



REGION 6  
1445 ROSS AVENUE  
DALLAS, TEXAS 75202-2733

NPDES Permit No TX0092827

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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"),

U.S. Department of Energy  
Strategic Petroleum Reserve  
Big Hill Oil Storage  
24784 Big Hill Road  
Winnie, TX 77665

is authorized to discharge from a facility located approximately 9 miles south east of Winnie in Jefferson County, Texas

to receiving waters named the Gulf of Mexico, Waterbody Segment Code No. 2501 from Outfall 001, and the Intracoastal Waterway Tidal of the Neches-Trinity Coastal Basin, Waterbody Segment No. 0702 from outfalls 002, 008 and 009 and the unclassified Spindle Marsh for Outfalls 003, 004, 005, 006 and 007

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 permit shall become effective on

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

Issued on

Prepared by

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Director  
Water Quality Protection Division (6WQ)

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## PERMIT OUTFALL TABLE

Outfall Reference Number	Discharge Coordinates Latitude Deg° Min' Sec'' Longitude Deg° Min' Sec''	Type of Discharge	Discharge Flow MGD	Receiving Water	Water Body Segment
001	29° 33' 56'' N 094° 11' 52'' W	Brine diffuser for saltwater from cavern depressuring, non-contact bearing cooling, raw water pipeline pigging, seal flush return flow	3.86	Gulf of Mexico (approx. 5 miles offshore)	2501*
002	29° 40' 59'' N 094° 11' 42'' W	Hydroclone Blowdown & filter backwash (inactive)	NA	Intracoastal waterway	0702
003	29° 44' 51'' N 094° 14' 18'' W	Retained stormwater from 14 cavern pads	0.060 Estimated	Spindletop Marsh	Unclassified
004	29° 44' 45'' N 094° 14' 15'' W	Sewage treatment	0.0011	Spindletop Marsh	Unclassified
005	29° 44' 57'' N 094° 14' 15'' W	Stormwater from the site power substation sump	0.0092 Estimated	Spindletop Marsh	Unclassified
006	29° 44' 57'' N 094° 14' 27'' W	Stormwater from surge tank secondary containment	0.0050 Estimated	Spindletop Marsh	Unclassified
007	29° 44' 56'' N 094° 14' 23'' W	Stormwater from meter prover & crude oil meter skid through fire foam retention pond	0.0004 Estimated	Spindletop Marsh	Unclassified
008	29° 40' 59'' N 094° 11' 42'' W	Stormwater from transformer sumps & located at the RWIS**	0.0005 Estimated	Intracoastal waterway	0702
009	29° 40' 59'' N 094° 11' 44'' W	Recirculated ambient water from the intracoastal canal	0.92 Estimated	Intracoastal waterway	0702

\* State Water Standards apply to outfall 001 because the discharge occurs within 9 nautical miles (10.36 miles) in State waters, Gulf of Mexico.

\*\*RWIS means Raw Water Intake Structure

## PART I – REQUIREMENTS FOR NPDES PERMITS

## SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS

## 1. Outfall 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 brine from cavern depressuring, non-contact bearing cooling water, raw water pipeline pigging, and seal flush return flow water from outfall serial number 001 through a brine diffuser 5 miles offshore to the Gulf of Mexico, Segment 2501. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	00400	6.0	9.0	1/month(*1)	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		lbs/day, unless noted		mg/l, unless noted			
POLLUTANT	STORET CODE	DAILY AVG	DAILY MAX	DAILY AVG	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	50050	Report, MGD	Report, MGD	N/A	N/A	Continuous (*1)	Record
Velocity of Discharge	81380	30 FPS, minimum (*2)	N/A	N/A	N/A	Daily (*1)	Calculate
Oil & Grease	00556	N/A	N/A	10	15	1/Month (*1)	Grab
Total Suspended Solids	00530	N/A	N/A	Report	Report	1/Month (*1)	Grab
Total Dissolved Solids	70295	N/A	N/A	Report	Report	1/Month (*1)	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE MONITORING		MONITORING REQUIREMENTS	
		30-DAY AVG MINIMUM	7-DAY MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
WHOLE EFFLUENT TOXICITY (7-Day Static Renewal) (*3)					
Mysidopsis bahia		Report	Report	Once/Quarter	24-Hr Composite
Menidia beryullina		Report	Report	Once/Quarter	24-Hr Composite

## Footnotes:

\*1 When discharging.

\*2 FPS, feet per second.

\*3 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. Outfalls 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 hydroclone blowdown and filter backwash from Outfall 002 to the Intracoastal Waterway Tidal in Waterbody Segment 0702 of the Neches-Trinity Coastal Basin. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	00400	6.5	9.0	1/week (*1)	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		lbs/day, unless noted		mg/l, unless noted			
POLLUTANT	STORET CODE	DAILY AVG	DAILY MAX	DAILY MAX	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	50050	Report, MGD	Report, MGD	N/A	N/A	1/week (*1)	Record
Total Suspended Solids	00530	N/A	N/A	Report	Report	1/week(*1)	Grab

## Footnotes:

\*1 When discharging.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from Outfall 002.

