



REGION 6
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733

NPDES Permit No. NM0020303

**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"),

Village of Los Lunas
P.O. Box 1209
Los Lunas, NM 87031

is authorized to discharge from the Los Lunas Wastewater Treatment Plant located at 1960 Heaton Loop, Los Lunas, Valencia County, New Mexico,

to the receiving water named Rio Grande, in Waterbody Segment Code No. 20.6.4.105, of the Rio Grande Basin, from a point located approximately at the following coordinates:

Outfall 001: Latitude 34° 46' 48" North, Longitude 106° 43' 50" 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. NM0020303 issued July 30, 2018.

This permit shall become effective on

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

Issued on

Dzung Kim Ngo Kidd
Acting Director
Region 6 Water Division

BLANK PAGE

PART I – REQUIREMENTS FOR NPDES PERMITS**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS****1. OUTFALL 001: FINAL Effluent Limits – 2.7 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 to the Rio Grande, in Segment Number 20.6.4.105, from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Standard Units			
	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	6.6	9.0	Daily	Instantaneous Grab

PARAMETER	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
	Mass (lbs/day, unless noted)			Concentration (mg/L, unless noted) (*1)				
	30-DAY AVG	DAILY MAX	7-DAY AVG	30-DAY AVG	DAILY MAX	7-DAY AVG	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	Report MGD	Report MGD	Report MGD	***	***	***	Continuous	Totalizing Meter
Biochemical Oxygen Demand, 5-day (BOD ₅)	676	***	1,014	30	***	45	1/Week	24-Hour Composite
Total Suspended Solids (TSS)	676	***	1,014	30	***	45	1/Week	24-Hour Composite
Percent Removal (minimum), BOD ₅ and TSS	≥85% (*2)	***	***	***	***	***	1/Week	Calculation (*2)
<i>E. Coli</i> Bacteria	1.29 (*3)	***	***	126 (*4)	410 (*4)	***	1/Week	Grab
Dissolved Oxygen (minimum)	***	***	***	≥ 5.0	≥ 5.0	***	Daily	Instantaneous Grab
Total Nitrogen (TN)(*12)	***	***	***	Report	Report	***	1/Quarter (*5)	24-Hour Composite
Total Phosphorus (TP)	***	***	***	Report	Report	***	1/Quarter (*5)	24-Hour Composite
Total Residual Chlorine (TRC)	***	***	***	***	11 (*6)	***	Daily	Instantaneous grab

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS	MONITORING REQUIREMENTS	
		MEASUREMENT FREQUENCY	SAMPLE TYPE
Expanded Effluent Testing (*7)	Report	1 each in 2 nd , 3 rd , & 4 th years of the permit (*7)	24-hr Composite

WHOLE EFFLUENT TOXICITY TESTING 7-DAY CHRONIC NOEC FRESHWATER (*8)	VALUE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<i>Ceriodaphnia dubia</i>	Report	Quarterly	24-hr Composite
<i>Pimephales promelas</i>	Report	Quarterly	24-hr Composite

Effluent Characteristic	Discharge Limitation			Monitoring Requirement	
Parameter	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
PFAS Analytes(*9)	---	---	Report ng/L	Once/6 months	Grab

Influent Characteristic	Reporting Requirements			Monitoring Requirements	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
PFAS Analytes(*9)	---	---	Report ng/L	Once/6 months	Composite

Biosolids Characteristics	Reporting Requirements			Monitoring Requirements	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
PFAS Analytes(*10)	---	---	Report ng/g	Once/6 months	Composite(*11)

Footnotes:

- (*1) See **Appendix A of Part II** of the permit for minimum quantification limits.
- (*2) Percent removal is calculated as follows: $\{[(\text{influent concentration} - \text{effluent concentration}) / \text{influent concentration}] \times 100\}$
- (*3) Units: Billion (1.0×10^{10}) colony forming units per day cfu/day. To calculate the load for any given day based on the facility's actual discharge flow, the formula is: $\{\text{load [cfu/day]} = \text{concentration [cfu/100 mL]} * \text{flow [MGD]} * 3.79 \times 10^7 [\text{conversion factor}]\}$
- (*4) Units: Colony forming units cfu/100 mL
- (*5) Monitoring for TP & TN should coincide with WET biomonitoring, when WET samples are collected for that quarter.
- (*6) Units: $\mu\text{g/L}$. The facility uses UV light for disinfection. However, when chlorine is used in any process throughout the plant, the effluent limitation for total residual chlorine (TRC) is $19 \mu\text{g/L}$. 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. Sampling and reporting is required when chlorine is used for either bacteria control and/or when chlorine is used to treat filamentous algae and/or used to disinfect process treatment equipment at the facility. A sample

representative of the usage of chlorine shall be taken **daily** when chlorine or any chemical containing chlorine is used. See Part II.B for Minimum Quantification Level (MQL).

