the more sensitive test species (usually the Ceriodaphnia dubia).
- 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, NOECs for lethal effects and the maximum coefficient of variation for the controls. 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 Permit Compliance System section to update the permit reporting requirements.

- c. Survival Failures - If any test fails the survival endpoint at any time during the life of this permit, three monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.
- 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 retest. 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. Part I Testing Frequency Other than Monthly

The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant lethal 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 procedures outlines in Item 3 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.

- b. If persistent lethality is demonstrated by failure of one or more retest, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 6 of this section. If persistent sub-lethality is demonstrated by failure of two or more retest, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements. The permittee shall notify EPA in writing within 5 days 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 lethal effects at or below the critical dilution, or for failure to perform the required retests. The provisions of Item 5.a are suspended upon submittal of the TRE Action Plan.

6. TOXICITY REDUCTION EVALUATION (TRE)

- 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 6WD-PO. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation 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:
 - i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures 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.
 - ii. 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;
 - iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and
 - iv. 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, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:
 - i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
 - ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
 - iii. 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.
- d. The permittee shall submit a Final Report on Toxicity Reduction Evaluation 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 Toxicity Reduction Evaluation Activities shall also be submitted to the state agency.
- 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).