



REGION 6  
1445 ROSS AVENUE  
DALLAS, TEXAS 75202-2733

NPDES Permit No OK0044920

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**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"),

Midship Pipeline Co., LLC  
700 Milam Street  
Suite 1900  
Houston, TX 77002

is authorized to discharge hydrostatic test water from a pipeline located in Garvin and Grady Counties, Oklahoma

from outfalls described on the attached Table 1,

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

This is a first-time permit, which is prepared by Quang Nguyen, Environmental Engineer, Permitting Section (6WQ-PP), and shall become effective on

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

Issued on

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Charles W. Maguire  
Director  
Water Division (6WQ)

**PERMIT OUTFALL TABLE 1**

<b>Outfall Reference Number</b>	<b>Discharge Coordinates</b>		<b>County</b>	<b>Receiving Water</b>	<b>Waterbody ID #</b>
	<b>Latitude Deg° Min' Sec"</b>	<b>Longitude Deg° Min' Sec"</b>			
001	34° 45' 12.976" N	-97° 39' 55.792" W	Garvin	Unnamed tributary to Rounds Creek	OK310810020140_00
002	34° 44' 59.654" N	-97° 41' 51" W	Grady	Unnamed tributary to Rush Creek	OK310810050010_00

## PART I – REQUIREMENTS FOR NPDES PERMITS

## SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS

**1. Outfalls 001 - Final Effluent Limits – Intermittent flow**

During the period beginning on the effective date of the permit and lasting until the expiration date, the permittee is authorized to discharge hydrostatic wastewater from the Outfalls described above in the Permit Outfall Table to the receiving waters described therein. Such discharges shall be limited and monitored by the permittee as specified below:

POLLUTANT	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	6.5 s.u.	9.0 s.u.	Daily (*2)	Grab

POLLUTANT	30-DAY AVG	DAILY MAX	30-DAY AVG (*1)	DAILY MAX (*1)	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	Report (MGD)	Report (MGD) (*3)	N/A	N/A	Daily (*2)	Estimate (*3)
Oil & Grease	Report (lbs/day)	Report (lbs/day)	N/A	15 mg/L	Daily (*2)	Grab
Total Suspended Solids, Intake from Stream (*4, *5)	N/A	N/A	Report (mg/L)	Report (mg/L)	Daily (*2)	Grab
Total Suspended Solids, Effluent Net Value (*6)	Report (lbs/day)	Report (lbs/day)	30 mg/L (*6)	45 mg/L (*6)	Daily (*2)	Grab
Total Residual Chlorine (*8)	N/A	N/A	N/A	19 ug/L (*7)	Daily (*2)	Instantaneous Grab (*7)

WHOLE EFFLUENT TOXICITY (7-day Static renewal) (*8, *9, *10)	30-DAY AVG MINIMUM	7-DAY AVG MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
<i>Pimephales promelas</i>	Report	Report	Once/Quarter (*2)	24-Hr Composite
<i>Ceriodaphnia dubia</i>	Report	Report	Once/Quarter (*2)	24-Hr Composite

Footnotes:

- \*1 See Appendix A of Part II of the permit for minimum quantification limits.
- \*2 When discharging occurs.
- \*3 Permittee shall take steps as are necessary to prevent or minimize flooding, stream channel scouring or erosion of materials and soils into surface waters caused by the discharge. The discharge flow rate shall be controlled to prevent the erosion of soils, to minimize the disturbance and re-suspension of bottom sediments and to avoid adverse impact to any wetlands or other materials and the consequent addition of suspended solids to the discharge. Particularly in contacting with unvegetated or disturbed ground surfaces shall be avoided. "Estimate" flow measurements shall not be subject to the accuracy provisions established at Part III.C.6. Flow may be estimated using best engineering judgment.