3. Outfalls 003, 005, 006, 007 and 008<sup>\*2, \*3</sup> - Final Effluent Limits – Intermittent flow

During the period beginning the effective date of the permit and lasting until the expiration date, the permittee is authorized to discharge from Outfall(s) 003, 005, 006, 007 and 008<sup>\*2, \*3</sup> as follows:

- Outfall 003: stormwater from 14 cavern pads to an unclassified Spindletop Marsh
- Outfall 005: stormwater from the power substation sump to an unclassified Spindletop Marsh
- Outfall 006: stormwater from surge tank area to an unclassified Spindletop Marsh
- Outfall 007: stormwater from meter prover & crude oil meter skid to an unclassified Spindletop Marsh
- Outfall 008<sup>\*2, \*3</sup>: stormwater from the transformer pad locate at Raw Water Intake Structure to the Intracoastal Waterway Tidal in Waterbody Segment 0702 of the Neches-Trinity Coastal Basin

Discharges from Outfalls 003,005,006,007 and 008 include other miscellaneous discharges to the existing Stormwater system. These discharges include fire system test water, hydrostatic test water, construction dewatering, and raw water system test water (RPX), which includes a minor stream of potable water used as once-through non-contact bearing cooling water (RPX cycle of occurrence 1 in 5 years).

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	00400	6.0	9.0	1/ six months (*1)	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		lbs/day, unless noted		mg/l, unless noted			
POLLUTANT	STORET CODE	DAILY AVG	DAILY MAX	DAILY AVG	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE
Salinity	00480	N/A	N/A	N/A	8 grams/liter <sup>*4</sup>	1/ six month (*1)	Grab
Receiving Stream Salinity	00480	N/A	N/A	N/A	Report	1/ six months (*1)	Grab
Oil & Grease	00556	N/A	N/A	N/A	15	1/ six months (*1)	Grab
TOC	00400	N/A	N/A	N/A	75	1/ six months (*1)	Grab

Footnotes:

- \*1 When discharging.
- \*2 pH for Outfall 008 shall be limited to the range 6.5 to 9.0
- \*3 Monthly monitoring requirements for Salinity at Outfall 008 and the receiving stream salinity
- \*4 Salinity limit apply to Outfalls 003, 005, 006, & 007

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from Outfall(s) 003, 005, 006, 007 and 008.

4. Outfall 004 - 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 treated sanitary wastewater from Outfall 004 to an unclassified Spindletop Marsh. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	00400	6.0	9.0	1/month (*1)	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		lbs/day, unless noted		mg/l, unless noted			
POLLUTANT	STORET CODE	DAILY AVG	DAY MAX	DAILY AVG	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	50050	Report MGD	Report MGD	N/A	N/A	Daily (5/week) (*1)	Record
BOD <sub>5</sub>	00310	N/A	N/A	20	45	1/month (*1)	Grab
TSS	00310	N/A	N/A	20	45	1/month (*1)	Grab

Footnotes:

\*1 When discharging.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from Outfall 004.

## 5. Outfall 009 - 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 Recirculated Raw water at the Raw water Raw water Intake Structure from Outfall 009 to the Intracoastal Waterway Tidal in Waterbody Segment 0702 of the Neches-Trinity Coastal Basin. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	00400	6.5	9.0	1/week (*1)	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		lbs/day, unless noted		mg/l, unless noted			
POLLUTANT	STORET CODE	DAILY AVG	DAY MAX	DAILY AVG	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	50050	Report MGD	Report MGD	N/A	N/A	1/Month (*1)	Estimate (*2)

## Footnotes:

\*1 When discharging.

\*2 "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.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from Outfall 009.

## 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.

## SECTION B. MONITORING AND REPORTING (MINOR DISCHARGERS)

1. Monitoring results must be reported to EPA on either the electronic or paper Discharge Monitoring Report (DMR) approved formats. Monitoring results can be submitted electronically in lieu of the paper DMR Form. To submit electronically, access the NetDMR website at [www.epa.gov/netdmr](http://www.epa.gov/netdmr) and contact the [R6NetDMR@epa.gov](mailto:R6NetDMR@epa.gov) in-box for further instructions. Until you are approved for Net DMR, you must report on the Discharge Monitoring Report (DMR) 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 other agencies as required. (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. The permittee shall effectively monitor the operation and efficiency of all treatment and control facilities and the quantity and quality of the treated discharge.

9. All reports shall be sent both to EPA and the Texas Railroad Commission at the addresses shown in Part III of the permit.

## PART II - OTHER REQUIREMENTS

### GENERAL:

#### A. MINIMUM QUANTIFICATION LEVEL (MQL)

See list of MQL's at Appendix A of Part II below. For pollutants listed on Appendix A of Part II with MQL's, 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).

