



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
660 Main Street, NW
P.O. Box 1209
Los Lunas, NM 87031

is authorized to discharge from a the Los Lunas Wastewater Treatment Plant located at 1960 Heaton Loop S.E., 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 May 31, 2007.

This permit shall become effective on

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

Issued on

Prepared by

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Water Quality Protection Division (6WQ)

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ORISE Fellow
TMDL Section (6WQ-PT)

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		MEASUREMENT FREQUENCY	SAMPLE TYPE
	MINIMUM	MAXIMUM		
pH	6.6	9.0	Daily	Grab

PARAMETER	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
	Mass (lbs/day, unless noted)			Concentration (mg/L, unless noted) (*1)			MEASUREMENT FREQUENCY	SAMPLE TYPE
	30-DAY AVG	DAILY MAX	7-DAY AVG	30-DAY AVG	DAILY MAX	7-DAY AVG		
Flow	Report MGD	Report MGD	Report MGD	***	***	***	Daily	Instantaneous
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	12.9 (*3)	***	***	126 (*4)	410 (*4)	***	1/Week	Grab
Dissolved Oxygen (minimum)	Report	***	***	≥ 5.0 (24-Hr. Average)			1/Week	Grab
Ammonia (as N)	***	***	***	Report	Report	***	1/Quarter (*5)	24-Hour Composite
Total Residual Chlorine (TRC)	***	***	***	***	19 (*6)	***	Daily	Instantaneous grab

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS	MONITORING REQUIREMENTS	
		MEASUREMENT FREQUENCY	SAMPLE TYPE
Expanded Effluent Testing (*6)	Report	1 each in 2 nd , 3 rd , & 4 th years of the permit (*7)	24-Hr Composite (*8)

WHOLE EFFLUENT TOXICITY TESTING (48-Hr. Acute NOEC Freshwater) (*9) STORET CODE 22414	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
	30-DAY AVG	48-HR MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
<i>Daphnia pulex</i>	Report	Report	Once/Quarter	24-Hr Composite
<i>Pimephales promelas</i>	Report	Report	Once/Quarter	24-Hr Composite

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 (1.0×10^9) colony forming units (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 ammonia 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.A for Minimum Quantification Level (MQL).
- (*7) See NPDES Permit Application Form 2A; Tables A.12, B.6, and Part D 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) Except for pH, *E. coli* bacteria, DO, and TRC, which are grab samples.
- (*9) See Part II.D, Whole Effluent Toxicity Testing, for additional WET monitoring and reporting conditions.

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 and TSS shall be taken at a point prior to the wastewater entering the treatment system.

B. SCHEDULE OF COMPLIANCE

NONE

C. MONITORING AND 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. Monitoring information required shall be submitted on Discharge Monitoring Report (DMR) Form EPA 3320-1 to EPA and NMED as required in Part III.D.4.
 - 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. 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 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>, as soon as possible, but within 24-hours from the time the permittee becomes aware of the circumstance. Lastly, oral notification shall also be to the New Mexico Environment Department at (505) 827-0187 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.

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; and
- 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.

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)

See list of MQLs in Appendix A of Part II below. For pollutants listed with MQLs in Appendix A of Part II below, analyses must be performed to 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 Discharge Monitoring Report (DMR) calculations and reporting requirements.

In addition, any additional pollutant sampling for purposes of this permit, including renewal applications or any other reporting, shall be tested to the MQL shown on the attached Appendix A of Part II. Results of analyses that are less than the listed MQL may be reported as “non-detect” (ND).

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
Total Residual Chlorine

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 (48-Hr. Acute 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

CRITICAL DILUTION (%): 7%

EFFLUENT DILUTION SERIES (%): 3%, 4%, 5%, 7%, and 9%

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest 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.

Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest 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 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. Acute 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.
- 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. PERSISTENT LETHALITY

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

appropriate test organism in a specified effluent dilution and the control (0% effluent). The purpose of additional tests (also referred to as 'retests' or confirmation tests) 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 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

- i. 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 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 procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.
- ii. If any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. 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. 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.
- iii. The provisions of Section D.2.a of this document are suspended upon submittal of the TRE Action Plan.

b. Part II – Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant lethal effects at or below the critical dilution. 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.