- \*4 Applicable if an intake credit is being used. Discharge shall be into the same stream segment as the source of the intake water. The intake credit is not authorized if any part of the test water source is from municipal or industrial water sources, groundwater and/or well water or any other waters not from the same water segment as the direct point of discharge.
- \*5 Total suspended solids of the intake water. The sample for the intake water shall be taken when the volume of the structure/pipeline being tested is approximately fifty (50) percent full.
- \*6 The effluent net value is the discharge concentration less the concentration of the stream intake reported as (\*5). The sample shall be taken within the first thirty (30) minutes of discharge.
- \*7 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. The effluent shall contain NO MEASURABLE total residual chlorine (TRC) at any time. NO MEASURABLE will be defined as no detectable concentration of TRC as determined by any approved method established in 40 CFR 136. If any TRC analytical test result is less than the TRC MQL of 33 µg/l, or the more sensitive Method Detection Limit, a value of zero (0) may be reported.
- \*8 When the facility uses municipal water supply.
- \*9 Biomonitoring shall apply when the facility uses water treatment chemicals and when discharge occurs.
- \*10 Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

## 2. Outfall 002 - Final Effluent Limits – Intermittent flow

During the period beginning on the effective date of the permit and lasting until the expiration date, the permittee is authorized to discharge hydrostatic wastewater from the Outfalls described above in the Permit Outfall Table to the receiving waters described therein. Such discharges shall be limited and monitored by the permittee as specified below:

POLLUTANT	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	6.5 s.u.	9.0 s.u.	Daily (*2)	Grab

POLLUTANT	30-DAY AVG	DAILY MAX	30-DAY AVG (*1)	DAILY MAX (*1)	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	Report (MGD)	Report (MGD) (*3)	N/A	N/A	Daily (*2)	Estimate (*3)
Oil & Grease	Report (lbs/day)	Report (lbs/day)	N/A	15 mg/L	Daily (*2)	Grab
Total Suspended Solids	Report (lbs/day)	Report (lbs/day)	30 mg/L	45 mg/L	Daily (*2)	Grab
Total Residual Chlorine	N/A	N/A	N/A	19 ug/L (*7)	Daily (*2)	Instantaneous Grab (*7)

WHOLE EFFLUENT TOXICITY (7-day Static renewal) (*8, *9)	30-DAY AVG MINIMUM	7-DAY AVG MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
<i>Pimephales promelas</i>	Report	Report	Once/Quarter (*2)	24-Hr Composite
<i>Ceriodaphnia dubia</i>	Report	Report	Once/Quarter (*2)	24-Hr Composite

### Footnotes:

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

- \*2 When discharging occurs.
- \*3 Permittee shall take steps as are necessary to prevent or minimize flooding, stream channel scouring or erosion of materials and soils into surface waters caused by the discharge. The discharge flow rate shall be controlled to prevent the erosion of soils, to minimize the disturbance and re-suspension of bottom sediments and to avoid adverse impact to any wetlands or other materials and the consequent addition of suspended solids to the discharge. Particularly in contacting with unvegetated or disturbed ground surfaces shall be avoided. "Estimate" flow measurements shall not be subject to the accuracy provisions established at Part III.C.6. Flow may be estimated using best engineering judgment.
- \*7 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. The effluent shall contain NO MEASURABLE total residual chlorine (TRC) at any time. NO MEASURABLE will be defined as no detectable concentration of TRC as determined by any approved method established in 40 CFR 136. If any TRC analytical test result is less than the TRC MQL of 33 µg/l, or the more sensitive Method Detection Limit, a value of zero (0) may be reported.
- \*8 Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.
- \*9 Biomonitoring shall apply when the facility uses water treatment chemicals and when discharge occurs.

#### FLOATING SOLIDS, VISIBLE FOAM AND/OR OILS

The discharge shall not cause oil, grease, or related residue which produces a visible film or globules of oil or grease on the surface or coat the banks or bottoms of the watercourse; or toxicity to man, aquatic life, or terrestrial life.

There shall be no discharge of floating solids, visible foam in other than trace amounts, and suspended substances to the surface water of the State that may produce objectionable color.

#### SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge point prior to the receiving stream.

#### OTHER REQUIREMENTS

All hydrostatic test water shall be free from any kind of welding scrap or other foreign material before being discharged into the receiving waters.

The discharge shall not contain chemical, physical, or biological substances in concentrations that are irritating to skin or sense organs or are toxic or cause illness upon ingestion by humans.

There shall be no discharge of hydrostatic test water that contains polychlorinated biphenyl compounds.

**B. SCHEDULE OF COMPLIANCE**

NONE

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

1. Discharge Monitoring Report (DMR) results shall be electronically reported to EPA per 40 CFR 127.16 unless the permittee request and obtains an electronic reporting waiver. To submit electronically, access the NetDMR website at <https://netdmr.epa.gov>. To obtain the waiver, please contact: U.S. EPA - Region 6, Water Enforcement Branch, Oklahoma State Coordinator (6EN-WC), (214) 665-8058. 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 Oklahoma Department of Environmental Quality. (See Part III.D.IV of the permit).