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

Under the provisions of Part III.D.7.b.(3) of this permit, violations of daily maximum limitations for the following pollutants shall be reported orally to EPA Region 6, Compliance and Assurance Division, Water Enforcement Branch (6EN-W), Dallas, Texas, and concurrently to Railroad Commission of Texas, 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. 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."

#### E. INTEGRITY TESTING

To assure brine pipeline integrity, a dynamic flow-based integrity assurance test shall be conducted annually, when the pipeline is in operation, and the results of the testing shall be submitted to EPA, Region 6.

## F. DIFFUSER

The diffuser shall be configured and operated in such a manner to maximize dispersion. The minimum nozzle exit velocity shall be 30 feet per second.

## G. STORM WATER POLLUTION PREVENTION PLANS

### G.1 Storm Water Pollution Prevention Plan Requirements

A Storm Water Pollution Prevention Plan (SWPPP) shall be developed for all storm water outfalls from this facility. Your SWPPP must be prepared in accordance with good engineering practices. Use of a registered professional engineer for SWPPP preparation is not required by the permit, but may be independently required under state law and/or local ordinance.

Your SWPPP must:

G.1.1 identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from your facility;

G.1.2 describe and ensure implementation of practices which you will use to reduce the pollutants in storm water discharges from the facility; and

G.1.3 assure compliance with the terms and conditions of this permit.

NOTE: At larger installations such as military bases where there are well-defined industrial versus non-industrial areas, the SWPPP required under this Part need only address those areas with discharges of storm water associated with industrial activity. (e.g., under this permit, a U.S. Air Force Base would need to address the vehicle maintenance areas associated with the "airport" portion of the base in the SWPPP, but would not need to address a car wash that served only the on-base housing areas.)

### G.2 Contents of Plan

#### G.2.1 Pollution Prevention Team

You must identify the staff individual(s) (by name or title) that comprise the facility's storm water Pollution Prevention Team. Your Pollution Prevention Team is responsible for assisting the facility/plant manager in developing, implementing, maintaining and revising the facility's SWPPP. Responsibilities of each staff individual on the team must be listed.

#### G.2.2 Site Description

Your SWPPP must include the following:

G.2.2.1 *Activities at Facility.* description of the nature of the industrial activity(ies) at your facility;

G.2.2.2 *General Location Map.* a general location map (e.g., U.S.G.S. quadrangle, or other map) with enough detail to identify the location of your facility and the receiving waters within one mile of the facility;

G.2.2.3 A legible site map identifying the following:

G.2.2.3.1 directions of storm water flow (e.g, use arrows to show which ways storm water will flow);

G.2.2.3.2 locations of all existing structural BMPs

G.2.2.3.3 locations of all surface water bodies

G.2.2.3.4 locations of potential pollutant sources identified under G.2.4 and where significant materials are exposed to precipitation;

G.2.2.3.5 locations where major spills or leaks identified under G.2.5 have occurred;

G.2.2.3.6 locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, and liquid storage tanks;

G.2.2.3.7 locations of storm water outfalls and an approximate outline of the area draining to each outfall;

G.2.2.3.8 location and description of non-storm water discharges;

G.2.2.3.9 locations of the following activities where such activities are exposed to precipitation: processing and storage areas; access roads, rail cars and tracks; the location of transfer of substance in bulk; and machinery;

G.2.2.3.10 location and source of runoff from adjacent property containing significant quantities of pollutants of concern to the facility (an evaluation of how the quality of the storm water running onto your facility impacts your storm water discharges may be included).

### G.2.3 Receiving Waters and Wetlands

You must provide the name of the nearest receiving water(s), including intermittent streams, dry sloughs, arroyos and the areal extent and description of wetland or other “special aquatic sites “ that may receive discharges from your facility

#### G.2.4 Summary of Potential Pollutant Sources

You must identify each separate area at your facility where industrial materials or activities are exposed to storm water. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. For each, separate area identified, the description must include:

G.2.4.1 *Activities in Area.* A list of the activities (e.g., material storage, equipment fueling and cleaning, cutting steel beams); and

G.2.4.2 *Pollutants.* A list of the associated pollutant(s) or pollutant parameter(s) (e.g., crankcase oil, iron, biochemical oxygen demand, pH, etc.) for each activity. The pollutant list must include all significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of three (3) years before being covered under this permit and the present.

#### G.2.5 Spills and Leaks

You must clearly identify areas where potential spills and leaks, which can contribute pollutants to storm water discharges, can occur, and their accompanying drainage points. For areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility to be covered under this permit, you must provide a list of significant spills and leaks of toxic or hazardous pollutants that occurred during the three (3) year period prior to the date of the effective date of this permit. Your list must be updated if significant spills or leaks occur in exposed areas of your facility during the time you are covered by the permit.

Significant spills and leaks include, but are not limited to releases of oil or hazardous substances in excess of quantities that are reportable under CWA §311 (see 40 CFR 110.10 and 40 CFR 117.21) or section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements.