- (*7) See NPDES Permit Application Form 2A; Table C for the list of pollutants to include in this testing. One yearly test must be during the warm summer months; defined as the period from June 1 through August 31, and another yearly test shall be sampled during cold weather; defined as the period from December 1 through February 28. The remaining yearly test may be taken during any time in that year. Samples shall coincide with any required WET testing 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.
- (*8) 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. Grab samples are allowed per method, if needed.
- (*9) Report in nanograms per liter (ng/L). This reporting requirement for the 40 PFAS parameters takes effect on the effective date of the authorization to discharge under the permit. Until there is an analytical method approved in 40 CFR Part 136 for PFAS in wastewater, monitoring shall be conducted using Method 1633. The Adsorbable Organic Fluorine CWA wastewater method 1621 can be used in conjunction with method 1633, if appropriate. Additionally, report in NetDMR the results of all 40 PFAS analytes required to be tested as part of the method as shown in Appendix B of Part II. Any parameters that are removed from the method based on multi-lab validation of the method will not be required for reporting and the Permittee may report "NODI: 9" for any such parameters. PFAS data results should be submitted to NMED at SWQ.Reporting@env.nm.gov and NMENV-PFAS-DATA@env.nm.gov. The data submittal should include the electronic data deliverable and sampling narrative report provided by the analytical laboratory used to complete the analysis.
- (*10) Report in nanograms per gram (ng/g). This reporting requirement for the 40 PFAS parameters takes effect on the effective date of the authorization to discharge under the permit. Until there is an analytical method approved in 40 CFR Part 136 for PFAS in biosolids, monitoring shall be conducted using Method 1633. The Adsorbable Organic Fluorine CWA wastewater method 1621 can be used in conjunction with method 1633, if appropriate. Additionally, report in NetDMR the results of all 40 PFAS analytes required to be tested as part of the method, as shown in Appendix B of Part II. Any parameters that are removed from the method based on multi-lab validation of the method will not be required for reporting and the Permittee may report "NODI: 9" for any such parameters.
- (*11) Sludge sampling shall be as representative as possible based on guidance found at <https://www.epa.gov/sites/production/files/2018-11/documents/potw-sludge-sampling-guidance-document.pdf>.
- (*12) TKN +Nitrate+ Nitrite

Human Health Testing Requirements

Discharges from major facilities for permits issued to protect NMWQS human health pollutants are required to be analyzed. The following pollutants need to be sampled ONE-TIME during the first discharge, analyzed and reported with the DMR on a separate form. Copies shall be sent to both EPA and NMED.

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING	EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING
POLLUTANT	Single Grab Sample, ug/l (*1)	POLLUTANT	Single Grab Sample, ug/l (*1)
Antimony (dissolved)		Vinyl Chloride	
Arsenic (dissolved)		Endrin Aldehyde	
Nickel (dissolves)		Heptachlor 90	
Selenium (dissolved)		Heptachlor epoxide	

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING	EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING
POLLUTANT	Single Grab Sample, ug/l (*1)	POLLUTANT	Single Grab Sample, ug/l (*1)
Thallium (dissolves)		PCB's	
Zinc (dissolved)		Toxaphene	
Cyanide, weak acid dissociable		2-Chlorophenol	
2,3,7,8-TCDD (Dioxin)		2,4-Dichlorophenol	
Acrolein		2,4-Dimethylphenol	
Acrylonitrile		2-Methyl-4-6-Dinitrophenol	
Benzene		1,2--trans-Dichloroethylene	
Bromoform		2,4-Dinitrophenol	
Carbon Tetrachloride		Pentachlorophenol	
Chlorobenzene		Phenol	
Clorodibromomethane		2,4,6-Trichlorophenol	
Chloroform		Acenaphthene	
Dichlorobromomethane		Anthracene	
1,2-Dichloroethane		Benzidine	
1,1-Dichloroethylene		2-Chloronaphthalene	
1,2-Dichloropropane		Benzo(a)anthracene	
1,3-Dichloropropene		Benzo(a)pyrene	
Ethylbenzene		Benzo(b)fluoranthene	
Methyl Bromide		Benzo(k)fluoranthene	
Methylene Chloride		Bis (2-chloroethyl) Ether	
1,1,2,2-Tetrachloroethane		Bis (2-chloroisopropyl) Ether	
Tetrachloroethylene		Bis (2-ethylhexyl) Phthalate	
Toluene		Butyl Benzyl Phthalate	
1,1,2-Trichloroethane		Chrysene	
Trichloroethylene		Dibenzo(a,h)anthracene	
1,2-Dichlorobenzene		Nitrobenzene	
1,3-Dichlorobenzene		n-Nitrodimethylamine	
1,4-Dichlorobenzene		n-Nitrosodi-n-Propylamine	
3,3-Dichlorobenzidine		n-Nitrosodiphenylamine	
Diethyl Phthalate		Pyrene	
Dimethyl Phthalate		1,2,4-Trichlorobenzene	
Dibutyl Phthalate		Aldrin	
EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING	EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING
POLLUTANT	Single Grab Sample, ug/l (*1)	POLLUTANT	Single Grab Sample, ug/l (*1)
2,4-Dinitrotoluene		Alpha-BHC	
1,2-Diphenylhydrazine		Beta-BHC	
Fluoranthene		Gamma-BHC	
Fluorene		Chlordane	