Discharge Monitoring Report Form(s) shall be submitted quarterly. Each quarterly submittal shall include separate forms for each month of the reporting period.

2. Reporting periods shall end on the last day of the months March, June, September, and December.

3. The first Discharge Monitoring Report(s) shall represent facility operations from the effective date of the permit through the last day of the current reporting period.

4. Thereafter, the permittee is required to submit regular quarterly reports as described above and shall submit those reports postmarked no later than the 28<sup>th</sup> day of the month following each reporting period.

5. NO DISCHARGE REPORTING - If there is no discharge from any outfall during the sampling month, place an "X" in the NO DISCHARGE box located in the upper right corner of the Discharge Monitoring Report.

6. If any daily maximum or monthly 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.

7. Any daily maximum or monthly 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.

8. All reports shall be sent both to EPA and the Oklahoma Department of Environmental Quality at the addresses shown in Part III of the permit.

## PART II - OTHER CONDITIONS

### A. MINIMUM QUANTIFICATION LEVEL (MQL)

The Permittees shall use sufficiently sensitive EPA-approved analytical methods (under 40 CFR part 136 and 40 CFR chapter I, subchapters N and O) when quantifying the presence of pollutants in a discharge for analyses of pollutants or pollutant parameters under the permit. In case the minimum quantification levels (MQLs) are not sufficiently sensitive to the limits, the actual detected values, instead of zeros, need to be reported. If there is a sensitive method with MDL (method detection limit) below the limit, but the MQL is above the limit, they cannot report zero based on MQL, but must report actual value.

If any individual analytical test result is less than the MQL listed in Appendix A, or the more sensitive MDL, a value of zero (0) may be used for that individual result for reporting purpose.

The Permittees may develop an effluent specific method detection limit (MDL) in accordance with Appendix B to 40 CFR 136. For any pollutant for which the Permittees determine an effluent specific MDL, the Permittees shall send to the EPA Region 6 NPDES Permits Branch (6WQ-P) a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that the effluent specific MDL was correctly calculated. An effluent specific minimum quantification level (MQL) shall be determined in accordance with the following calculation:

$$\text{MQL} = 3.3 \times \text{MDL}$$

Upon written approval by the EPA Region 6 NPDES Permits Branch (6WQ-P), the effluent specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) reporting requirements.

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, then the method that 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.

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

Under the provisions of Part III.D.7.b.(3) of this permit, violations of daily maximum limitations for the following pollutants shall be reported orally to EPA Region 6, Compliance and Assurance Division, Water Enforcement Branch (6EN-W), Dallas, Texas, at (214) 665-6595, within 24 hours from the time the permittee becomes aware of the violation followed by a written report in five days.

None

**C. 40 CFR PART 136 ANALYTICAL REQUIREMENTS**

Unless otherwise specified in this permit, monitoring shall be conducted according to the analytical, apparatus and materials, sample collection, preservation, handling, etc., procedures listed at 40 CFR Part 136 in effect on the effective date of this permit. Appendices A, B, and C to 40 CFR Part 136 are specifically referenced as part of this requirement. Amendments to 40 CFR Part 136 promulgated after the effective date of this permit shall supersede these requirements as applicable.

**D. REOPENER**

The permit may be reopened and modified during the life of the permit if relevant portions of the Oklahoma Department of Environmental Quality (ODEQ) Water Quality Standards for Interstate and Intrastate Streams are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant ODEQ procedures implementing the Water Quality Standards are either revised or promulgated by the ODEQ. Should the State adopt a State water quality standard, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standard in accordance with 40CFR122.44 (d). Modification of the permit is subject to the provisions of 40CFR124.5.

If a new or revised TMDL is determined for the receiving stream, the permit may be reopened, and new limitations based on the TMDL may be incorporated into the permit. Additionally, in accordance with 40 CFR Part 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. Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR Part 124.5.

**E. SANITARY WASTE**

Sanitary waste is not authorized in this permit.



## F. CHEMICAL ADDITIVES

The use of any chemicals in the hydrostatic test waters, such as but not limited to, corrosion inhibitors and/or oxygen scavengers is prohibited in this permit. A permit modification is required if the permittee decides to use any chemicals in the hydrostatic test waters.