#### G.2.6 Sampling Data

You must provide a summary of existing storm water discharge sampling data taken at your facility. All storm water sampling data collected during the term of this permit must also be summarized and included in this part of the SWPPP.

## G.2.7 Storm Water Controls

**G.2.7.1 *Description of Existing and Planned BMPs.*** Describe the type and location of existing non-structural and structural best management practices (BMPs) selected for each of the areas where industrial materials or activities are exposed to storm water. All the areas identified in Part G.2.4 should have a BMP(s) identified for the area's discharges. For areas where BMPs are not currently in place, describe appropriate BMPs that you will use to control pollutants in storm water discharges. Selection of BMPs should take into consideration:

G.2.7.1.1 the quantity and nature of the pollutants, and their potential to impact the water quality of receiving waters;

G.2.7.1.2 opportunities to combine the dual purposes of water quality protection and local flood control benefits (including physical impacts of high flows on streams - e.g., bank erosion, impairment of aquatic habitat, etc.);

G.2.7.1.3 opportunities to offset the impact of impervious areas of the facility on ground water recharge and base flows in local streams.

**G.2.7.2 *BMP Types to be Considered.*** The following types of structural, non-structural and other BMPs must be considered for implementation at your facility. Describe how each is, or will be, implemented. This requirement may have been fulfilled with the area-specific BMPs identified under Part G.2.7.2, in which case the previous description is sufficient. However, many of the following BMPs may be more generalized or non site-specific and therefore not previously considered. If you determine that any of these BMPs are not appropriate for your facility, you must include an explanation of why they are not appropriate. The BMP examples listed below are not intended to be an exclusive list of BMPs that you may use. You are encouraged to keep abreast of new BMPs or new applications of existing BMPs to find the most cost effective means of permit compliance for your facility. If BMPs are being used or planned at the facility which are not listed here (e.g., replacing a chemical with a less toxic alternative, adopting a new or innovative BMP, etc.), include descriptions of them in this section of the SWPPP.

### G.2.7.2.1 Non-Structural BMPs

#### G.2.7.2.1.1 Good Housekeeping:

You must keep all exposed areas of the facility in a clean, orderly manner where such exposed areas could contribute pollutants to storm water discharges. Common problem areas include: around trash containers, storage areas and loading docks. Measures must also include: a schedule for regular pickup and disposal of garbage and waste materials; routine inspections for leaks and conditions of drums, tanks and containers.

G.2.7.2.1.2 *Minimizing Exposure:* Where practicable, industrial materials and activities should be protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, or runoff. NOTE: Eliminating exposure at all industrial areas may make the facility eligible for the 40 CFR 122.26(g) “No Exposure” exclusion from needing to have a permit.

G.2.7.2.1.3 *Preventive Maintenance:* You must have a preventive maintenance program which includes timely inspection and maintenance of storm water management devices, (e.g., cleaning oil/water separators, catch basins) as well as inspecting, testing, maintaining and repairing facility equipment and systems to avoid breakdowns or failures that may result in discharges of pollutants to surface waters.

G.2.7.2.1.4 *Spill Prevention and Response Procedures:* You must describe the procedures which will be followed for cleaning up spills or leaks. Those procedures, and necessary spill response equipment, must be made available to those employees that may cause or detect a spill or leak. Where appropriate, you must explain existing or planned material handling procedures, storage requirements, secondary containment, and equipment (e.g., diversion valves), which are intended to minimize spills or leaks at the facility. Measures for cleaning up hazardous material spills or leaks must be consistent with applicable RCRA regulations at 40 CFR Part 264 and 40 CFR Part 265.

G.2.7.2.1.5 *Routine Facility Inspections:* In addition to or as part of the comprehensive site evaluation required under Part G.9, you must have qualified facility personnel inspect all areas of the facility where industrial materials or activities are exposed to storm water. The inspections must include an evaluation of existing storm water BMPs. Your SWPPP must identify how often these inspections will be conducted. You must correct any deficiencies in implementation of your SWP3 you find as soon as practicable, but not later than within 14 days of the inspection. You must document in your SWPPP the results of your inspections and the corrective actions you took in response to any deficiencies or opportunities for improvement that you identify.

G.2.7.2.1.6 *Employee Training :* You must describe the storm water employee training program for the facility. The description should include the topics to be covered, such as spill response, good housekeeping and material management practices, and must identify periodic dates (e.g., every 6 months during the months of July and January) for such training. You must provide employee training for all employees that work in areas where industrial materials or activities are exposed to storm water, and for employees that are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance people). The employee training should inform them of the components and goals of your SWPPP.

G.2.7.2.2 Structural BMPs

G.2.7.2.2.1 *Sediment and Erosion Control:* You must identify the areas at

your facility which, due to topography, land disturbance (e.g., construction), or other factors, have a potential for significant soil erosion. You must describe the structural, vegetative, and/or stabilization BMPs that you will be implementing to limit erosion.