3. 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:

- i. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.
- ii. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: *Daphnia pulex* survival test; and Fathead minnow survival test.

- iii. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal effects are exhibited for: *Daphnia pulex* survival test; and Fathead minnow survival test.

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 *Daphnia pulex* and Fathead minnow survival tests, the statistical analyses used to determine if there is a statistically 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-02-012 or the most recent update thereof.

If the conditions of test acceptability are met in Section D.3.a above and the percent survival of the test organism is equal to or greater than 90% 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 NOEC of not less than the critical dilution for the DMR reporting requirements found in Section D.4 below.

c. Dilution Water

- i. 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:
 - (A) Toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
 - (B) Toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.
- ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Section D.3.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) A synthetic dilution water control which fulfills the test acceptance requirements of Section D.3.a was run concurrently with the receiving water control;
 - (B) The test indicating receiving water toxicity has been carried out to completion (i.e., 48 hours);
 - (C) The permittee includes all test results indicating receiving water toxicity with the full report and information required by Section D.4 below; and
 - (D) 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

- i. The permittee shall collect two flow-weighted composite samples from the outfall(s) listed in Section D.1.a above.
- ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 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.
- iii. 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.
- iv. 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. 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 4 of this section.

4. 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-02-012, 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 on the DMR 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. Only ONE set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST Survival results for each species during the reporting period. All invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for EPA review.
- c. The permittee shall report the following results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit. 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.

- i. *Pimephales promelas* (Fathead minnow)
 - (A) 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. TEM6C.
 - (B) Report the NOEC value for survival, Parameter No. TOM6C.
 - (C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM6C.
 - ii. *Daphnia pulex*
 - (A) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D.
 - (B) Report the NOEC value for survival, Parameter No. TOM3D.
 - (C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.
- d. Enter the following codes on the DMR for retests only:
- i. For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
 - ii. For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

5. TOXICITY REDUCTION EVALUATION (TRE)

- a. Within ninety (90) days of confirming lethality in the retests, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. 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.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (703) 487-4650, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

- 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 lethality 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. The permittee shall assume all risks for failure to achieve the required toxicity reduction.
 - 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 lethality 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 lethality 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 lethality 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).

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 one or both test species, with no 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 *Daphnia pulex*).
- b. **CERTIFICATION** - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. 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.

MONITORING RESULTS (*1) FOR THE ANNUAL PRETREATMENT REPORT, REPORTING YEAR: _____, 200__ TO _____, 200__										
TREATMENT PLANT: _____, NPDES PERMIT NO. _____										
POLLUTANT	MAHL, if applicable (µg/L) (*2)	Influent Values (µg/L) on Dates Sampled (*1)				Daily Average Effluent Limit (µg/L) (*3)	Effluent Values (µg/L) on Dates Sampled (*1)			
		Date:	Date:	Date:	Date:		Date:	Date:	Date:	Date:
<u>Antimony (Total)</u>										
<u>Arsenic (Total)</u>										
<u>Beryllium (Total)</u>										
<u>Cadmium (Total)</u>										
<u>Chromium (Total)</u>										
<u>Copper (Total)</u>										
<u>Lead (Total)</u>										
<u>Mercury (Total)</u>										
<u>Molybdenum (Total)</u>										
<u>Nickel (Total)</u>										
<u>Selenium (Total)</u>										
<u>Silver (Total)</u>										
<u>Thallium (Total)</u>										
<u>Zinc (Total)</u>										
<u>Cyanide (Total)</u>										
(*4)										

- (*1) It is advised that the influent and effluent samples are collected considering flow detention time through each plant. Analytical MQLs should be used so that the data can also be used for Local Limits assessment and NPDES application purposes.
- (*2) Maximum Allowable Headworks Loading limitation, in µg/L. Only complete for pollutants that have approved Technically Based Local Limits.
- (*3) Daily average effluent limit in the NPDES permit OR the applicable state Water Quality Standard calculated to an equivalent permit effluent limit.
- (*4) Record the names of any pollutants [40 CFR Part 122, Appendix D, Table II and/or Table V] detected and the quantity in which they were detected.