## G. SOLID WASTE

If any solid waste is generated and not shipped off-site for disposal, the permittee shall use only those solid waste disposals or reuse practices complying with federal regulations established in 40 CFR Part 257 "Criteria for Classification of Solid Waste Disposal Facilities and Practices."

## H. INTAKE CREDIT PROVISION

When the source of the intake water used for the hydrostatic test is taken from the same State waterbody segment as the outfall of the HTW, an intake credit is authorized to account for in-situ waterbody conditions for TSS. To qualify for this intake credit, for each separate test, the permittee shall be required to sample the intake water prior to hydrostatic testing.

The intake credit is not authorized if any part of the test water source is from municipal or industrial water sources, groundwater and/or well water or any other waters not from the same water segment as the direct point of discharge. The sample for the intake water shall be taken when the volume of the structure/pipeline being tested is approximately fifty (50) percent full. The effluent net value is the discharge concentration less the concentration of the stream intake. In the event of a "net difference" value equal to or less than zero (0), meaning that the discharge concentration is either equal to or less than the intake water concentration, the permittee shall report a zero (0) on the DMR form. The discharge sample shall be taken within the first thirty (30) minutes of discharge.

## I. 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 (when using municipal water) and 002  
REPORTED ON DMR AS FINAL OUTFALL: 001 (when using municipal water) and 002  
CRITICAL DILUTION (%): 100%  
EFFLUENT DILUTION SERIES (%): 32%, 42%, 56%, 75%, and 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 toxicity 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. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

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. 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 or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the life of the permit.

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 toxic 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 LETHAL EFFECTS HAVE BEEN DEMONSTRATED** 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 be also required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.
- iii. **IF ONLY SUB-LETHAL EFFECTS HAVE BEEN DEMONSTRATED** If any two of the three additional tests demonstrate significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRESL) 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 Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also required for failure to perform the required retests.
- iv. The provisions of Item 2.a.i. are suspended upon submittal of the TRE Action Plan.

b. Part I 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 and/or sub-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. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- ii. The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- iii. 60% of the surviving control females must produce three broods.
- iv. 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.
- v. 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.
- vi. 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.
- vii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for *Ceriodaphnia dubia* reproduction;
- viii. 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

- i. 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.
- ii. 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.

iii. If the conditions of Test Acceptability are met in Item 3.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 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 Item 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 Item 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., 7 days);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 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 a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above.

ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. 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.

iii. 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.

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 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 4 of this section.

v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

#### 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-02-013, 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 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 lethal and sublethal effects 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 submit the 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, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.
- 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. TLP6C
  - (B) Report the NOEC value for survival, Parameter No. TOP6C
  - (C) Report the Lowest Observed Effect Concentration (LOEC) value for survival, Parameter No. TXP6C
  - (D) Report the NOEC value for growth, Parameter No. TPP6C
  - (E) Report the LOEC value for growth, Parameter No. TYP6C
  - (F) 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
  - (G) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP6C
- ii. *Ceriodaphnia dubia*
- (A) If the NOEC for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP3B
  - (B) Report the NOEC value for survival, Parameter No. TOP3B
  - (C) Report the LOEC value for survival, Parameter No. TXP3B
  - (D) Report the NOEC value for reproduction, Parameter No. TPP3B
  - (E) Report the LOEC value for reproduction, Parameter No. TYP3B
  - (F) 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
  - (G) Report the higher (critical dilution or control) Coefficient of Variation, Parameter No. TQP3B
- 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 and/or sub-lethal effects 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 and/or sub-lethal effects is less than the critical dilution; otherwise, enter a '0'
  - iii. For retest number 3, Parameter 51443, enter a '1' if the NOEC for survival and/or sub-lethal effects is less than the critical dilution; otherwise, enter a '0'

## 5. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRESL) is triggered based on three sub-lethal test failures while a lethal effect TRE (TREL) is triggered based on only two test failures for lethality. In addition, EPA Region 6 will consider the magnitude of toxicity and use flexibility when considering a TRESL where there are no effects at effluent dilutions of less than 76% effluent.

- a. Within ninety (90) days of confirming persistent toxicity, 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 goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes 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' (EPA600/6-91/003) and 'Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I' (EPA600/6-91/005F), 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  
5285t 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 48 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 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 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 and sub-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. SUB-LETHAL OR SURVIVAL FAILURES - If any test fails the survival or sub-lethal 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 reissued. Monthly retesting is not required if the permittee is performing a TRE.

Any monitoring frequency reduction granted 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.