Hexachlorobenzene		4, 4' -DDT and derivatives	
Hexachlorobutadiene		Dieldrin	
Hexachlorocyclopentadiene		Alpha-Endosulfan	
Hexachloroethane		Beta-Endosulfan	
Indeno (1,2,3-cd)Pyrene		Endosulfan sulfate	
Isophorone		Endrin	

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.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit prior to the discharge into the receiving stream from the following approximate location: Outfall 001: Latitude: 34° 46' 48" North, Longitude: 106° 43' 50" West.

Samples taken of the influent in order to measure the removal efficiency of BOD₅, TSS, and PFAS shall be taken at a point prior to the wastewater entering the treatment system

B. SCHEDULE OF COMPLIANCE

NONE

C. MONITORING AND E-REPORTING (MAJOR DISCHARGERS)

1. The permittee shall effectively monitor the operation and efficiency of all treatment and control facilities and the quantity and quality of the treated discharge.
2. All DMRs shall be electronically reported per 40 CFR 127.16. To submit electronically, access the NetDMR website at www.epa.gov/netdmr and contact the R6NetDMR@epa.gov in-box for further instructions. Until you are approved for Net DMR, you must report on the Discharge Monitoring Report Form EPA No. 3320-1 in accordance with the "General Instructions" provided on the form. No additional copies are needed if reporting electronically, however when submitting paper form EPA No. 3320-1, 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.
 - a. Reporting periods shall end on the last day of each month.
 - b. The permittee is required to submit regular monthly reports as described above postmarked no later than the 15th day of the month following each reporting period.
 - c. 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.
3. If the permittee monitors any pollutant more frequently than required in Part I.A, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR, or the annual sludge report required in Part IV of the permit.
4. If any 30-day average, monthly average, 7-day average, weekly 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.
5. Any 30-day average, monthly average, 7-day average, weekly 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.
6. Other measurements of oxygen demand (e.g., TOC and COD) may be substituted for five day Biochemical Oxygen Demand (BOD₅) or for 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.
7. 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.

D. OVERFLOW REPORTING

The permittee shall report all overflows with the DMR 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 a Additional Pollutant from the overflow; actions taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary). Notification shall be made to the EPA at the following e-mail address: <R6_NPDES_Reporting@epa.gov>, and to NMED at (505) 827-0187 or SWQ.Reporting@env.nm.gov (email preferred) as soon as possible, but within 24-hours from the time the permittee becomes aware of the circumstance. A written report of overflows which endanger health or the environment shall be provided to EPA and the New Mexico Environment Department within 5 days of the time the permittee becomes aware of the circumstance, at the corresponding email addresses provided above.

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. 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, 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;
 - 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 (e.g., BOD), 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 alternate temperature limits;
 - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil 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

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

B. 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	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

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.

C. 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 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

D. PERMIT MODIFICATION AND REOPENER CLAUSE

In accordance with 40 CFR §122.62(a)(3), 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 §122.62(a)(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. If a TMDL is established for the Rio Grande, the permit may be reopened, and new limitations based on the TMDL may be incorporated into the permit.

Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR §124.5.

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 AS FINAL OUTFALL	001
CRITICAL DILUTION (%)	12%
EFFLUENT DILUTION SERIES (%)	5%, 7%, 9%, 12% and 16%

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 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

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	<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
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
# of 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 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:
 - i. a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;
 - ii. the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);
 - iii. the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 3 below; 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 flow-weighted composite samples from the outfall(s) listed at Item 1.a above.
2. 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.
3. 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.
4. 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 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 as follows below. Submit retest information, if required, clearly marked as such. Only results of valid tests are to be reported on the DMR.

Reporting Requirement	Parameter STORET CODE	
	<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
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. 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. 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.

5. 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 WDPN. 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:

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, 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.
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, with the Discharge Monitoring Report 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 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.
- 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).

6. 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. 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. 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.