**G.2.7.2.2.2 *Management of Runoff*:** You must describe the traditional storm water management practices (permanent structural BMPs other than those which control the generation or source(s) of pollutants) that currently exist or that are planned for your facility. These types of BMPs typically are used to divert, infiltrate, reuse, or otherwise reduce pollutants in storm water discharges from the site. All BMPs that you determine are reasonable and appropriate, or are required by a State or local authority; or are necessary to maintain eligibility for the permit must be implemented and maintained. Factors to consider when you are selecting appropriate BMPs should include: 1) the industrial materials and activities that are exposed to storm water, and the associated pollutant potential of those materials and activities; and 2) the beneficial and potential detrimental effects on surface water quality, ground water quality, receiving water base flow (dry weather stream flow), and physical integrity of receiving waters. Structural measures should be placed on upland soils, avoiding wetlands and floodplains, if possible. Structural BMPs may require a separate permit under section 404 of the CWA before installation begins.

**G.2.7.2.2.3 *Example BMPs*:** BMPs you could use include but are not limited to: storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices).

### G.2.7.2.3 Other Controls

No solid materials, including floatable debris, may be discharged to waters of the United States, except as authorized by a permit issued under section 404 of the CWA. Off-site vehicle tracking of raw, final, or waste materials or sediments, and the generation of dust must be minimized. Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas must be minimized. Velocity dissipation devices must be placed at discharge locations and along the length of any outfall channel if they are necessary to provide a non-erosive flow velocity from the structure to a water course.

## G.3 Maintenance

All BMPs you identify in your SWPPP must be maintained in effective operating condition. If site inspections required by Part G.9 identify BMPs that are not operating effectively, maintenance must be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. In the case of non-structural BMPs, the effectiveness of the BMP must be

maintained by appropriate means (e.g., spill response supplies available and personnel trained, etc.).

#### G.4 Non-Storm Water Discharges

##### G.4.1 Certification of Non-Storm Water Discharges

G.4.1.1 Your SWPPP must include a certification that all discharges (i.e., outfalls) have been tested or evaluated for the presence of non-storm water. The certification must be signed in accordance with Part III, Number 11 of this permit, and include:

G.4.1.1.1 the date of any testing and/or evaluation;

G.4.1.1.2 identification of potential significant sources of non-storm water at the site;

G.4.1.1.3 a description of the results of any test and/or evaluation for the presence of non-storm water discharges;

G.4.1.1.4 a description of the evaluation criteria or testing method used; and

G.4.1.1.5 a list of the outfalls or onsite drainage points that were directly observed during the test.

G.4.1.2 You do not need to sign a new certification if one was already completed for either the 1992 baseline Industrial General Permit or the 1995 Multi-sector General Permit and you have no reason to believe conditions at the facility have changed.

G.4.1.3 If you are unable to provide the certification required (testing for non-storm water discharges), you must notify the Director after the effective date of this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification must describe:

G.4.1.3.1 reason(s) why certification was not possible;

G.4.1.3.2 the procedure of any test attempted;

G.4.1.3.3 the results of such test or other relevant observations; and

G.4.1.3.4 potential sources of non-storm water discharges to the storm sewer.

G.4.1.4 copy of the notification must be included in the SWPPP at the facility. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

#### G.4.2 Allowable Non-Storm Water Discharges

G.4.2.1 Certain sources of non-storm water are allowable under this permit.

##### Allowable Non-Storm Water Discharges

You are also authorized for the following non-storm water discharges, provided the non-storm water component of your discharge is in compliance with Part G.4.2 (non-storm water discharges):

G.4.2.1.1 discharges from fire fighting activities;

G.4.2.1.2 fire hydrant flushings;

G.4.2.1.3 potable water including water line flushings;

G.4.2.1.4 uncontaminated air conditioning or compressor condensate;

G.4.2.1.5 irrigation drainage;

G.4.2.1.6 landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with manufacturer's instructions;

G.4.2.1.7 pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);

G.4.2.1.8 routine external building wash down which does not use detergents;

G.4.2.1.9 uncontaminated ground water or spring water;

G.4.2.1.10 foundation or footing drains where flows are not contaminated with process materials such as solvents;

G.4.2.1.11 incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of your facility, but NOT intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

G.4.2.2 In order for these discharges to be allowed, your SWPPP must include:

G.4.2.2.1 identification of each allowable non-storm water source;

G.4.2.2.2 the location where it is likely to be discharged; and

G.4.2.2.3 descriptions of appropriate BMPs for each source.

G.4.2.3 Except for flows from fire fighting activities, you must identify in your SWPPP all sources of allowable non-storm water that are discharged under the authority of this permit.

G.4.2.4 If you include mist blown from cooling towers amongst your allowable non-storm water discharges, you must specifically evaluate the potential for the discharges to be contaminated by chemicals used in the cooling tower and determined that the levels of such chemicals in the discharges would not cause or contribute to a violation of an applicable water quality standard after implementation of the BMPs you have selected to control such discharges.

#### G.5 Applicable State, Tribal or Local Plans

Your SWPPP must be consistent (and updated as necessary to remain consistent) with applicable State, Tribal and/or local storm water, waste disposal, sanitary sewer or septic system regulations to the extent these apply to your facility and are more stringent than the requirements of this permit.

#### G6 Comprehensive Site Compliance Evaluation

##### G.6.1 Frequency and Inspectors

You must conduct facility inspections at least once a year. The inspections must be done by qualified personnel provided by you. The qualified personnel you use may be either your own employees or outside consultants that you have hired, provided they are knowledgeable and possess the skills to assess conditions at your facility that could impact storm water quality and assess the effectiveness of the BMPs you have chosen to use to control the quality of your storm water discharges. If you decide to conduct more frequent inspections, your SWPPP must specify the frequency of inspections.

##### G.6.2 Scope of the Compliance Evaluation

Your inspections must include all areas where industrial materials or activities are exposed to storm water, as identified in G.2.4, and areas where spills and leaks have occurred within the past 3 years. Inspectors should look for: a) industrial materials, residue or trash on the ground that could contaminate or be washed away in storm water; b) leaks or spills from industrial equipment, drums, barrels, tanks or similar containers; c) offsite tracking of industrial materials or sediment where vehicles enter or exit the site; d) tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas and e) for evidence of, or the potential for,

pollutants entering the drainage system. Results of both visual and any analytical monitoring done during the year must be taken into consideration during the evaluation. Storm water BMPs identified in your SWPPP must be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they must be inspected to see whether BMPs are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations must be inspected if possible.

### G.6.3 Follow-up Actions

Based on the results of the inspection, you must modify your SWPPP as necessary (e.g., show additional controls on map required by Part G.2.2.3; revise description of controls required by Part G.2.7 to include additional or modified BMPs designed to correct problems identified. You must complete revisions to the SWPPP within 14 calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary, implementation must be completed before the next anticipated storm event, if practicable, but not more than twelve (12) weeks after completion of the comprehensive site evaluation.

### G.6.4 Compliance Evaluation Report

You must insure a report summarizing the scope of the inspection, name(s) of personnel making the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWPPP is completed and retained as part of the SWPPP for at least three years from the date permit coverage expires or is terminated. Major observations should include: the location(s) of discharges of pollutants from the site; location(s) of BMPs that need to be maintained; location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location; and location(s) where additional BMPs are needed that did not exist at the time of inspection. You must retain a record of actions taken in accordance with Part G.6 of this permit as part of the Storm Water Pollution Prevention Plan for at least three years from the date that permit coverage expires or is terminated. The inspection reports must identify any incidents of non-compliance. Where an inspection report does not identify any incidents of non-compliance, the report must contain a certification that the facility is in compliance with the Storm Water Pollution Prevention Plan and this permit. Both the inspection report and any reports of follow-up actions must be signed in accordance with Part III.D, No.11 of this permit.

### G.6.5 Credit as a Routine Facility Inspection

Where compliance evaluation schedules overlap with inspections required under Part G.2.7.2.1.5, your annual compliance evaluation may also be used as one of the routine inspections.

## **G.7 Maintaining Updated SWPPP**

You must amend the Storm Water Pollution Prevention Plan whenever:

G.7.1 there is a change in design, construction, operation, or maintenance at your facility which has a significant effect on the discharge, or potential for discharge, of pollutants from your facility;

G.7.2 during inspections, monitoring, or investigations by you or by local, State, Tribal or Federal officials it is determined the SWPPP is ineffective in eliminating or significantly minimizing pollutants from sources identified under G.2.4, or is otherwise not achieving the general objectives of controlling pollutants in discharges from your facility.

### **G.8 Signature, Plan Review and Making Plans Available**

G.8.1 You must sign your SWPPP in accordance with Part III.D, number 11 and retain the plan on-site at the facility covered by this permit.

G.8.2 You must keep a copy of the SWPPP on-site or locally available to the Director for review at the time of an on-site inspection. You must make your SWPPP available upon request to the Director, a State, Tribal or local agency approving storm water management plans, or the operator of a municipal separate storm sewer receiving discharge from the site. Also, in the interest of the public's right to know, you must provide a copy of your SWPPP to the public if requested in writing to do so.

G.8.3 The Director may notify you at any time that your SWPPP does not meet one or more of the minimum requirements of this permit. The notification will identify provisions of this permit which are not being met, as well as the required modifications. Within thirty (30) calendar days of receipt of such notification, you must make the required changes to the SWPPP and submit to the Director a written certification that the requested changes have been made.

G.8.4 You must make the SWPPP available to the USFWS or NMFS upon request.

G.9 Additional Requirements for Storm Water Discharges Associated With Industrial Activity From Facilities Subject to EPCRA Section 313 Reporting Requirements.

Potential pollutant sources for which you have reporting requirements under EPCRA 313 must be identified in your summary of potential pollutant sources as per Part G.2.4. Note this additional requirement only applies to you if you are subject to reporting requirements under EPCRA 313.

#### H. OXYGEN SCAVENGER

The use of Oxygen scavenger is prohibited in this permit. The permittee shall notify EPA and the RRC prior to using any oxygen scavenging chemicals. At that time, this permit shall be reopened and modified to include the DO requirements.

#### I. OTHER CONDITIONS

The limitations and monitoring requirements applied to stormwater effluents at Outfalls 003, 005, 006, 007 and 008 also apply to stormwater runoff from additional pads and surge tank areas which may be constructed during the life of the permit. The permit conditions will be effective from startup to the expiration date of the permit. The Department is required to notify the EPA, Region 6 two weeks prior to startup.

This permit prohibits the use of corrosion inhibitors in the raw water during Presidential drawdown. However, this prohibition will however, not have any effect on those permit conditions proposed to be continued in the proposed permit.

#### DISCHARGE CRITERIA SPECIFICATIONS FOR BRINE DISCHARGED TO THE GULF OF MEXICO, FOR OUTFALL NO. 001

The discharge of near saturated brine to the Gulf of Mexico from the Big Hill site is governed by this permit. In addition to chemical constituent limitations and monitoring requirements, the permit specifies two criteria which must be met while discharging: rate of discharge and nozzle exit velocity.

#### RATE OF DISCHARGE

This permit restricts the maximum flow rate of brine to the Gulf of Mexico to 1.7 million barrels per day and requires continuous recording of this flow rate by the non-contact digital magnetic principle based flow measuring device. The volumes are cross-coupled with a timing circuit while in continuous recording mode.

#### NOZZLE EXIT VELOCITY

The brine must be discharged in a manner which maximizes dispersion. Numerically, the permit requires maintenance of a 30-fps minimum exit velocity to ensure maximum brine dispersion.

#### J. REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of the Texas Commission on Environmental Quality (TCEQ) 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 procedures implementing the Water Quality Standards are either revised or promulgated by the TCEQ. 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.

This permit may also be modified or revoked and reissued based on the results of ESA section 7 consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (FWS, NMFS, or collectively the “services”).

Additionally, in accordance with 40 CFR Part 122.62 (s) (2), the permit may be reopened and modified if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance. Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR Part 124.5.

#### K. WHOLE EFFLUENT TOXICITY TESTING (7-DAY CHRONIC NOEC MARINE)

*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: TXIQ

CRITICAL DILUTION (%): 4.8 %

EFFLUENT DILUTION SERIES (%): 2.0%, 2.7%, 3.6%, 4.8%, & 6.4%

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

*Mysidopsis bahia* (Mysid shrimp) chronic static renewal 7-day survival and growth test using Method 1007.0, EPA-821-R-02-014, or the most recent update thereof.

*Menidia beryllina* (Inland Silverside minnow) chronic static renewal 7-day larval survival and growth test, Method 1006.0, EPA-821-R-02-014, 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.

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 sublethal 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

the 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 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. **IF ONLY SUB-LETHAL EFFECTS HAVE BEEN DEMONSTRATED** If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE<sub>SL</sub>) 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 be 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 dry weight of surviving Mysid shrimp at the end of the 7 days in the control (0% effluent) must be 0.20 mg per mysid or greater. Should the mean dry weight in the control be less than 0.20 mg per mysid, the toxicity test, including the control and all effluent dilutions shall be repeated.

iii. The mean dry weight of surviving unpreserved Inland Silverside minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.50 mg per larva or greater. The mean dry weight of surviving preserved Inland Silverside minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.43 mg per larva or greater.

- iv. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the growth and survival endpoints in the Mysid shrimp test; and the growth and survival endpoints of the Inland Silverside minnow test.
- v. 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 growth and survival endpoints in the Mysid shrimp test; and the growth and survival endpoints of the Inland Silverside minnow test.
- vi. A Percent Minimum Significant Difference (PMSD) range of 11 - 37 for *Mysidopsis bahia* growth;
- vii. A PMSD range of 11 - 28 for Silverside minnow growth.

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

#### b. Statistical Interpretation

For the Mysid shrimp and the Inland Silverside 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-02-014 or the most recent update thereof.

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 salinity 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 salinity 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-02-014, 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 sub-lethal 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. *Menidia beryllina* (Inland Silverside minnow)

A. If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0". Parameter No. TLP6B

B. Report the NOEC value for survival, Parameter No. TOP6B

C. Report the Lowest Observed Effect Concentration (LOEC) value for survival, Parameter No. TXP6B

D. Report the NOEC value for growth, Parameter No. TPP6B

E. Report the LOEC value for growth, Parameter No. TYP6B

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. TGP6B

G. Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP6B

ii. *Mysidopsis bahia* (Mysid shrimp)

A. If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0".  
Parameter No. TLP3EB. Report the NOEC value for survival, Parameter No. TOP3E

C. Report the LOEC value for survival, Parameter No. TXP3E

D. Report the NOEC value for growth, Parameter No. TPP3E

E. Report the LOEC value for growth, Parameter No. TYP3E

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. TGP3E

G. Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP3E

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."

## 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 ( $TRE_{SL}$ ) is triggered based on three sub-lethal test failures while a lethal effects TRE ( $TRE_L$ ) 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  $TRE_{SL}$  where there are no effects at effluent dilutions of less than 76% effluent.

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 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) and "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA-600/6-91/005F), 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  
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 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 Inland Silverside minnow) and not less than twice per year for the more sensitive test species (usually the mysid shrimp).

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 re-issued. Monthly retesting is not required if the permittee is performing a TRE.

Any 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.

**APPENDIX A of PART II**

The following Minimum Quantification Levels (MQL's) are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

<b>POLLUTANTS</b>	<b>MQL µg/l</b>	<b>POLLUTANTS</b>	<b>MQL µg/l</b>
<b>METALS, RADIOACTIVITY, CYANIDE and CHLORINE</b>			
Aluminum	2.5	Molybdenum	10
Antimony	60	Nickel	0.5
Arsenic	0.5	Selenium	5
Barium	100	Silver	0.5
Beryllium	0.5	Thallium	0.5
Boron	100	Uranium	0.1
Cadmium	1	Vanadium	50
Chromium	10	Zinc	20
Cobalt	50	Cyanide	10
Copper	0.5	Cyanide, weak acid dissociable	10
Lead	0.5	Total Residual Chlorine	33
Mercury *1	0.0005 0.005		
<b>DIOXIN</b>			
2,3,7,8-TCDD	0.00001		
<b>VOLATILE COMPOUNDS</b>			
Acrolein	50	1,3-Dichloropropylene	10
Acrylonitrile	20	Ethylbenzene	10
Benzene	10	Methyl Bromide	50
Bromoform	10	Methylene Chloride	20
Carbon Tetrachloride	2	1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10	Tetrachloroethylene	10
Clorodibromomethane	10	Toluene	10
Chloroform	50	1,2-trans-Dichloroethylene	10
Dichlorobromomethane	10	1,1,2-Trichloroethane	10
1,2-Dichloroethane	10	Trichloroethylene	10
1,1-Dichloroethylene	10	Vinyl Chloride	10
1,2-Dichloropropane	10		
<b>ACID COMPOUNDS</b>			
2-Chlorophenol	10	2,4-Dinitrophenol	50
2,4-Dichlorophenol	10	Pentachlorophenol	5
2,4-Dimethylphenol	10	Phenol	10
4,6-Dinitro-o-Cresol	50	2,4,6-Trichlorophenol	10

<b>POLLUTANTS</b>	<b>MQL µg/l</b>	<b>POLLUTANTS</b>	<b>MQL µg/l</b>
<b>BASE/NEUTRAL</b>			
Acenaphthene	10	Dimethyl Phthalate	10
Anthracene	10	Di-n-Butyl Phthalate	10
Benzidine	50	2,4-Dinitrotoluene	10
Benzo(a)anthracene	5	1,2-Diphenylhydrazine	20
Benzo(a)pyrene	5	Fluoranthene	10
3,4-Benzofluoranthene	10	Fluorene	10
Benzo(k)fluoranthene	5	Hexachlorobenzene	5
Bis(2-chloroethyl)Ether	10	Hexachlorobutadiene	10
Bis(2-chloroisopropyl)Ether	10	Hexachlorocyclopentadiene	10
Bis(2-ethylhexyl)Phthalate	10	Hexachloroethane	20
Butyl Benzyl Phthalate	10	Indeno(1,2,3-cd)Pyrene	5
2-Chloronaphthalene	10	Isophorone	10
Chrysene	5	Nitrobenzene	10
Dibenzo(a,h)anthracene	5	n-Nitrosodimethylamine	50
1,2-Dichlorobenzene	10	n-Nitrosodi-n-Propylamine	20
1,3-Dichlorobenzene	10	n-Nitrosodiphenylamine	20
1,4-Dichlorobenzene	10	Pyrene	10
3,3'-Dichlorobenzidine	5	1,2,4-Trichlorobenzene	10
Diethyl Phthalate	10		
<b>PESTICIDES AND PCBs</b>			
Aldrin	0.01	Beta-Endosulfan	0.02
Alpha-BHC	0.05	Endosulfan sulfate	0.02
Beta-BHC	0.05	Endrin	0.02
Gamma-BHC	0.05	Endrin Aldehyde	0.1
Chlordane	0.2	Heptachlor	0.01
4,4'-DDT and derivatives	0.02	Heptachlor Epoxide	0.01
Dieldrin	0.02	PCBs	0.2
Alpha-Endosulfan	0.01	Toxaphene	0.3

(MQL's Revised November 1, 2007)

**Footnotes:**

\*1 Default MQL for Mercury is 0.005 unless Part I of your permit requires the more sensitive Method 1631 (Oxidation / Purge and Trap / Cold vapor Atomic Fluorescence Spectrometry), then the MQL shall be 0.0005



